5.1 AESTHETICS

5.1.1 Proposed Project

5.1.1.1 Replacement Steam Generator Transport Options

5.1.1.1.1 Beach and Road Route Transport Option

The transport of the RSGs on the beach (segments A through C) may be seen from a few locations on I-5 where canyons allow a view from the highway down to the beach. However, the RSGs will be mobile and such views will be temporary and of short duration. Additionally, ongoing military operations provide similar views in these areas.

Similarly, the RSGs will be visible during the portion of the transport on MCBCP roads alongside I-5 north of Las Pulgas Road (segments D, E, and G) and while they are transported on Old Highway 101 (segments H, I, and J). Again, the RSGs will be mobile and such views will be temporary and of short duration. No adverse impact on sensitive visual receptors is anticipated and no mitigation measures are required.

5.1.1.1.2 Inland Route Transport Options

Although the transport of the RSGs may be seen from a few locations on I-5, along portions of all of the segments for each option, the RSGs will be mobile, and such views will be temporary and of short duration. No adverse impact on sensitive receptors is anticipated and no mitigation measures are required for the Inland Route Transport Options. These conclusions apply to each of the Inland Route Transport Options.

5.1.1.2 Replacement Steam Generator Preparation

The temporary facilities to be built at SONGS 2 & 3 for staging and installation of RSGs will be consistent with existing operations and existing permits. There will be little or no public/sensitive receptor viewpoints of these facilities, and facilities that may be observable will be consistent with the existing industrial environment at SONGS 2 & 3. No adverse impact on sensitive visual receptors is anticipated. Therefore, no mitigation measures will be required.

5.1.1.3 Original Steam Generator Removal, Staging and Disposal

Original steam generator staging will be consistent with existing operations and existing permits. Although a lifting device will be used for removal and installation activities, this use will be temporary. In addition, lifting devices and other equipment are often used at the SONGS 2 & 3 site, and lifting devices are currently present at the site. There will be little or no public/sensitive receptor viewpoints of these facilities, and facilities that may be observable will be consistent with the existing industrial environment at SONGS 2 & 3. No adverse impact on sensitive visual receptors is anticipated. Therefore, no mitigation measures will be required. Transport of the cut up portions of the original steam generators will be by traditional means via road and/or rail, and will not result in visual impacts that differ from the impacts of other equipment routinely transported by such means. No adverse impacts will result from this transport and no mitigation is required.

5.1.1.4 Replacement Steam Generator Installation and Return to Service

RSG installation and return to service activities will be consistent with removal activities. Although a lifting device will be used for removal and installation activities, this use will be temporary. In addition, lifting devices and other equipment are often used at the SONGS 2 & 3 site, and lifting devices are currently present at the site. There will be little or no public/sensitive receptor viewpoints of these facilities, and facilities that may be observable will be consistent with the existing industrial environment at SONGS 2 & 3. No adverse impact on sensitive visual receptors is anticipated. Therefore, no mitigation measures will be required.

5.1.2 No Project Alternative

5.1.2.1 Replacement Facilities – New Generation Component

New generation could be sited in a manner that reduces or avoids potential aesthetics impacts; however, significant impacts could still occur depending on the ultimate location chosen. Key issues that would determine potential impacts would be design of building facades, stack height, and the potential for a visible emission plume. Views from urban residential areas and segments of roads that serve the residences as their primary access are potentially highly sensitive. Generation facilities may affect views or viewers because of stack and/or emission plumes.

5.1.2.2 Replacement Facilities – New Transmission Component

New transmission could be sited in a manner that reduces aesthetic impacts; however, significant impacts could still occur depending on the ultimate location chosen.

5.1.2.2.1 Reinforced 230 kV SCE/SDG&E Interface No Project Alternative

5.1.2.2.1.1 Reinforced 230 kV SCE/SDG&E Interface Transmission Lines

Construction and the placement of additional transmission towers along this existing transmission line corridor would not likely result in significant impacts on aesthetic resources because of similar, existing lines. However, a detailed analysis has not been performed because the exact siting of possible additional towers is unknown. Additional towers may result in visual effects that are adverse. Impacts could vary and would require description and analysis in a PEA before approval.

5.1.2.2.1.2 Reinforced 230 kV SCE/SDG&E Interface Substation Changes/Modifications

Modifications to existing equipment at other substations and the existing switchyard would not be expected to substantially alter existing views, and no adverse impacts are anticipated.

5.1.2.2.2 Imperial Valley-Ramona No Project Alternative

5.1.2.2.2.1 Imperial Valley-Ramona Transmission Lines

Imperial Valley-Ramona 500 kV line

Imperial Valley-Dulzura (Looped) Leg

Construction along this portion of the transmission line would not likely result in significant impacts on aesthetic resources because it would parallel a similar, existing line. A detailed analysis has not been performed because the exact siting of the Imperial Valley-Ramona transmission lines is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

Dulzura-Ramona Leg

Construction of this portion of the transmission line may result in significant impacts. The majority of the leg would be in previously undisturbed areas with sensitive views, as well as sensitive viewers. Mitigation could include, but not be limited to the following: dust control using water or chemical

suppression methods, minimization of lighting during night-time construction, lowering of large equipment (i.e., lifting devices, scaffoldings) when not in use, revegetation of disturbed areas to reduce contrast with the undisturbed, adjacent landscape, and the use of non-reflective steel for the transmission line structures and conductor. A detailed analysis has not been performed because the exact siting of the Imperial Valley-Ramona transmission lines is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

Ramona-Sycamore Canyon 230 kV line

Construction of this portion of the transmission line may result in significant impacts. The 230 kV double circuit lines that would connect the new Ramona Substation to the existing Sycamore Substation would substantially add to the existing 69 kV transmission line corridor and would be located in an area with a high density of sensitive viewers. Mitigation could include, but not be limited to the following: dust control using water or chemical suppression methods, minimization of lighting during night-time construction, lowering of large equipment (i.e., lifting devices, scaffoldings) when not in use, revegetation of disturbed areas to reduce contrast with the undisturbed, adjacent landscape, and the use of non-reflective steel for the transmission line structures and conductor. A detailed analysis has not been performed because the exact siting of the Imperial Valley-Ramona transmission lines is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

Sycamore Canyon-Chicarita-Carlton Hill 138 kV line

Construction along this portion of the transmission line would not likely result in significant impacts on aesthetic resources because it would parallel a similar, existing line. A detailed analysis has not been performed because the exact siting of the Imperial Valley-Ramona transmission lines is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.1.2.2.2.2 Imperial Valley-Ramona Substation Changes/Modifications

A detailed analysis has not been performed because the exact siting of the Ramona Substation is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

Modifications to existing equipment at other substations would not be expected to substantially alter existing views.

5.1.2.2.3 Valley-Rainbow No Project Alternative

5.1.2.2.3.1 Valley-Rainbow Transmission Lines

A new transmission line similar to the Valley-Rainbow Interconnect Project would have transmission towers and lines that would be visible from the Diamond Valley Lake Overlook, as well as some vistas across the Temecula Wine Country and the Domenigoni Valley considered scenic, resulting in a potentially significant visual impact. Additionally, four highways (I-15, I-215, SR-76, and SR-79 south) are under consideration for designation as scenic highways in this area. One potential scenic highway (SR-76 South) is crossed perpendicularly by the likely transmission line route, resulting in a potentially significant impact. During construction, some trees may need to be trimmed or removed and some boulders may be moved and rock outcroppings graded or blasted, although such impacts would be less than significant with the implementation of specified protocols. No existing historic buildings within a State scenic highway are expected to be adversely affected by transmission line construction. Approximately five percent of the new transmission line would be adjacent to existing 115 kV transmission lines; however, in these areas the second-circuit Valley-Rainbow structures would be more dominant. The new Valley-Rainbow line and second-circuit Talega-Escondido line would be seen by viewers from residences, travel routes, scenic highways, and other sensitive viewpoints. Consequently, the new Valley-Rainbow Transmission Line would have a potentially significant impact on visual resources. Applying protocols referenced in the Valley-Rainbow Interconnect PEA (SDG&E 2001) would reduce some, but not all, of these visual impacts on a less than significant level. The Talega-Escondido Transmission Line upgrade would not result in significant visual impacts (SDG&E 2001).

5.1.2.2.3.2 Valley-Rainbow Substation Changes/Modifications

System upgrades to existing substations (Mission, Miguel, Valley, Talega, and Sycamore Canyon), as discussed within the Valley-Rainbow Interconnect PEA, would not produce significant impacts on sensitive viewers. Similarly, the new Rainbow Substation as proposed within the Valley-Rainbow Interconnect PEA would likely not produce significant impacts on sensitive viewers (SDG&E 2001).

However, the new Rainbow Substation for the No Project Alternative may or may not produce significant impacts on sensitive viewers, depending on its location.

Although not discussed within the Valley-Rainbow PEA, system upgrades to the existing Serrano and Devers Substation would likely not produce significant impacts on sensitive viewers because the views are already associated with similar equipment, and the likely modifications would not substantially alter those views.

5.2 AGRICULTURAL RESOURCES

5.2.1 Proposed Project

No agricultural resources will be adversely affected by the Project. Therefore, no mitigation measures are required.

5.2.2 No Project Alternative

5.2.2.1 Replacement Facilities – New Generation Component

New generation facilities could be sited in a manner that reduces or avoids agricultural resource impacts; however, significant impacts could still occur depending on the ultimate location chosen. In some areas, siting on existing agricultural resources may be a preferred alternative. Appropriate mitigation considerations will be specific to site selection and local jurisdictional requirements for any new generation facility. For the purpose of this analysis, it is assumed that there are no impacts on agricultural resources that cannot be reasonably mitigated as part of the new generation project approval process.

5.2.2.2 Replacement Facilities – New Transmission Component

New transmission could be sited in a manner that reduces or avoids agricultural resource impacts; however, significant impacts could still occur depending on the ultimate location chosen. It is assumed that such impacts could be mitigated.

5.2.2.2.1 Reinforced 230 kV SCE/SDG&E Interface No Project Alternative

5.2.2.2.1.1 Reinforced 230 kV SCE/SDG&E Interface Transmission Lines

This existing transmission line corridor is located in a mostly urban and developed area and is not likely to be adjacent to agricultural resources. Potential impacts associated with the placement of additional transmission towers would likely be less than significant. A detailed analysis has not been performed because the exact siting of the additional transmission towers is unknown. Impacts could vary, but would likely be less than significant and would require description and analysis in a PEA before approval.

5.2.2.2.1.2 Reinforced 230 kV SCE/SDG&E Interface Substation Changes/Modifications

Modifications to existing substations and the switchyard would not extend beyond existing fence lines. Therefore, potential impacts on agricultural resources are not expected to occur.

5.2.2.2.2 Imperial Valley-Ramona No Project Alternative

5.2.2.2.2.1 Imperial Valley-Ramona Transmission Lines

Imperial Valley-Ramona 500 kV line

Imperial Valley-Dulzura (Looped) Leg

This segment of the transmission line is adjacent to an existing line and potential impacts on agricultural resources would likely be less than significant. A detailed analysis has not been performed because the exact siting of the Imperial Valley-Ramona transmission lines is unknown. Impacts could vary but would likely be less than significant and would require description and analysis in a PEA before approval.

Dulzura-Ramona Leg

Although this segment of the transmission line would traverse relatively undisturbed areas, potential impacts on agricultural resources would likely be less than significant because of avoidance measures and/or because of the relatively small area of land needed for siting transmission towers. A detailed analysis has not been performed because the exact siting of the Imperial Valley-Ramona transmission

lines is unknown. Impacts could vary but would likely be less than significant and would require description and analysis in a PEA before approval.

Ramona-Sycamore Canyon 230 kV line

The majority of this transmission line portion will be adjacent to existing transmission lines and potential impacts on agricultural resources would likely be less than significant. A detailed analysis has not been performed because the exact siting of the Imperial Valley-Ramona transmission lines is unknown. Impacts could vary, but would likely be less than significant and would require description and analysis in a PEA before approval.

Sycamore Canyon-Chicarita-Carlton Hill 138 kV line

This portion of the transmission line is adjacent to an existing line and potential impacts on agricultural resources would likely be less than significant. A detailed analysis has not been performed because the exact siting of the Imperial Valley-Ramona transmission lines is unknown. Impacts could vary but would likely be less than significant and would require description and analysis in a PEA before approval.

5.2.2.2.2.2 Imperial Valley-Ramona Substation Changes/Modifications

A detailed analysis has not been performed because the exact siting of the Ramona Substation is unknown. Impacts could vary and would require description and analysis in a PEA before approval. Modifications to existing substations would occur within the existing fence lines and/or on SCE- or SDG&E-owned land.

5.2.2.2.3 Valley-Rainbow No Project Alternative

5.2.2.2.3.1 Valley-Rainbow Transmission Lines

According to the Valley-Rainbow Interconnect PEA, placement of the Valley-Rainbow transmission towers or poles would occur in some areas of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Section 4.2.2.2.3.1 describes these resources. However, because of the limited footprint and ground disturbance of the towers or poles, their placement in agricultural lands would result in a less than significant impact. Agricultural lands would either be spanned or, if avoidance is

impossible, additional protocols such as tower construction type and/or tower placement would be implemented to further reduce impacts on agricultural lands. Placement of transmission towers or poles would occur in some areas of Williamson Act Contract status. This would, however, not change existing agricultural practices and would result in a less than significant impact. Pursuant to Government Code Section 51238 and Riverside County Planning Department Ordinance 509, the construction and operation of electric facilities and uses are deemed compatible with Williamson Act lands (see California Government Code Section 51238). Additionally, placement of transmission towers or poles in agricultural areas would not result in a significant loss of farmland or result in a significant conversion to non-agricultural use because of their minimal footprint and ground disturbance. Placement of a second circuit on the existing Talega to Escondido Transmission Line would not result in significant impacts on agricultural resources (SDG&E 2001). The new transmission line under the No Project Alternative would likely have similar impacts.

5.2.2.2.3.2 Valley-Rainbow Substation Changes/Modifications

No proposed substations (Rainbow) or proposed improvements to existing substations (Mission, Miguel, Valley, Talega, and Sycamore Canyon) described in the Valley-Rainbow Interconnect PEA would be anticipated to affect agricultural resources (SDG&E 2001). Additionally, Devers and Serrano Substations, which are not included within the Valley-Rainbow Interconnect PEA, would require modifications that would occur within the existing fence line and would not be anticipated to affect agricultural resources. The new Rainbow Substation would likely not adversely affect agricultural resources.

5.3 AIR QUALITY

5.3.1 Proposed Project

Air quality impacts would be considered significant if the project would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate an air quality standard or contribute substantially to an existing or projected air quality violation;

- Result in a cumulatively considerable net increase of a criteria regulated emission for which the project region is in non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for O_3 precursors);
- Expose sensitive receptors to substantial regulated emission concentrations; or
- Create objectionable odors affecting a substantial number of people.

The source of air emissions from the Project will be from transport vehicles during the RSG transport, and those emissions will be of very short duration. In the case of this CEQA analysis, the emissions of relevance would occur over a period of only a few days. The temporary nature of these emissions and their relatively low values are also important in the consideration of the significance of these emissions.

5.3.1.1 Replacement Steam Generator Transport Options

The RSG transport options will result in temporary increases in air emissions during the transport periods. Air emissions will be generated in the forms of fugitive dust emissions (PM_{10}) and equipment exhaust emissions (NO_x, sulfur oxide [SO_x], CO, ROG, and PM_{10}). Operation of heavy equipment and vehicles during transport will generate exhaust emissions resulting from fuel combustion. Fugitive dust emissions will also be generated by mobile equipment and vehicles traveling on unpaved roads. The emission calculations were conducted for the following emission categories:

- Equipment exhaust emissions,
- Vehicle exhaust emissions, and
- Fugitive dust emissions.

Air emissions associated with transport options were estimated using project-specific activity data and emission factors developed by the EPA and CARB. The CARB EMFAC2002 model was used to derive emissions factors for estimation of vehicle exhaust emissions. The exhaust emissions from diesel heavy equipment with a power rating greater than 25 hp were estimated using the emissions factors developed by CARB based on the OFFROAD model. For smaller gasoline and diesel engines (less than 25 hp), emission factors listed in the "Public Meeting to Consider Approval of the California Small Off-Road Engine Emissions Inventory" were used. EPA emission factors were used to estimate fugitive dust emissions from the mobile equipment and vehicles traveling on roads. Project-specific activity

data include types and quantities of equipment and vehicles, traveling distances on roads, power ratings for equipment, and operating times for vehicles and equipment.

5.3.1.1.1 Beach and Road Route Transport Option

Mobile sources involved with transport activities, including heavy equipment and trucks, will create exhaust emissions. Equipment used for activities, such as the transport of RSGs, on unpaved surfaces will generate fugitive dust. These dust emissions will consist primarily of large particles that generally settle on nearby surfaces, rather than becoming airborne for any great distance. Watering of the unpaved surfaces along this route will be provided to minimize dust generation during transport of the steam generators, if required by current conditions. The limited transportation time (8 to12 days) and the slow speeds of the equipment will ensure low amounts of emissions and fugitive dust associated with this transport option. There are no sensitive receptors that will be adversely affected by temporary generation of fugitive dust and equipment exhaust. Therefore, this transport option will conform to the SIP and not pose a significant impact.

Temporary emissions calculated for this transport option are shown in Table 5.3-1. There are no permanent emissions associated with this transport option. Emissions will not cause air quality standards to be exceeded, nor will they delay the attainment of ambient air quality standards. There will be no significant adverse impacts on air quality.

Table 5.3-1
Summary of Total Estimated Emissions
Beach and Road Route Transport Option

Emissions	Daily Emissions (lbs/day)					Annual Emissions (tons/year)				
	CO	ROC	NO_x	SO_x	PM_{10}	CO	ROC	NO_x	SO_x	PM_{10}
Equipment Exhaust Emissions – I-5	*154.17*	*14.25*	*90.35*	*0.00*	*2.65*	*0.08*	*0.01*	*0.05*	*0.00*	*0.00*
Vehicle Exhaust Emissions – I-5	*15.52*	*1.42*	*3.25*	*0.02*	*0.17*	*0.01*	*0.00*	*0.00*	*0.00*	*0.00*
Equipment Exhaust Emissions – Paved San Onofre State Park	66.98	8.85	75.16	0.00	3.34	0.03	0.00	0.04	0.00	0.00
Vehicle Exhaust Emissions – Paved San Onofre State Park	7.14	0.67	1.67	0.01	0.09	0.00	0.00	0.00	0.00	0.00
Fugitive Dust Emissions – Total	*0.00*	*0.00*	*0.00*	*0.00*	*8.38*	*0.00*	*0.00*	*0.00*	*0.00*	*0.01*
Peak Daily Emissions (Peak daily emissions are calculated as the total daily emissions on I-5 plus fugitive dust emissions)	**169.70**	**15.68**	**93.59**	**0.02**	**11.19**	**0.12**	**0.01**	**0.09**	**0.00**	**0.01**

In 2001, the EPA revised its rules for determining conformity of Federal actions with State and Federal air quality implementation plans. To demonstrate conformity with the Clean Air Act, a project must clearly demonstrate that it does not: 1) cause or contribute to any new violation of any standard in the area; 2) interfere with provisions in the application of the SIP for maintenance or attainment of air quality standards; 3) increase the frequency or severity of any existing violation of any standard; or 4) delay timely attainment of any standard, any interim emission reductions, or other milestones included in the SIP for air quality. The EPA has developed specific procedures for conformity determinations related to Federal actions that include preparing a review of emissions associated with the action based on the latest and most accurate emission estimation techniques.

Although the Project is not a Federal action in itself, a portion of the Project route used to transport RSGs will traverse MCBCP, which will trigger a requirement to evaluate whether a conformity analysis is applicable because a Real Estate License will be issued by MCBCP, which will be a Federal action. This will be addressed through separate permitting through MCBCP. A Federal action is subject to a full conformity analysis if the total of direct and indirect emissions associated with the action equal or exceed emission rates set forth in 40 CFR 93. The San Diego Air Basin has recently been designated as an attainment area with respect to the Federal O_3 standard. As a result of this change, the (de minimis) emissions levels for NO_x and volatile organic compounds (VOC) that would trigger a full conformity analysis have increased from 50 to 100 tons. Clearly, the proposed transport of steam generators will result in emissions far below these thresholds. The low air emissions that will be generated by the Project over a short period will not result in a significant impact on air quality.

5.3.1.1.2 Inland Route Transport Options

The types and quantities of emissions associated with the Inland Transport Options will be very nearly the same as those for the Beach and Road Route Transport Option. As with that option, there are no sensitive receptors that will be adversely affected by temporary generation of fugitive dust or equipment exhaust.

Temporary emissions calculated for the two inland transport options are shown in Table 5.3-2 and Table 5.3-3. There are no permanent emissions associated with these transport options. Emissions will not cause air quality standards to be exceeded, nor will they delay the attainment of ambient air quality standards. A formal Conformity determination will not be required for the Inland Transport Options for

the same reasons discussed previously for the Beach and Road Route Transport Option. Therefore, the Inland Route Transport Options will not cause significant adverse impacts on air quality.

Table 5.3-2
Summary of Total Estimated Emissions
I-5/Old Highway 101 Option

Emissions	Daily Emissions (lbs/day)					Annual Emissions (tons/year)				
	CO	ROC	NO_x	SO_x	PM_{10}	CO	ROC	NO_x	SO_x	PM_{10}
Equipment Exhaust Emissions – I-5	*377.20*	*41.73*	*387.45*	*0.00*	*15.37*	*0.38*	*0.04*	*0.39*	*0.00*	*0.02*
Vehicle Exhaust Emissions – I-5	*16.66*	*1.49*	*2.90*	*0.01*	*0.14*	*0.02*	*0.00*	*0.00*	*0.00*	*0.00*
Equipment Exhaust Emissions – San Onofre State Park	177.68	18.59	164.10	0.00	7.17	0.09	0.01	0.08	0.00	0.00
Vehicle Exhaust Emissions – San Onofre State Park	9.52	0.87	1.97	0.01	0.10	0.00	0.00	0.00	0.00	0.00
Fugitive Dust Emissions – Total	*0.00*	*0.00*	*0.00*	*0.00*	*19.57*	*0.00*	*0.00*	*0.00*	*0.00*	*0.02*
Peak DailyEmissions (Peak daily emissions are calculated as the total daily emissions on I-5 plus fugitive dust emissions)	**393.86**	**43.22**	**390.35**	**0.01**	**35.08**	**0.49**	**0.05**	**0.47**	**0.00**	**0.04**

Table 5.3-3
Summary of Total Estimated Emissions
MCBCP Inland Option

Emissions	Daily Emissions (lbs/day)					Annual Emissions (tons/year)				
	CO	ROC	NO_x	SO_x	PM_{10}	CO	ROC	NO_x	SO_x	PM_{10}
Equipment Exhaust Emissions	251.35	35.53	358.91	0.00	16.29	0.13	0.02	0.18	0.00	0.01
Vehicle Exhaust Emissions	15.86	1.45	3.29	0.02	0.17	0.01	0.00	0.00	0.00	0.00
Fugitive Dust Emissions	0.00	0.00	0.00	0.00	4.77	0.00	0.00	0.00	0.00	0.00
Peak Daily Emissions	**267.21**	**36.98**	**362.20**	**0.02**	**21.23**	**0.14**	**0.02**	**0.18**	**0.00**	**0.01**

5.3.1.2 Replacement Steam Generator Preparation

Project activities within SONGS 2 & 3 may require standard Dust Control Measures, such as periodic use of water to dampen and control particulate emissions. Such measures, if necessary, will be

implemented as part of the Project. Some activities, such as cutting the expanded entrance into the concrete on the containment domes, will generate concrete dust. Concrete may be cut using either hydro-lazing or other mechanical cutting and chipping removal methods. The hydro-lazing method uses water pumps to create each containment structure opening. The concrete cutting and chipping removal methods, if used, will likely create more dust. Dust suppression and containment will be used to control such dust.

Operation of the pumps during hydro-lazing will produce emissions. Maximum temporary emissions calculated during hydro-lazing are shown in Table 5.3-4. These emission calculations examined two scenarios of operation of 18 pumps used 14 hours a day for 14 days and 18 pumps used 20 hours a day for 10 days. Mechanical cutting and chipping removal methods will not require the use of as many pumps. There are no permanent emissions associated with either hydro-lazing or mechanical cutting. Neither hydro-lazing nor mechanical cutting will cause significant adverse impacts on air quality.

Table 5.3-4
Summary of Total Estimated Emissions
Hydro-Lazing

Emissions	Daily Emissions (lbs/day)					Annual Emissions (tons/year)				
	CO	ROC	NO_x	SO_x	PM_{10}	CO	ROC	NO_x	SO_x	PM_{10}
14 hours, 14 days Peak Daily Emissions	43.10	59.44	572.40	---	22.40	0.30	0.42	4.01	---	0.16
20 hours, 10 days Peak Daily Emissions	60.29	83.13	800.56	---	31.33	0.30	0.42	4.0	---	0.16

RSG preparation, original steam generator removal, and replacement of the RSGs will result in increased numbers of workers commuting to the SONGS project site in private vehicles. This work force is expected to come from within the region, and will therefore represent the use of private vehicles that are already in operation within the region. Therefore, emissions from commuter vehicles are not expected to exceed the existing regional baseline for such vehicles, especially in consideration of the substantial vehicular traffic on I-5 in the project area. Furthermore, these vehicles will be subject to California emissions standards enforced through vehicle manufacturers and private licensing, and such operations are not otherwise subject to discretionary authorization herein. No significant adverse effects from commuter vehicular emissions will result from this project because there will be no

exceedance of the regional baseline for vehicle emissions and the temporary nature of such emissions will cease upon project completion.

5.3.1.3 Original Steam Generator Removal, Staging, and Disposal

Project activities within SONGS 2 & 3 may require standard Dust Control Measures, such as periodic use of water to dampen and control particulate emissions. Such measures, if necessary, will be implemented.

5.3.1.4 Replacement Steam Generator Installation and Return to Service

Project activities within SONGS 2 & 3 may require standard Dust Control Measures, such as periodic use of water to dampen and control particulate emissions. Such measures will be implemented, if necessary.

Although not specifically part of this project, an ILRT will be conducted after the containment structure has been sealed at the completion of the RSG installation. The ILRT is a routine NRC license requirement that is to be done on an approximate ten-year frequency. Regardless of the steam generator replacement activity, the ILRT will be conducted. The last ILRT was conducted in 1995. The next routine ILRT will be due during an RFO closest to 2005. However, this test date, with the concurrence of the NRC, will be extended to the Cycle 16 RFO. Such an extension is not expected to be withheld by the NRC.

In the 1995 ILRT, a maximum of eight 440 HP 1,500 cfm diesel driven air compressors were operated to pressurize the reactor containment structure for a specified period of time. These machines operated between about 16 to 18 hours during each of the sequential SONGS 2 & 3 ILRT. The 1995 ILRT was permitted under local San Diego County Air Pollution Control District requirements and was demonstrated to not cause any significant impact. Although the same diesel driven air compressors may not be used during the Cycle 16 RFO testing, equivalent machines are expected to be used with similar ratings and emission characteristics. Appropriate permits for the ILRT will be obtained prior to the Cycle 16 RFO with the corresponding demonstrations to demonstrate that there will be no adverse impact.

5.3.2 No Project Alternative

5.3.2.1 Replacement Facilities – New Generation Component

The retirement of SONGS 2 & 3 would result in a reduction in electric power generation of approximately 2,150 MW. Over the last several years, SONGS 2 & 3 has operated at an annual capacity factor of 88%; thus, the plant currently provides approximately 16.6 million megawatt hours (MWh) per year of generation to meet the demand in southern California. Simulations conducted by SCE have determined that a cessation of SONGS 2 & 3 operations would result in the need to develop equivalent new generation capacity, which presumably would be in the form of plants firing fossil fuels. The simulations projected further that approximately 58.4% (1,255 MW) of the new generation would likely originate in Arizona, and approximately 41.6 % (895 MW) would be obtained from new plants in southern California. This section presents estimates of the regulated air emissions that would be created by this replacement capacity.

A review was conducted to determine a reasonable series of generation technologies to provide approximately 16.6 million MWh per year of power with the approximate breakdown of new capacity by State indicated above. Because SONGS 2 & 3 operates as a base load facility, it is reasonable to expect that the facilities developed to replace it would also be constructed as base load plants. In recent years, the great majority of such facilities have been configured as CCGT projects with heat-recovery steam generators (HRSG) to maximize power generation. Additionally, new plants are now typically equipped with duct firing in the HRSGs to make up for the power loss experienced during hot months, when the capacity of the gas turbine generators is negatively affected by high ambient temperatures.

Considering the projected magnitude of required replacement capacity and the types of new generating facilities that have been successfully permitted during the last several years, it has been assumed that all new plants will use “F” Class gas turbines fired exclusively on natural gas and a 2-on-1 configuration (i.e., two combustion turbines served by one steam generator). Such plants have a nominal capacity of approximately 500 MW without duct firing. For purposes of this analysis, it has been assumed that all replacement power resulting from retirement of SONGS 2 & 3 would be generated by plants of this design.

The power generation requirements cited above for each State do not conform to even multiples of 500 MW; therefore, the approach used here has been to calculate emission factors (tons/MWh) for each regulated emission typical of the combined cycles plants in 2-on-1 "F" Class turbine configuration, and apply these factors to the assumed MWh generation requirements in the individual States. Because of the high fuel efficiency of this plant type, the emission estimates developed for all new plants based on this assumption are expected to be lower than those that would result from many other configurations that could be postulated.

Regulatory emissions limitations for similar equipment in Arizona and southern California are currently somewhat different, with those in California being the more stringent. Recent Best Available Control Technology (BACT) determinations for actual combined cycle "F" class turbine projects in both States were examined to provide a first approximation of the emission levels that will be allowed for future plants. BACT requirements change over time and the emission rates that will be in effect in 2010 cannot be precisely foreseen. However, the low emission levels that have been achieved by advances in gas turbine emission control technologies over the last 10-15 years and the trend toward near-exclusive use of natural gas fuel for power generation suggest that the requirements governing emissions for the SONGS 2 & 3 replacement generation units may not be significantly more stringent than current BACT levels. To the extent that lower emissions can be achieved over the next several years, then actual emissions for the replacement plants will be lower than the estimates presented in this section.

Table 5.3-5 shows the BACT emission levels assumed in this analysis for all replacement plants. For conservatism, it was assumed that by 2010 the new facilities in both Arizona and southern California would likely be required to meet at least the most stringent emissions control requirements for NO_x, CO, VOC, and ammonia currently in effect in these areas. For these regulated emissions, the SCAQMD's current BACT requirements for CCGT plants were used. Emission control for these substances does not rely heavily on site-specific factors, and is determined primarily by the type of control equipment selected.

The BACT limits used for the presumed southern California replacement plant(s) were based on current requirements for CCGT plants in the SCAQMD. The requirements for NO_x and CO, shown in

Table 5.3-5, were taken from a SCAQMD memorandum published in January 2003, which states their intention to impose the limits. Although these levels have not yet been formally adopted by

Table 5.3-5
Assumed Best Available Control
Technology Requirements for
SONGS 2 & 3 Replacement Combined Cycle Power Plants

State	NO_x (ppmvd @ 15% O_2)	CO (ppmvd @ 15% O_2)	SO_x (lb/MMBtu)	PM_{10} (lb/MMBtu)	VOC (ppmvd @ 15% O_2)	NH_3 (ppmvd @ 15% O_2)
Arizona	2.0	3.0	0.0021	0.014	2.0	5.0
California	2.0	3.0	0.0007	0.006	2.0	5.0

SCAQMD as BACT, it is reasonable to expect that the requirements in effect at the time new SONGS 2 & 3 replacement plants would be permitted would be at least this stringent. The projected BACT levels for VOC, SO_x, and particulate matter (PM_{10}) reflect the limitations placed on the most recent combined cycle power projects in the SCAQMD. For instances when a range of values has been specified by SCAQMD for a given substance depending on project-specific circumstances, the most stringent requirement has been assumed for this analysis.

Recent power plant projects in Arizona have been permitted with higher SO_2 and PM_{10} emission limits than those allowed for plants in southern California. Because these limits may reflect a difference in the sulfur contents of natural gas fuels available within the two States and because SO_2 and particulate emissions are generally minor air quality issues for plants fired by natural gas, it was considered prudent to assume higher SO_2 and PM_{10} emission rates for the Arizona plants. Specifically, the emission factors presented in the air quality permit documents for the Gila Bend Power Generation Project served as the basis for estimating these regulated emissions. The Gila Bend project is a CCGT plant with three "F" Class turbines and three HRSGs. The air permit for this facility was issued by the Maricopa County Environmental Services Department on April 30, 2002, and contains detailed information on the emission limits for each turbine-HRSG train with and without duct firing.

Ammonia emissions are included in this analysis because this chemical is usually used in conjunction with the selective catalytic reduction (SCR) technology that is widely used to meet the stringent modern NO_x emission limits. A small fraction of the ammonia injected into the exhaust of each turbine-HRSG train escapes unreacted to the atmosphere (ammonia slip). For this reason, BACT requirements

for ammonia are now specified in permits involving CCGT plants equipped with SCR, and the limit most recently specified for new units in the SCAQMD (5 ppm by volume dry basis at 15% O_2) was assumed for all plants in this analysis

The replacement power plants in both Arizona and California were assumed to be equipped with duct firing to provide supplemental capacity during hot weather, when the capacity of the gas turbine generators are negatively affected by high ambient temperatures. Based on information provided by SCE engineers, the required makeup generation by duct firing to maintain operations at a plant's rated capacity would vary, depending on ambient temperature, from approximately zero to eight percent. Inlet evaporative cooling is provided in virtually all new plants in the Southwest, and was assumed to limit duct firing requirements at the replacement plants to hours of the year when ambient temperatures are 75ºF or higher. Examination of available annual meteorological data sets for Gila Bend, Arizona, and Riverside, California, (which are near the areas assumed to be most likely for site future new plants) showed that the number of hours with temperatures of 75ºF or above amount to approximately 3,800 hours and 2,200 hours, respectively. Accordingly, duct firing was assumed to generate an average of 4 percent of the replacement plant MWh for the corresponding number of hours in each location. The MWh generated by combined cycle operation without duct firing were estimated as the total required generation minus the MWh calculated for duct firing. The results are described in Table 5.3-6.

Table 5.3-6
MWH Generated by
Combined Cycle With and Without Duct Firing

Duct Firing	Arizona	169,813 MWh
	California	69,498 MWh
No Duct Firing	Arizona	9,504,731 MWh
	California	6,829,878 MWh

Using the assumed BACT requirements described above and the mass emission rates corresponding to these levels for "F" Class turbines, emission factors for each regulated emission (tons of emission per MWh) for both turbines and duct firing were calculated. These factors were then multiplied by the projected annual replacement MWh requirements for the two states to obtain estimated annual emissions. The annual estimates were based on an assumed capacity factor of 88%, which would

correspond to the same total MWh that would be lost by a shutdown of SONGS 2 & 3. The results are presented in Table 5.3-7, including emissions from the replacement plants and the net increase above the current SONGS 2 & 3 emissions.

The total emissions shown in Table 5.3-7 correspond to plants using conventional wet cooling systems. Regulatory agencies are increasingly requiring careful consideration of dry and wet-dry cooling during the licensing process for plants in the desert southwest where water resources are limited. It is thus quite possible that dry cooling would be required for some, if not all, new plants by 2010, and plants using such systems would suffer an annual energy penalty of about 3 percent. Additional fuel would need to be expended to replace this loss, which would also result in additional emissions. The adjusted total emissions assuming dry cooling for all replacement plants are shown in the last line of Table 5.3-7.

Table 5.3-7
Estimated Annual Emissions for
SONGS 2 & 3 Replacement Combined Cycle Power Plants[1]

State/Area	NO_x (tons/year)	CO (tons/year)	SO_x (tons/year)	PM_{10} (tons/year)	ROG (tons/year)	NH_3 (tons/year)
Arizona	261.9	244.8	58.0	327.7	37.0	202.2
California	186.2	174.3	41.6	235.4	25.8	144.2
Total Replacement Emissions	**448.2**	**419.0**	**99.6**	**563.0**	**64.8**	**346.3**
SONGS 2 & 3 Emissions	32.6	8.4	0.5	0.9	2.4	0.0
Total Emissions Increase	**415.6**	**410.6**	**99.1**	**562.1**	**62.4**	**346.3**
Total Emissions Increase (assuming all dry cooling)	**429.0**	**423.2**	**102.1**	**579.0**	**64.3**	**356.7**

1. Assumed 2-on-1 combined cycle plants using "F"-Class turbines, with duct firing for hours with ambient temperature at or above 75°F.

Use of fossil-fuel power generation in lieu of SONGS 2 & 3 would also produce additional emissions of carbon dioxide (CO_2), an unregulated greenhouse gas emission implicated in global climate change. Using the emission factor of 0.476 tons (0.432 metric tons) of CO_2 per MWh of generation for CCGT power plants (American Petroleum Institute *Compendium of Greenhouse Gas Emissions Estimation Methodologies for the Oil and Gas Industry*), the emissions of this compound that would result by replacing 16.6 million MWh with gas-fired units would amount to approximately eight million tons per

year, versus the comparatively negligible quantity produced by the SONGS 2 & 3 equipment. Natural gas combustion also produces emissions of organic compounds, principally benzene, formaldehyde and acetaldehyde, which like ammonia, are included on federal and California lists of hazardous air emissions.

Additionally, the incremental costs for obtaining air quality permits and, in many cases, emissions offsets for such facilities can add substantially to the capital equipment expenditures and operating costs that would be incurred to replace SONGS 2 & 3 generation. Offsetting of new plant emissions, most likely those of NO_x, VOC and PM, will be required for the new plants in California to ensure that the regional air quality impacts of the replacement plants are below a level of significance. Licensing by the California Energy Commission (CEC) will be required for individual replacement plants of 50 MW or greater. The policy of CEC in its role of CEQA lead agency for such projects is to require emissions offsets for *any* increase in the emissions of a regulated nonattainment substance or precursors, even those for which offsets are not required by the regulation of the local air district. Offsets may or may not be required for the new plants in Arizona, depending on how the required capacity would be distributed among multiple sites and the attainment status of the selected site areas at the time of licensing. Thus, replacement generation associated with the No-Project Alternative is expected to result in significant, but mitigable, air quality impacts.

5.3.2.2 Replacement Facilities - New Transmission Component

New transmission could be sited in a manner that reduces air quality impacts; however, significant impacts could still occur depending on the ultimate location chosen. Construction would involve short-term activities that may cause air emissions.

5.3.2.2.1 Reinforced 230 kV SCE/SDG&E Interface No Project Alternative

5.3.2.2.1.1 Reinforced 230 kV SCE/SDG&E Interface Transmission Lines

The Reinforced 230 kV SCE/SDG&E Interface would not conflict with or obstruct implementation of air quality attainment plans. Construction and maintenance of additional transmission towers would produce short-term, minor temporary air emissions, such as fugitive dust, and vehicle exhaust, and some emissions would result from required maintenance/repair work. This alternative would not be likely to violate air quality standards. Related operations would likely produce a less than significant

amount of air emissions and would likely not generate objectionable odors. Additionally, the construction, maintenance, and operation would likely not expose sensitive receptors to substantial emission concentrations. However, a detailed analysis has not been performed because the exact siting of additional towers and associated improvements within the existing transmission corridor are unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.3.2.2.1.2 Reinforced 230 kV SCE/SDG&E Interface Substation Changes/Modifications

Modifications to existing substations and the existing switchyard would likely have no significant impacts on air quality. However, a detailed analysis has not been performed. Impacts could vary and would require description and analysis in a PEA before approval.

5.3.2.2.2 Imperial Valley-Ramona No Project Alternative

5.3.2.2.2.1 Imperial Valley-Ramona Transmission Lines

The Imperial Valley-Ramona transmission lines would not conflict with or obstruct implementation of air quality attainment plans. Construction and maintenance of transmission lines would produce short-term, minor temporary air emissions, such as fugitive dust, and vehicle exhaust, and some emissions would result from required maintenance/repair work. This alternative would not be likely to violate air quality standards. Related operations would likely produce a less than significant amount of air emissions and would likely not generate objectionable odors. Additionally, the construction, maintenance, and operation of the lines would likely not expose sensitive receptors to substantial emission concentrations. However, a detailed analysis has not been performed because the exact siting of the Imperial Valley-Ramona transmission lines is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.3.2.2.2.2 Imperial Valley-Ramona Substation Changes/Modifications

The new Ramona Substation and modifications to existing substations would likely have no significant impacts on air quality. A detailed analysis has not been performed because the exact siting of the Ramona Substation is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.3.2.2.3 Valley-Rainbow No Project Alternative

5.3.2.2.3.1 Valley-Rainbow Transmission Lines

According to the Valley-Rainbow Interconnect PEA, the Valley-Rainbow Transmission Line and the Talega-Escondido Transmission Line modification would not conflict with or obstruct implementation of air quality attainment plans. Construction and maintenance of the Valley-Rainbow Transmission Line and the installation of the second circuit on the Talega-Escondido Transmission Line would produce short-term, minor temporary air emissions, such as fugitive dust, and vehicle exhaust, and some emissions would result from required maintenance/repair work. However, neither would violate air quality standards. Related operations would produce a less than significant amount of air emissions and would not generate objectionable odors. Additionally, the construction, maintenance, and operation of the lines would not expose sensitive receptors to substantial emission concentrations (SDG&E 2001). The new transmission line under the No Project Alternative would likely have similar impacts.

5.3.2.2.3.2 Valley-Rainbow Substation Changes/Modifications

As discussed with the Valley-Rainbow Interconnect PEA, modifications to applicable substations would not result in significant impacts on air quality (SDG&E 2001). Modifications to the existing Devers and Serrano Substations would be expected to have similar impacts. The new Rainbow Substation would also be anticipated to have no significant impacts on air quality.

5.4 BIOLOGICAL RESOURCES

5.4.1 Proposed Project

Direct impacts occur when biological resources are altered or destroyed during the course of, or because of project implementation. Examples of such impacts include removal or grading of vegetation, filling wetland habitats, or severing or physically restricting the width of wildlife corridors. Other direct impacts may include loss of foraging or nesting habitat and individual species because of habitat clearing. Indirect impacts may include elevated levels of noise or lighting, change in surface-water hydrology within a floodplain, and increased erosion or sedimentation. These types of indirect impacts can affect vegetation communities or their potential use by sensitive species. Permanent impacts may result in irreversible damage to biological resources. Temporary impacts are interim changes in the local environment resulting from construction or other activities and would not

extend substantially beyond Project-associated activities, including revegetation of temporarily disturbed areas adjacent to native habitats. In the case of this Project, impacts would be considered potentially significant if they resulted in the substantial loss or modification of an existing biological resource. Final evaluation of potential impacts on biological resources and mitigation measures for the portions of the Project will be conducted by MCBCP, which has sole management authority on those portions on MCBCP. MCBCP will include consultation with appropriate agencies, such as the USFWS.

5.4.1.1 Replacement Steam Generator Transport Options

5.4.1.1.1 Beach and Road Route Transport Option

No significant adverse impacts on vegetation are expected from this option. The transport route will follow existing paved roads or dirt roads. Even the beach portion of the Beach and Road route from the Camp Pendleton Del Mar Boat Basin to Red Beach is part of a military transport road. The entire route was surveyed. No sensitive plant or wildlife species will be adversely affected by the transport. The transport route will temporarily affect two small patches of disturbed non-native grassland and ruderal habitat at the Skull Canyon bypass at I-5. The transport vehicle will drive over a small patch of highly disturbed habitat with non-native grasses, patches of barren ground, and a few individuals of golden bush and California sagebrush where the transport lines cross onto I-5 from a dirt road and where it returns to MCBCP from I-5 on the other side of Skull Canyon.

No significant adverse impacts on wildlife species are expected from this option. The disturbed patches of habitat near I-5 at the transitions represent little value to wildlife species. Because the transport is scheduled to occur during the non-breeding season for resident and migratory birds, no impacts on nesting birds will occur. Other wildlife potentially found along the transport route, such as snowy plovers or side-blotched lizards, is highly mobile and will retreat from temporary disturbance caused by the transport. Wildlife use of all habitats is expected to return to normal after the short-duration passage of the transporter. A biological monitor, appointed by SCE, will be present to ensure that transport is maintained on the designated route. The biological monitor will coordinate with MCBCP and the USFWS as appropriate.

No significant adverse impacts on aquatic life, including wetlands and fisheries resources, are expected to occur at the stream crossings, such as the Santa Margarita River. The temporary

ford crossing of drainages with flowing water will allow water to continue to flow without changing the elevation of the bed of waters of the United States. These crossings do not constitute a discharge of dredged or fill material subject to Section 401 or 404 of the Federal Clean Water Act because the equipment and potential mats proposed are not fill material as defined by the ACOE. The potential, temporary placement of mats in navigable waters of the United States, such as the Santa Margarita River, may require a permit for potential obstructions to navigation pursuant to the Federal Rivers and Harbors Act, although they should be authorized by Nationwide Permit. The matting material, however, will be in place for only a short amount of time, and will be removed after the crossing is accomplished. The temporary placement of mats will not prevent the movement of aquatic life, especially fish such as the tidewater goby, through the crossing points. Potential minor suspension of sediments from placement and removal of the crossing is not expected to exceed levels in the existing flowing water and adjacent ocean surf zone. Therefore, no adverse impacts on aquatic life are expected from this minor suspension of sediments. No wetland vegetation occurs in the crossing locations.

The noise generated by equipment along the route will be minor and mobile. As such, no adverse impacts on wildlife are expected to result from noise. Night lighting may be used along the beach. This lighting will be directed away from the land where potential wildlife resources are most likely to be affected. This directed lighting is not expected to substantially affect wildlife in the area. The short duration of noise and light impacts, their mobile nature, and their occurrence outside most breeding seasons further reduces the likelihood of impacts on wildlife. No significant, adverse impacts on biological resources from noise or lighting are expected to result from this option.

5.4.1.1.2 Inland Route Transport Options

5.4.1.1.2.1 I-5/Old Highway 101 Option

No significant adverse impacts on vegetation are expected to result from this option, although some disturbance is expected to occur at transition points, especially where the transitions will include paving of a path across existing vegetated land. Vegetation will be removed at some of these locations to allow for paving and transport, and they will not be reclaimed until the cycles of transport are completed. The

initial transition from MCBCP to I-5 may result in a paved pathway to I-5 over existing disturbed and ruderal vegetation. Approximately 0.2 acres of disturbed vegetation will be affected. The second transition from I-5 to Coaster Way onto MCBCP is at a highly disturbed area supporting ruderal vegetation and non-native grasses. This transition may be paved. The next transition back onto I-5 just east of the LCAC facility is over barren ground and mostly ruderal vegetation. This path may be paved. The last transition from I-5 to MCBCP, just north of Skull Canyon, will not be paved. Ruderal vegetation will be affected at this location, as with the Beach and Road Route.

Upon completion of transport, the pavement and compacted base materials that may have been added in these areas will be removed, the surface prepared, and the areas revegetated. Natural recolonization of surfaces that have been stabilized to prevent erosion using Best Management Practices (BMPs) are recommended for these areas of non-native grasslands and ruderal habitats, such as in the disturbed ROW of I-5.

No significant adverse impacts on wildlife are expected to result from this option. The habitat areas that will be affected at transition points over open land are small in area and are not expected to result in the loss of individuals of larger, more mobile species from the general vicinity of the work. No adverse impacts on listed species are expected to occur with this option. The other portions of the route on MCBCP are actively used for military operations that generate a similar visual and noise environment relative to potential impacts on adjacent wildlife. Therefore, the existing wildlife is already adapted to these conditions and the transport of the RSGs is not expected to have adverse indirect impacts on wildlife from noise, lighting, or other factors. Transport through these areas will also have to adhere to requirements of MCBCP for protection of environmental resources on MCBCP. Biological monitors, appointed by SCE, will be provided for the portions of the transport on MCBCP to ensure that adjacent areas are not adversely affected by the transport, especially areas used for overnight staging during transport. The biological monitor will coordinate with MCBCP and the USFWS as appropriate. All potential mitigation measures on MCBCP will be subject to final review, potential modification, and approval by MCBCP.

5.4.1.1.2.2 MCBCP Inland Route Transport Option

No significant adverse impacts on vegetation are expected to result from this option, although some disturbance is expected to occur at transition points, especially where the transition may include paving

of a path across existing vegetated land. Vegetation will be removed at these locations to allow for paving and transport, and they will not be reclaimed until transport is complete. The initial transition under I-5 on MCBCP will involve placement of protection to the railroad. Mostly ruderal habitat will be affected in this area along with isolated, sparse coastal sage scrub species. The transition from MCBCP will be across the disturbed I-5 ROW. The final transition from I-5 to the SONGS 2 & 3 site may be paved. This area consists of highly disturbed habitat along the shoulder of I-5. After crossing the double set of San Diego Northern Railroad tracks, the transporter will cross the vegetated shoulder of the access road to SONGS 2 & 3. The vegetation at this location is mostly ruderal with small patches of common tarplant, goldenbush, and a few individuals of mulefat.

Upon completion of transport, the pavement and compacted base materials added in these areas will be removed, the surface prepared, and the areas will be revegetated. Natural recolonization of disturbed surfaces that have been stabilized to prevent erosion using BMPs are recommended for these areas of non-native grasslands and ruderal habitats.

No significant adverse impacts on wildlife are expected to result from this option. The disturbed habitat areas that will be affected are small in area and are not expected to result in the loss of individuals of larger, more mobile species from the general vicinity of the work. No adverse impacts on listed species are expected to occur with this option. The portions of the route on MCBCP are actively used for military operations that generate a similar visual and noise environment relative to potential impacts on adjacent wildlife. Similar conditions occur on I-5 and Old Highway 101. Therefore, the existing wildlife is already adapted to these conditions and the transport of the RSGs is not expected to have adverse indirect impacts on wildlife from noise, lighting, or other factors.

No impacts on the Pacific pocket mouse are expected because the transport route will remain on paved roads across MCBCP. Transport through areas adjacent to the paved roads that may support the Pacific pocket mouse will adhere to requirements of MCBCP for protection of environmental resources on MCBCP. Biological monitors, appointed by SCE, will be provided for the portions of the transport on MCBCP to ensure that adjacent areas are not adversely affected by the transport, especially areas used for overnight staging during transport. The biological monitor will coordinate with the MCBCP and the USFWS as appropriate. All potential mitigation measures on MCBCP will be subject to final review, potential modification, and approval by MCBCP.

5.4.1.2 Replacement Steam Generator Preparation

Biological resources will not be adversely affected by activities associated with RSG preparation because activities will occur on existing, disturbed land.

5.4.1.3 Original Steam Generator Removal, Staging, and Disposal

Biological resources will not be adversely affected by activities associated with original steam generator removal, staging and disposal because activities will occur on existing, disturbed land. Potential effects on biological resources from noise generated by equipment for cutting the access holes in the containment domes were evaluated and noise levels that would adversely affect biological resources in adjacent lands are not expected to occur. Therefore, no significant adverse effects on biological resources will result from these activities.

5.4.1.4 Replacement Steam Generator Installation and Return to Service

Biological resources will not be adversely affected by activities associated with RSG installation and the return to service because activities will occur on existing, disturbed land.

5.4.2 No Project Alternative

5.4.2.1 Replacement Facilities – New Generation Component

Typically, generation facilities of this size considered in this assessment comprise between 30 to 50 acres of land, depending on siting, steam turbine cooling technology used, and buffer zone needs. The proposed generation facility site could provide habitat for Threatened and Endangered species, or disrupt wildlife movement, or be located on disturbed land. New generation could be sited in a manner that reduces or avoids biological resource impacts; however, depending on the ultimate location chosen, significant impacts could still occur. Appropriate mitigation considerations would be specific to site selection and local jurisdictional requirements for any new generation facility. For the purpose of this analysis, it is likely that impacts can be reasonably mitigated as part of the new generation project approval process.

5.4.2.2 Replacement Facilities – New Transmission Component

New transmission facilities could be sited in a manner that reduces or avoids impacts on biological resources; however, depending on the ultimate location chosen, significant impacts could still occur. For the new Valley-Rainbow or Imperial Valley Transmission Lines, inspection, maintenance, repair, replacement, and upgrade of related facilities would involve long-term activities that may affect wildlife.

This No Project Alternative would produce three basic types of impacts on biological resources: direct, indirect and cumulative impacts. Direct and indirect impacts may be either long-term (permanent impacts) or short-term (temporary impacts during construction only). Direct impacts occur when biological resources are altered, destroyed, or removed during related activities. Direct impacts include the loss of habitat or individual plants, fish or wildlife, and severing and fragmentation of local wildlife corridors and wildlife habitat because of construction activities.

Indirect impacts are reasonably foreseeable impacts that may occur because of the No Project Alternative. Indirect impacts typically involve circumstances such as increased noise levels, illumination of the surrounding habitat, and increased human encroachment. Indirect impacts may result from on going maintenance activities or routine operations at a site that could affect adjacent resources, such as, increased foot or vehicle traffic in the area, security lighting, on going elevated dust, noise, or exposure to non-native species. Cumulative impacts are the sum of all impacts that occur in the vicinity from this and other projects that may affect regional populations of sensitive species, or habitats and wildlife corridors on a regional scale.

5.4.2.2.1 Reinforced 230 kV SCE/SDG&E Interface No Project Alternative

5.4.2.2.1.1 Reinforced 230 kV SCE/SDG&E Interface Transmission Lines

No significant impacts on biological resources are anticipated along the existing transmission corridor because of on going transmission corridor maintenance and high human use in this highly developed and populated area.

5.4.2.2.1.2 Reinforced 230 kV SCE/SDG&E Interface Substation Changes/Modifications

Improvements to existing substations will occur within developed and disturbed fence lines where no significant biological resources exist. Therefore, no significant impacts on biological resources are anticipated.

5.4.2.2.2 Imperial Valley-Ramona No Project Alternative

5.4.2.2.2.1 Imperial Valley-Ramona Transmission Lines

Imperial Valley-Ramona 500 kV line

Significant impacts on biological resources could occur along the Imperial Valley-Ramona 500 kV transmission line. Impacts may occur on sensitive habitats and plant and wildlife species from clearing and construction of the transmission towers, pull and tensioning sites, laydown areas, and new roads, especially along the length of the new transmission line. Reduced impacts on sensitive species are expected where the proposed transmission line follows an existing transmission line corridor, such as the portion of the route from the Imperial Valley Substation to the location near Dulzura where the transmission line would head north. As more detailed information becomes available regarding the location of these potential impacts, focused surveys for sensitive biological resources would be conducted and measures taken to avoid significant impacts where feasible. If avoidance of sensitive biological resources were not feasible, impacts would be minimized and appropriate mitigation would be implemented.

Ramona-Sycamore Canyon 230 kV line

Significant impacts on biological resources could occur along the Ramona-Sycamore Canyon transmission line. Impacts may occur on sensitive plant and wildlife species from clearing and construction of the transmission towers, pull and tensioning sites, laydown areas and new roads, especially along the length of the new transmission line. Impacts on sensitive species would likely be reduced if the proposed transmission line follows an existing transmission line corridor. As more detailed information becomes available regarding the location of these potential impacts, focused surveys for sensitive biological resources would be conducted, and measures taken to avoid significant

impacts where feasible. If avoidance of sensitive biological resources were not feasible, impacts would be minimized and appropriate mitigation would be implemented.

Sycamore Canyon-Chicarita-Carlton Hill 138 kV line

Significant impacts on biological resources could occur along the new section of line connecting the existing Sycamore Canyon substation to the existing Chicarita-Carlton Hill transmission line. Impacts may occur on sensitive plant and wildlife species from clearing and construction of the transmission towers, pull and tensioning sites, laydown areas and new roads, especially along the length of the new transmission line. Impacts on sensitive species would likely be reduced if the proposed transmission line follows an existing transmission line corridor. As more detailed information becomes available regarding the location of these potential impacts, focused surveys for sensitive biological resources would be conducted, and measures taken to avoid significant impacts where feasible. If avoidance of sensitive biological resources were not feasible, impacts would be minimized and appropriate mitigation would be implemented.

5.4.2.2.2.2 Imperial Valley-Ramona Substation Changes/Modifications

The potential impacts with regard to the new Ramona Substation cannot currently be determined, but the substation could be sited in a disturbed or developed area or in chaparral, native or non-native grassland, coastal sage scrub or other habitat. Existing conditions could vary and these conditions would require description and analysis in a PEA before approval. The following existing substations: Valley, Devers, Serrano, Imperial Valley, and Sycamore Canyon would require improvements. Only the Sycamore Canyon improvements would extend beyond the fence line and onto SDG&E-owned and SDG&E-leased lands.

5.4.2.2.3 Valley-Rainbow No Project Alternative

5.4.2.2.3.1 Valley-Rainbow Transmission Lines

The following discussion incorporates conclusions from the Valley-Rainbow Interconnect PEA (SDG&E 2001) and follows the format used therein to describe potential impacts of that project. Impacts from a new transmission line in this area may be similar. As described in the Valley-Rainbow Interconnect PEA (SDG&E 2001), the vegetation communities that occur within the project would be

affected to varying degrees. The Valley-Rainbow Interconnect Project's probable ground disturbance for the transmission lines was averaged over all vegetation communities traversed because final engineering design for specific siting for tower locations, access routes, and laydown areas, among other things, were not precisely known at the time that PEA was prepared (SDG&E 2001). However, refinement of the route selection (i.e., shifting of the centerline within a corridor to avoid or reduce impacts) was expected to reduce initial impact assessment estimates described in the Valley-Rainbow Interconnect PEA. A probable reduction in impacts is expected because SDG&E would implement numerous general protocols plus additional site-specific protocols that provide measures that would minimize impacts on native scrubs, woodlands and forests, native grasslands, and sensitive species associated with these habitats, and to the degree feasible, ensure maintenance or recovery of the natural landscape (SDG&E 2001).

The Valley-Rainbow Interconnect Project, as was proposed within the Valley-Rainbow PEA, has the potential to affect riparian habitat, as it is expected that existing natural drainages could be traversed. Physical disturbance in wetlands, streams, and riparian areas would be avoided to the extent feasible (SDG&E 2001).

As described in the Valley-Rainbow Interconnect PEA (SDG&E 2001), "several sensitive plant species are known to occur near the project and have the potential to occur within the 500 kV study corridors, or at the alternate substation sites. The potential for presence of these plant species is based on their known or recorded occurrence within the region and/or their association with the vegetation communities that occur near the project."

Impacts on sensitive plant species could potentially range from low to high, depending on the number and size of populations affected, relative to known or recorded occurrences. Impacts on sensitive plants are expected to be less than significant because such sensitive resources are expected to be avoided.

As described in the Valley-Rainbow Interconnect PEA (SDG&E 2001), the Valley-Rainbow Interconnect Project crosses habitat that is either occupied, proposed Critical Habitat, or potential habitat for the Quino checkerspot butterfly. The impacts on the Quino checkerspot butterfly could include habitat loss, and disturbance and mortality during construction through crushing of larvae. Impacts on the federally listed Endangered Quino checkerspot butterfly would be considered a take

under the Federal Endangered Species Act (FESA). Impacts on Quino checkerspot butterfly would be considered significant because it is protected under ESA and would require formal consultation with the USFWS.

Valley-Rainbow crosses or is adjacent to small patches of potential breeding habitat for least Bell's vireo, southwestern willow flycatcher, and other riparian-dependent migratory birds such as yellow-breasted chat and yellow warbler as described in the Valley-Rainbow Interconnect PEA (SDG&E 2001). Impacts on riparian habitat that is occupied during the breeding season by the Endangered least Bell's vireo and southwestern willow flycatcher would constitute a take. Impacts on these listed species would be considered significant because of their protection under the Federal and California Endangered Species Acts, and would require prior formal authorization from Federal and State resource agencies with jurisdiction (SDG&E 2001).

Impacts on federally designated Critical Habitat for the least Bell's vireo along the San Luis Rey River within the study corridors would be considered significant. No Critical Habitat for the southwestern willow flycatcher occurs within the Valley-Rainbow Interconnect study corridors. Impacts on the least Bell's vireo and southwestern willow flycatcher are avoidable by limiting construction within riparian habitats to periods outside the breeding season for riparian dependent bird species. It is expected that all impacts on these limited species and their habitat could mitigated (SDG&E 2001).

As described in the Valley-Rainbow Interconnect PEA (SDG&E 2001), the project either crosses or is adjacent to riparian areas potentially occupied by sensitive resident riparian-dependent wildlife including arroyo toad and its federally designated Critical Habitat along a portion of the San Luis Rey River within the study corridors, southwestern pond turtle (*Clemmys marmorata pallida*), and red-legged frog (*Rana aurora draytoni*), as well as proposed Federal Critical Habitat within the study corridor near Iodine Spring.

As described in the Valley-Rainbow Interconnect PEA (SDG&E 2001), impacts on riparian habitat occupied by the federally listed Endangered arroyo toad and federally listed Threatened red-legged frog would constitute a take under ESA. Additionally, impacts on designated or proposed Critical Habitat would require consultation, with the USFWS. Impacts on these listed species would be considered significant (SDG&E 2001).

As described in the Valley-Rainbow Interconnect PEA (SDG&E 2001), the project crosses sage scrub habitat that is either occupied or has the potential for occupation by the sage scrub-dependent coastal California gnatcatcher, including federally designated Critical Habitat particularly near the Temecula and Menifee valleys. Potential impacts on the California gnatcatcher include habitat loss, disturbance, and mortality during construction through possible crushing of nests during the breeding season. These impacts on the federally listed Threatened California gnatcatcher would be considered significant (SDG&E 2001).

As described in the Valley-Rainbow Interconnect PEA (SDG&E 2001), the project crosses or approaches habitats potentially occupied by Stephens' kangaroo rat or San Bernardino kangaroo rat. Potential impacts on these kangaroo rats include habitat loss, disturbance, and mortality during construction through crushing. Impacts on the federally listed Endangered Stephens' kangaroo rat and San Bernardino kangaroo rat would constitute a take. Impacts on these listed species would be considered significant (SDG&E 2001).

As described in the Valley-Rainbow Interconnect PEA (SDG&E 2001), the project could affect known vernal pools and other vernal pools could be detected during focused surveys that would be conducted along the preferred route in final assessment. Potential impacts on listed fairy shrimp species resident and dependent on ephemeral wetlands (in particular vernal pools) could result from direct loss of a vernal pool, or from indirect impacts on the watershed of the pool. Impacts on the federally listed Endangered Riverside fairy shrimp, San Diego fairy shrimp, and vernal pool fairy shrimp would constitute a take. Impacts on these listed species would be considered significant (SDG&E 2001).

As described in the Valley-Rainbow Interconnect PEA (SDG&E 2001), the project could affect nesting raptors because of ground disturbance from construction and long-term maintenance and operations activities. Direct impacts on raptors would constitute a take under the Federal Migratory Bird Treaty Act (MBTA). The MBTA implements the Convention for the Protection of Migratory Birds "the Convention" for the purpose of protecting migratory bird species. Impacts on raptor species would be considered significant because they are protected under the MBTA and the Convention and would need to be avoided (SDG&E 2001).

As described in the Valley-Rainbow Interconnect PEA (SDG&E 2001), "transmission lines and towers provide perching opportunities for raptors. In areas where current perching sites are low or rare, the presence of a new transmission line increases the perching and hence, predation opportunities in the area. For the related corridors, an increase in perching opportunities is probable in non-native grasslands, particularly where the non-native grassland is adjacent to native communities (versus surrounded by agricultural fields or development) and the potential impact on sensitive prey (e.g., Stephens' kangaroo rat, burrowing owl, and other sensitive prey) was determined to be moderate to high" (SDG&E 2001).

As described in the Valley-Rainbow Interconnect PEA (SDG&E 2001), potential electrocution impacts revolve principally around avian species. Electrocution of bird species on electrical transmission lines occurs when the animal touches two conductors, or a positive conductor and a ground, at once. Both the 500 kV and 230 kV transmission lines would be constructed with energized components (conductors) and grounding structures in excess of 10 feet apart, effectively preventing local bird species from extending their maximum wingspan to simultaneously contact a positive conductor and ground completing the electrical circuit. All of the local and migratory bird species in the 500 kV study corridors area have wingspans smaller than 10 feet, and therefore, there would be no potential for electrocution impacts on local avian species in the study corridors, or along the preferred route (SDG&E 2001).

As described in the Valley-Rainbow Interconnect PEA (SDG&E 2001), collision impacts of avian species with existing transmission facilities typically occur to migratory bird species and are generally the result of poor visibility of electrical lines. Factors leading to avian collisions with existing transmission lines include a lack of visual cues making the lines stand out against the surrounding environment (Anderson 1978). Although causes of avian collision would be minimized by the structure design for the Valley-Rainbow Interconnect Project, it is likely that some avian collisions may occur along the preferred corridor. Although avian collisions cannot be completely avoided, there are design features that contribute to minimizing these potential impacts. Although the preferred route traverses open fields that provide forage for generally solitary raptors, it avoids crossing directly over large bodies of water, such as lake Skinner and Diamond Valley Lake, where flocks of bird species tend to congregate. Additionally, although Lake Skinner and Diamond Valley Lake are within the Pacific Flyway migration route for numerous bird species, the study corridors do not represent a major

stopover location along the flyway (USFWS 2000). Several studies have indicated that collisions are not biologically significant (Cassel et al. 1979, James and Haak 1979, Olendorff and Lehman 1986). Additionally, several studies have indicated that the benefits to bird species from increased perching, nesting, and hunting sites on existing transmission towers outweighs negative impacts from collisions with electrical lines (Benton 1954, Williams and Colson 1988). All of these factors indicate that collision impacts are not expected to be significant in the study corridors as long as all design features are implemented. Therefore, the possible residual impact for avian collisions is anticipated to not be significant (SDG&E 2001).

As described in the Valley-Rainbow Interconnect PEA (SDG&E 2001), wildlife movement through the region is facilitated by the presence of natural drainages and large bodies of water. The area of potential affect crosses several drainages and would be located adjacent to four lakes within the region. If practicable, the preferred transmission line route would span existing drainages. The placement of the transmission towers along the preferred alignment would likely provide sufficiently wide natural areas to allow the continued movement of wildlife species through the area. Additionally, because the preferred transmission line route traverses none of the existing major water bodies, the continued use of the lakes as part of the Pacific Flyway would not be adversely affected. Therefore, regional wildlife movement would not be significantly affected through loss of protective cover, roosts, forage habitat, or movement corridors. As such, there is no identifiable potential environmental impact on regional wildlife movement from construction or long-term maintenance and operation (SDG&E 2001).

As described in the Valley-Rainbow Interconnect PEA (SDG&E 2001), "any Project-related temporary surface disturbance could lead to invasion of the newly disturbed area by exotic weed species. In particular, in areas where ground disturbance is substantial or where re-contouring is required, aggressive non-native weed species could establish where such species are not currently present. Once established, aggressive weedy species can invade adjacent native habitats and degrade the condition of the surrounding area."

Because of the small amount of disturbance that would occur at each tower site, the risk of exotic species invasion is expected to be less than significant. However, the increase in exotic species invasion that could occur at select access road construction locations if substantial re-contouring work is required and at the substation sites where the area of temporary impacts would exceed 10 acres, could

potentially be considered a moderate or potentially significant impact if these areas were left in the disturbed condition. However, surface restoration and reseeding where needed, limiting repair of existing access roads in areas characterized by particularly sensitive soils, and all new access roads not permanently required would be closed using the least environmentally damaging methods such that the residual direct and indirect impacts on adjacent native plant communities would be less than significant (SDG&E 2001).

As described in the Valley-Rainbow Interconnect PEA (SDG&E 2001), construction noise may cause indirect impacts on nesting bird species, including the least Bell's vireo, southwestern willow flycatcher, and coastal California gnatcatcher. Increased ambient noise levels during short-term construction activities may mask the breeding songs used by sensitive riparian and upland birds. Additionally, intermittent loud noises from short-term construction activities may also cause nesting birds to be startled and abandon a nest. These impacts may be considered a take of listed species. Indirect noise impacts on these species would potentially be considered significant if construction-related noise levels were to exceed the 60 dBA within occupied habitat (SDG&E 2001).

As described in the Valley-Rainbow Interconnect PEA (SDG&E 2001), development of the new Talega - Escondido 230 kV circuit and improvements to the Talega and Escondido Substations would lead to one new type of impact on the biological resources along the existing line; namely, ground disturbance impacts and associated noise. Existing roads would be used to add the new 230 kV conductors to the existing towers along this route. Therefore, ground disturbance should be minimal. However, some road improvement is needed in select areas (e.g., blading and clearing along existing roads, as needed, to allow safe vehicle and equipment access) and, to install the new line, pulling and tensioning sites would be needed. To the greatest degree practicable, pulling and tensioning sites would be located within the transmission line ROW; however, some may occur outside the ROW (SDG&E 2001).

As described in the Valley-Rainbow Interconnect PEA (SDG&E 2001), "impacts associated with the periodic maintenance, necessary repairs, and the ongoing operation of the new 230 kV circuit would become a part of the existing 230 kV line maintenance, repair, and operational activities. Therefore, the action of maintaining and repairing the second 230 kV circuit was determined not lead to identifiable new significant impacts. Similarly, installation of the new 230 kV circuit along the existing towers

using existing access roads would not lead to additional significant impacts associated with increased access. To assess the ground disturbance associated with installing the new 230 kV circuit on the existing towers, the location of each tower was analyzed on the 1:12,000 scale infrared aerial base maps plotted with the field-verified vegetation communities. The vegetation communities coincident with each tower site were noted, along with additional notes about the proposed activities at or near each tower (e.g., brushing along access roads, presence of Critical Habitat, etc.). In general, impacts would be similar to those for the 500 kV transmission line (SDG&E 2001).

5.4.2.2.3.2 Valley-Rainbow Substation Changes/Modifications

Most of the likely modifications at substations would be within their existing developed boundaries, without impacts on adjacent land. Substations with potential impacts are discussed below.

The new Rainbow Substation would be in a different location than was proposed in the Valley-Rainbow Interconnect PEA (SDG&E 2001). It would be located along the Talega-Escondido ROW, 30 miles east of the existing Talega Substation. Because the exact location of the new Rainbow Substation is currently unknown relative to a new No Project Alternative, habitat types in the approximate area that may be affected by the proposed substation are described here. This general area supports predominately coastal sage scrub and chaparral interspersed with groves, orchards, and disturbed lands along some hillsides. The sensitive plants known to occur in these habitats in this area include San Diego County viguiera (CNPS list 4) Fish's milkwort (CNPS list 4), and sticky dudleya (CNPS list 1B). The sensitive wildlife species known to occur within these habitats in this area include the orange-throated whiptail, San Diego horned lizard, southern California rufous-crowned sparrow, coastal cactus wren, the federally listed Threatened coastal California gnatcatcher, and the federally listed Endangered arroyo toad. Two sensitive raptors, the federally protected golden eagle and the turkey vulture, have been observed foraging throughout the region and presumably use the biological resources in this area.

Although not likely to be affected by the new Rainbow Substation, it should be noted that there are areas of designated Critical Habitat for several federally listed Threatened or Endangered species throughout the study area. Along this alignment, Critical Habitat occurs for the federally listed least Bell's vireo, southwestern willow flycatcher, and the coastal California gnatcatcher. Designated Critical Habitat for the arroyo toad occurs in and adjacent to several drainages that cross the 230 kV

alignment. Although no documented occurrences of Stephens' kangaroo rat are known near the new Rainbow Substation, suitable habitat is coincident with open scrub and grassland habitats.

Some ground disturbance and associated construction noise impacts are expected to occur at the Mission and Sycamore Canyon Substations. The approximately one-acre expansion area at the Mission Substation (as proposed by SDG&E 2001) would primarily affect exotic, ornamental vegetation species such as eucalyptus, acacia, and tamarisk along the northern edge of the existing substation. Additionally, small patches of coastal sage scrub, dominated by California buckwheat, may be removed. No known sensitive plant species would be expected to be impacted by the expansion. The coastal sage scrub to be affected and adjacent areas of scrub may need to be surveyed to determine whether the coastal California gnatcatcher is within or adjacent to the proposed expansion area, as required by applicable resource agencies. Impacts on this listed species would be considered significant (SDG&E 2001). The proposed expansion area does not occur within areas that have been designated by the USFWS, or local jurisdictions, as having a potential for occupation by the Quino checkerspot butterfly.

The expansion of the Sycamore Canyon Substation (as proposed by SDG&E 2001) would affect a previously disturbed area, approximately 1.2 acres, west of the existing substation. The relocation of the existing distribution line and poles may affect the chamise chaparral in the surrounding area. No known sensitive plant species would be expected to sustain impacts from the expansion. The proposed expansion area is not within the USFWS Draft Recovery Units for the Quino checkerspot butterfly, and it is outside suitable Quino survey areas on the County of San Diego's 2001 Quino Survey Area Map (SDG&E 2001). Therefore, no Quino checkerspot butterfly surveys would be required.

Refinement of site-specific engineering design and incorporation of results of focused survey data needed for the Mission and Sycamore Canyon Substation sites to avoid and mitigate adverse impacts as required by Federal and State resource agencies are likely to minimize the areas of potential impact to sensitive biological resources at both the Mission and Sycamore Canyon Substation sites and reduce the potentially significant impacts discussed above to less than significant levels (SDG&E 2001).

The proposed upgrades at the Talega, Imperial Valley, Devers, Valley, and Serrano Substations would occur within the existing fence line; therefore, impacts on biological resources would be limited to

potential indirect impacts from construction noise. The lack of likely sensitive biological resources that would be subject to potential adverse impacts from construction noise suggests that impacts on biological resources beyond the existing fence lines of these substations would not be adverse. Because these are existing substations, it was determined that there would be no identifiable impact associated with the future maintenance, repair, or operation of the expanded portion of this substation (SDG&E 2001).

5.5 CULTURAL RESOURCES

5.5.1 Proposed Project

Cultural resources considered eligible for listing on the National Register of Historic Places (NRHP) or California Register of Historic Places (CRHP) under criterion a, b, c, or d can be adversely affected by projects in a variety of ways. Criterion a through d include the following: (a) it is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; (b) it is associated with the lives of persons important in California's past; (c) it embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value; or (d) it has yielded or is likely to yield information important in prehistory or history.

Direct impacts may include grading, excavation, or potentially compression if vehicles drive over surface or shallow cultural materials. Indirect impacts may include erosion if the surrounding environment is modified in such a way as to increase water flowing into or over the site. Other indirect impacts include altering the visual landscape of sites eligible for listing on the NRHP or CRHP under criterion a, b, or c. In the case of the Project, impacts will be considered potentially significant if an archaeological site was damaged by the transport vehicle running over a sensitive cultural resource. As was requested by SCE, the Native American Heritage Commission conducted a record search in November/December 2003, which failed to indicate the presence of Native American cultural resources (see Appendix D). However, the absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in the project area and SCE will follow up with relevant Native American individuals/organizations. Potential impacts on MCBCP will be assessed during the NEPA review.

5.5.1.1 Replacement Steam Generator Transport Options

5.5.1.1.1 Beach and Road Route Transport Option

The entire route within MCBCP (segments A through E, G, and H) for the Beach and Road Route has been previously surveyed. The transport will not adversely affect previously recorded archaeological sites. This was confirmed by a reconnaissance survey of the potential routes by URS archaeologists on October 7, 2002. This survey confirmed that no cultural resources are present in areas that may require surface disturbance.

The historic portions of Old Highway 101 were walked within San Onofre State Park and within MCBCP (segment H) to determine the integrity of this historic resource. Within San Onofre State Park, the historic road has been extensively modified and/or upgraded, and retains little or no integrity. There are no concerns for the historic route from the MCBCP gate to within the San Onofre State Park (between segment H and I). Within MCBCP, portions of the route retain considerable integrity, especially on the west side of the road. In summary, this option will have no adverse impacts on cultural resources.

5.5.1.1.2 Inland Route Transport Options

Archaeological resources are known to exist within the MCBCP and a review of site records on file at the MCBCP Environmental Office is recommended to determine whether the proposed routes bisect any known sites. Site records will be reviewed during the MCBCP NEPA review process. These records are presently not available for review. To determine whether archaeological sites may be affected by the proposed Inland Transport Routes, a senior URS archaeologist conducted a reconnaissance survey of the proposed routes on August 6, 2003. The results of the reconnaissance survey are summarized below for each route.

5.5.1.1.2.1 I-5/Old Highway 101 Option

Areas along the I-5/Old Highway 101 Option were visually inspected for cultural resources. The transition from MCBCP to I-5 (segment L to M) is in a disturbed area on MCBCP and the I-5 ROW that is not expected to have significant resources. The transition point from I-5 to MCBCP near Cockleburr Road (segment N to O) was also visually inspected for cultural resources. This area supports non-native grasses and ruderal species. The distance is short and connects directly to an

existing road. The route then passes along existing roads with adjacent habitats consisting of coastal sage scrub, riparian, and non-native grassland communities, and also developed land up to the transition back to I-5 (segments O, P, and Q). The transition between segments Q and R, were visually inspected for cultural resources and supports non-native grasses and ruderal vegetation.

The areas proposed for crossing I-5 and the San Diego Northern Railroad (segments N to O and Q to R) have been extensively affected by construction of I-5, the San Diego Northern Railroad, and access roads. Each of the proposed crossings is located in fill and there will be no cultural resources concerns provided that no cutting below the fill occurs. However, the San Diego Northern Railroad is historic and will be adequately protected.

The portion of the route along segments F through J is the same as for the Beach and Road Route. No adverse effects on significant cultural resources are expected to occur from the I-5/Old Highway 101 Transport Option. Final review on MCBCP will occur during the MCBCP NEPA review.

5.5.1.1.2.2 MCBCP Inland Option

Areas along the MCBCP Inland Option were visually inspected for cultural resources. It is important to note that much of this route follows Historic El Camino Real Road on MCBCP (segment Y), which was built in 1925. The weight of the transporter may adversely affect the road. Qualified engineers will be consulted when a specific type of transporter is selected for this area to determine whether compression will damage the concrete. If damage is possible, protective matting or other suitable protection will be laid down on the road during transport. Rubber tired vehicles or tracked vehicles combined with the use of appropriate protection (e.g., matting) are expected to avoid adverse effects on this portion of the route. Final determination of impacts and potential mitigation measures required for the portion of this Project on MCBCP will be determined during subsequent Federal permitting by MCBCP.

Segments T, Z, AA, and AC have been extensively disturbed by construction of I-5, the San Diego Northern Railroad, and access roads. There are no archaeological resources concerns at these crossings. However, the historic San Diego Northern Railroad will be adequately protected in areas where it will be crossed. Otherwise, no adverse effects on cultural resources off MCBCP are expected to result from this transport option.

5.5.1.2 Replacement Steam Generator Preparation

The SONGS 2 & 3 site is on previously excavated, disturbed, and recompacted land. Staging facilities will not affect areas with potential cultural resources, and no adverse impacts are anticipated.

5.5.1.3 Original Steam Generator Removal, Staging, and Disposal

The SONGS 2 & 3 site is on previously excavated, disturbed, and recompacted land. Staging facilities will not affect areas with potential cultural resources, and no adverse impacts are anticipated.

5.5.1.4 Replacement Steam Generator Installation and Return to Service

The SONGS 2 & 3 site is on previously excavated, disturbed, and recompacted land. RSG installation and activities associated with the return to service will not affect areas with potential cultural resources, and no adverse impacts are anticipated.

5.5.2 No Project Alternative

5.5.2.1 Replacement Facilities – New Generation Component

New generation could be sited in a manner that reduces or avoids cultural resource impacts; however, depending on the ultimate location chosen, significant impacts could still occur. If cultural resources exist, sites are likely to be avoided wherever possible. Additionally, archaeological monitoring and data recovery may be required. A dry-cooled generation facility would likely require more land than a water-cooled generation facility and could have the potential for increased impacts.

5.5.2.2 Replacement Power – New Transmission Component

New transmission could be sited in a manner that reduces or avoids cultural resource impacts; however, depending on the ultimate location chosen, significant impacts could still occur. If cultural resources exist, sites should be avoided wherever possible. Additionally, archaeological monitoring and data recovery may be required.

5.5.2.2.1 Reinforced 230 kV SCE/SDG&E Interface No Project Alternative

5.5.2.2.1.1 Reinforced 230 kV SCE/SDG&E Interface Transmission Lines

A detailed analysis has not been performed because the exact siting of new transmission towers and other modifications is unknown. Although construction would occur within an existing transmission corridor potential impacts on cultural resources may occur. Impacts could vary and would require description and analysis in a PEA before approval. Mitigation measures such as avoidance and data recovery, if necessary, would likely reduce impacts to less than significant.

5.5.2.2.1.2 Reinforced 230 kV SCE/SDG&E Interface Substation Changes/Modifications

The Devers and Serrano Substations could have cultural resources within their fence lines and if so, improvements would require the implementation of similar protocols as described in the Valley-Rainbow Interconnect PEA (SDG&E 2001). Improvements to the switchyard would occur within the existing switchyard with no physical dimension change of equipment. Therefore, no significant impacts are expected. However, potential impacts could vary and would require description and analysis in a PEA before approval.

5.5.2.2.2 Imperial Valley-Ramona No Project Alternative

5.5.2.2.2.1 Imperial Valley-Ramona Transmission Lines

Imperial Valley-Ramona 500 kV line

Imperial Valley-Dulzura (Looped) Leg

A detailed analysis has not been performed because the exact siting of the Imperial Valley-Ramona transmission lines is unknown. Although this portion of the transmission line would be adjacent to an existing line, potential impacts on cultural resources may occur. Impacts could vary and would require description and analysis in a PEA before approval. Mitigation measures such as avoidance and data recovery, if necessary, would likely reduce impacts to less than significant.

Dulzura-Ramona Leg

A detailed analysis has not been performed because the exact siting of the Imperial Valley-Ramona transmission lines is unknown, however, because of the relatively undisturbed nature of portions of this

line, it is likely the lines would impact cultural resources. Impacts could vary and would require description and analysis in a PEA before approval. Mitigation measures such as avoidance and data recovery, if necessary, would likely reduce impacts to less than significant.

Ramona-Sycamore Canyon 230 kV line

A detailed analysis has not been performed because the exact siting of the Imperial Valley-Ramona transmission lines is unknown. Although this portion of the transmission line would be adjacent to an existing line, potential impacts on cultural resources may occur. Impacts could vary and would require description and analysis in a PEA before approval. Mitigation measures such as avoidance and data recovery, if necessary, would likely reduce impacts to less than significant.

Sycamore Canyon-Chicarita-Carlton Hill 138 kV line

A detailed analysis has not been performed because the exact siting of the Imperial Valley-Ramona transmission lines is unknown. Although this portion of the transmission line would be adjacent to an existing line, potential impacts on cultural resources may occur. Impacts could vary and would require description and analysis in a PEA before approval. Mitigation measures such as avoidance and data recovery, if necessary, would likely reduce impacts to less than significant.

5.5.2.2.2.2 Imperial Valley-Ramona Substation Changes/Modifications

The modifications to existing substations discussed within the Valley-Rainbow Interconnect PEA could result in impacts on cultural resources; however, implementation of protocols would likely reduce impacts below significance. The Devers and Serrano Substations could have cultural resources within their fence lines and if so, improvements would require the implementation of similar protocols as described in the Valley-Rainbow Interconnect PEA (SDG&E 2001). A detailed analysis has not been performed because the exact siting of the Ramona Substation is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.5.2.2.3 Valley-Rainbow No Project Alternative

5.5.2.2.3.1 Valley-Rainbow Transmission Lines

According to the Valley-Rainbow Interconnect PEA, the Valley-Rainbow Transmission Line could affect a Native American site cluster and multi-locus site containing habitation areas, bedrock milling rock art, and two multi-component sites, and could pass by burial sites. Protocols may not reduce the level of impact below the level of significance. Potential impacts on sites in the Talega-Escondido Transmission Line area could be avoided with the implementation of protocols described within the Valley-Rainbow Interconnect PEA (SDG&E 2001). The new transmission line for the No Project Alternative could likely have similar impacts.

5.5.2.2.3.2 Valley-Rainbow Substation Changes/Modifications

The location of the new Rainbow Substation, as described within the Valley-Rainbow Interconnect PEA, may have an early 20th Century trash site present. Avoidance, the application of specific protocols, and/or data recovery would reduce impacts on a level below significance (SDG&E 2001).

The modifications to existing substations discussed within the Valley-Rainbow Interconnect PEA could result in impacts on cultural resources; however implementation of protocols would reduce impacts below significance (SDG&E 2001). The Devers and Serrano Substations, as well as the new Rainbow Substation, could have cultural resources within their fence lines and if so, improvements would require the implementation of similar protocols and described in the Valley-Rainbow Interconnect PEA (SDG&E 2001).

5.6 GEOLOGY AND SOILS

5.6.1 Proposed Project

Effects on geologic, mineral, and geothermal resources will be considered significant and will require mitigation if the project resulted in one or more of the following:

- Construction activities or the siting of facilities will worsen existing unfavorable geologic conditions.
- Project construction or operation will preclude or disrupt the development of mineral resources.

Project activities or operations that will preclude or disrupt the development of mineral resources are addressed in Section 5.10, Mineral Resources.

5.6.1.1 Replacement Steam Generator Transport Options

5.6.1.1.1 Beach and Road Route Transport Option

This option traverses a long section of beach between the Camp Pendleton Del Mar Boat Basin and Red Beach, a short stretch of I-5, existing dirt roads, and Old Highway 101. The transport will not significantly affect geologic resources or soils along the route. Similarly, the transport will not be subject to significant geologic hazards.

5.6.1.1.2 Inland Route Transport Options

These options traverse Old Highway 101, I-5, and existing dirt roads. The transport will not significantly affect geologic resources or soils along the route. Similarly, the inland transport options will not be subject to significant geologic hazards.

5.6.1.2 Replacement Steam Generator Preparation

Operations located on the existing site will be managed according to applicable regulations and will minimize exposure to people or structures from earthquakes, seismic ground shaking, ground failure, and landslides. Erosion control measures will be implemented and no structures will be placed on expansive soils without mitigation. Appropriate geotechnical design can reduce potential effects of expansive soils to less than significant.

5.6.1.3 Original Steam Generator Removal, Staging, and Disposal

Structures located on the existing site will be assembled according to applicable regulations and will minimize exposure to people or structures from earthquakes, seismic ground shaking, ground failure, and landslides. Erosion control measures will be implemented and no structures will be placed on expansive soils without mitigation. Appropriate geotechnical design can reduce potential effects of expansive soils to less than significant.

5.6.1.4 Replacement Steam Generator Installation and Return to Service

RSG installation and return to service activities will be managed according to applicable regulations and will minimize exposure to people or structures from earthquakes, seismic ground shaking, ground failure, and landslides. Erosion control measures will be implemented and no structures will be placed on expansive soils without mitigation. Appropriate geotechnical design can reduce potential effects of expansive soils to less than significant.

5.6.2 No Project Alternative

5.6.2.1 Replacement Facilities – New Generation Component

New generation could be sited in a manner that reduces or avoids geological resource impacts; however, depending on the ultimate location chosen, significant impacts could still occur. Significant impacts could occur (without mitigation) if the facility is sited on expansive soils or if the facility is located near a unique geological feature. Appropriate mitigation considerations will be specific to site selection and local jurisdictional requirements for new generation facilities. For the purpose of this analysis, it is assumed that there are no impacts that cannot be reasonably mitigated as part of the new generation project approval process.

5.6.2.2 Replacement Facilities – New Transmission Component

New transmission could be sited in a manner that reduces or avoids geological resource impacts; however, depending on the ultimate location chosen, significant impacts could still occur.

5.6.2.2.1 Reinforced 230 kV SCE/SDG&E Interface No Project Alternative

5.6.2.2.1.1 Reinforced 230 kV SCE/SDG&E Interface Transmission Lines

The Reinforced 230 kV SCE/SDG&E Interface would likely not result in substantial soil erosion or the loss of topsoil, and would likely not require the use of septic tanks or alternative wastewater disposal; however, additional towers would likely be located in areas that would expose structures to potential substantial adverse impacts involving rupture of a known earthquake fault, seismic-related or ground failure. However, as evidenced by the existing towers, additional towers could be designed to withstand strong shaking and located or designed to withstand seismic-related ground failure. A detailed analysis

has not been performed because the exact siting of new transmission towers is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.6.2.2.1.2 Reinforced 230 kV SCE/SDG&E Interface Substation Changes/Modifications

Most, if not all of the modifications to existing substations and the switchyard would occur on previously graded soil and impacts on geology and soils would likely be less than significant. A detailed analysis has not been performed. Impacts could vary and would require description and analysis in a PEA before approval.

5.6.2.2.2 Imperial Valley-Ramona No Project Alternative

5.6.2.2.2.1 Imperial Valley-Ramona Transmission Lines

The Imperial Valley-Ramona transmission lines would likely not result in substantial soil erosion or the loss of topsoil, and would likely not require the use of septic tanks or alternative wastewater disposal; however, it would likely be located in an area that would expose structures to potential substantial adverse impacts involving rupture of a known earthquake fault, seismic-related ground failure, or landslides. However, as suggested within the Valley-Rainbow Interconnect PEA for the Valley-Rainbow Transmission Line, the transmission lines' elements for the Imperial Valley-Ramona could be located away from traces of active faults, designed to withstand strong shaking, and located or designed to withstand seismic-related ground failure.

Additionally, lines would likely be located in areas that have unstable soil that could potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse, and would also be located in areas that have expansive soil. However, the transmission line elements for Imperial Valley-Ramona could be located away from these areas to minimize or eliminate the potential risk. A detailed analysis has not been performed because the exact siting of the Imperial Valley-Ramona transmission lines is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.6.2.2.2.2 Imperial Valley-Ramona Substation Changes/Modifications

The location of the new Ramona Substation would likely not result in significant impacts on geology and soils. Most, if not all of the modifications to existing substations would occur on previously graded

soil and impacts on geology and soils would likely be less than significant. The new Ramona Substation would likely not result in significant impacts. A detailed analysis has not been performed because the exact siting of the Ramona Substation is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.6.2.2.3 Valley-Rainbow No Project Alternative

5.6.2.2.3.1 Valley-Rainbow Transmission Lines

The Valley-Rainbow Transmission Line and the Talega-Escondido Transmission Line would not result in substantial soil erosion or the loss of topsoil, and would not require the use of septic tanks or alternative wastewater disposal; however, it would be located in an area that would expose structures to potential substantial adverse impacts involving rupture of a known earthquake fault, seismic-related ground failure, or landslides. However, transmission line elements would be located away from traces of active faults, designed to withstand strong shaking, and located or designed to withstand seismic-related ground failure (SDG&E 2001).

Additionally, both lines would be located in areas that have unstable soil that could potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse, and would also be located in areas that have expansive soil. However, transmission line elements would be located away from these areas to minimize or eliminate the potential risk (SDG&E 2001).

The new transmission line for the No Project Alternative would likely have similar impacts as described above.

5.6.2.2.3.2 Valley-Rainbow Substation Changes/Modifications

The site location of the new Rainbow Substation, as described within the Valley-Rainbow Interconnect PEA, would not result in significant impacts on geology and soils. Most, if not all, of the modifications to existing substations would occur on previously graded soil and impacts on geology and soils would be less than significant. The new Rainbow Substation would likely not result in significant impacts.

5.7 HAZARDS AND HAZARDOUS MATERIALS

5.7.1 Proposed Project

5.7.1.1 Replacement Steam Generator Transport Options

5.7.1.1.1 Beach and Road Route Transport Option

Public health and safety will not be adversely affected by this option. The RSGs are not radioactive. Transport will occur in a manner that does not pose a threat to public safety.

There are no schools within one-quarter mile of the transport route, and there are no public airports within two miles of the transport route. Although the proposed transport route options are near MCBCP flight operations, coordination will effectively eliminate potential hazards to flight operations. In the event of an emergency, activities will not impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan. Additionally, this transport option will not expose people or structures to significant risk of loss or injury from wildland fires.

The transport will be conducted in accordance with Base Order P3500.1L, DOT requirements, Occupational Safety and Health Administration standards, and SONGS 2 & 3 safety requirements; thus, human health and safety will not be adversely affected. The transporter will include the use of fuels, oil, grease, and other authorized chemical compounds that may be hazardous to human health in some situations; however, the use of these substances will be conducted subject to applicable rules and regulations to avoid risks to public health and safety.

5.7.1.1.2 Inland Route Transport Options

Public health and safety will not be adversely affected by the Inland Transport Options. The RSGs are not radioactive. Transport will occur in a manner that does not pose a threat to public safety.

Although there is a school within one-quarter mile of the Inland Route Transport Options, the RSGs are not radioactive or hazardous. Additionally, the proposed transport route options are near MCBCP flight operations; however, coordination will effectively eliminate potential hazards to flight operations. In the event of an emergency, activities will not impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan. Additionally, this transport option will not expose people or structures to significant risk of loss or injury because of wildland fires.

The transport will be conducted in accordance with Base Order P3500.1L, DOT requirements, Occupational Safety and Health Administration standards, and SONGS 2 & 3 safety requirements; thus, human health and safety will not be adversely affected. The transporter will include the use of fuels, oil, grease, and other authorized chemical compounds that may be hazardous to human health in some situations; however, the use of these substances will be conducted subject to applicable rules and regulations to avoid risks to public health and safety.

5.7.1.2 Replacement Steam Generator Preparation

RSG preparation will include the assembly of facilities that will be required for original steam generator removal and RSG installation. Adherence to the existing SONGS 2 & 3 Site Safety Programs during the fabrication of associated facilities will reduce hazards. No adverse impacts are anticipated from this Project component

5.7.1.3 Original Steam Generator Removal, Staging, and Disposal

Hazardous wastes, such as oil and grease, will require transfer and disposal during the creation of the containment opening, and will be handled and disposed of according to applicable rules and regulations. SONGS 2 & 3 currently produces hazardous wastes, which are disposed of properly in accordance with local, State, and Federal regulations. Additional low level radioactive wastes, such as the original steam generator, will also be generated and will be disposed of properly. Adherence to the existing SONGS 2 & 3 Site Safety Programs will be required. To further minimize potential impacts on workers, the work areas will be decontaminated as necessary before work begins. Additionally, temporary lead shielding will be installed in the work areas as appropriate. As with all tasks in radiation areas at SONGS 2 & 3, employees trained specifically in radiation protection practices will monitor work activities to ensure personnel radiation exposure is minimized. Therefore, no adverse impacts are anticipated.

5.7.1.4 Replacement Steam Generator Installation and Return to Service

RSG installation and return to service activities are similar in nature to original steam generator removal, staging, and disposal activities. To install the RSGs, pipes need to be welded to the RSG. To further minimize the radiation dose to workers, the inside of each primary system pipe will be decontaminated and where possible, machine welding will be used. As with all tasks in radiation areas

at SONGS 2 & 3, employees trained specifically in radiation protection practices will monitor work activities to ensure personnel radiation exposure is minimized. Therefore, no adverse impacts are anticipated.

5.7.2 No Project Alternative

5.7.2.1 Replacement Facilities – New Generation Component

New generation could be sited in a manner that reduces or avoids impacts from exposure to hazardous waste and materials; however, depending on the ultimate location chosen and without appropriate mitigation measures, significant impacts could still occur. Generation facilities would require the use of hazardous materials and produce wastes. Appropriate containment, handling, and Spill Contingency Plans would be required to manage these substances and prevent or reduce impacts.

5.7.2.2 Replacement Facilities – New Transmission Component

Construction and operation of new facilities would require a program to eliminate and/or reduce hazardous waste or material exposure to workers and the public. New transmission could be sited in a manner that reduces or avoids impacts from exposure to hazardous waste and materials; however, significant impacts could still occur.

5.7.2.2.1 Reinforced 230 kV SCE/SDG&E Interface No Project Alternative

5.7.2.2.1.1 Reinforced 230 kV SCE/SDG&E Interface Transmission Lines

The Reinforced 230 kV SCE/SDG&E Interface would not likely involve the significant use of hazardous materials beyond petroleum products and other similar products used for construction and construction vehicles. Protocols would be in place to ensure the lawful and proper storage and use of these materials. The impacts would likely be less than significant. With implementation of protocols, hazards from induced current could be reduced to a level below significance.

Upon determining hazardous material sites in the area, proper siting of components (new transmission towers) would avoid, eliminate, or reduce potential impacts of hazardous materials to a level of insignificance or of no impact. The Reinforced 230 kV SCE/SDG&E Interface would likely not interfere with an adopted emergency response plan or emergency evacuation plan.

During construction, there is a risk of wildfire from construction equipment; however, protocols would prevent or minimize this risk. During operation there is a risk of flashovers or that a conducting object could come into close contact with the transmission line, or a live line or conductor could fall to the ground igniting a wildfire. However, it is anticipated that regular trimming of trees and other regular maintenance of the ROW, transmission structures, and lines would reduce this potential risk to a less than significant level. It should be noted that a detailed analysis has not been performed because the exact siting of the additional transmission towers is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.7.2.2.1.2 Reinforced 230 kV SCE/SDG&E Interface Substation Changes/Modifications

Modifications to existing substations and the existing switchyard would likely not expose the public to hazardous materials or substances. A detailed analysis has not been performed. Impacts could vary and would require description and analysis in a PEA before approval.

5.7.2.2.2 Imperial Valley-Ramona No Project Alternative

5.7.2.2.2.1 Imperial Valley-Ramona Transmission Lines

The Imperial Valley-Ramona transmission lines would not likely involve the significant use of hazardous materials beyond petroleum products and other similar products used for construction and construction vehicles. Protocols would be in place to ensure the lawful and proper storage and use of these materials. Construction would likely produce short-term, minor temporary air emissions such as fugitive dust and vehicle exhaust, and some emissions will result from required maintenance/repair work. The impacts would likely be less than significant. With implementation of protocols, hazards from induced current could be reduced to a level below significance.

Upon determining hazardous material sites in the area, proper siting of components would avoid, eliminate, or reduce potential impacts of hazardous materials to a level of insignificance or of no impact. The Imperial Valley-Ramona transmission line would likely not interfere with an adopted emergency response plan or emergency evacuation plan.

During construction, there is a risk of wildfire from construction equipment; however, protocols would prevent or minimize this risk. During operation there is a risk of flashovers or that a conducting object

could come into close contact with the transmission line, or a live line or conductor could fall to the ground igniting a wildfire. However, it is anticipated that regular trimming of trees and other regular maintenance of the ROW, transmission structures, and lines would reduce this potential risk to a less than significant level. It should be noted that a detailed analysis has not been performed because the exact siting of the Imperial Valley-Ramona transmission lines is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.7.2.2.2.2 Imperial Valley-Ramona Substation Changes/Modifications

The new Ramona Substation and modifications to existing substations would likely not expose the public to hazardous materials or substances. A detailed analysis has not been performed because the exact siting of the Ramona Substation is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.7.2.2.3 Valley-Rainbow No Project Alternative

5.7.2.2.3.1 Valley-Rainbow Transmission Lines

According to the Valley-Rainbow Interconnect PEA, the Valley-Rainbow Transmission Line does not involve the significant use of hazardous materials beyond petroleum products and other similar products used for construction and construction vehicles. Protocols will be in place to ensure the lawful and proper storage and use of these materials. Construction will produce short-term, minor temporary air emissions such as fugitive dust and vehicle exhaust, and some emissions will result from required maintenance/repair work. The impacts would be less than significant. With implementation of protocols, hazards from induced current would be reduced to a level below significance (SDG&E 2001).

No hazardous material sites are recorded in the Valley-Rainbow Transmission Line area that would create a significant hazard to the public or the environment. Proper siting of components would avoid, eliminate, or reduce potential impacts of hazardous materials to a level of insignificance or no impact. There are no public airports within two miles of the area of potential effect; however, the French Valley Airport is approximately three miles from the area of potential effect. Although no impact is expected on the operation of French Valley Airport, information about Valley-Rainbow would be submitted to the DoD and the Federal Aviation Administration (FAA) for a hazard determination (SDG&E 2001).

There are several private airstrips near the area of potential effect, but not within the ROW. SDG&E would, according to the Valley-Rainbow Interconnect PEA, coordinate the location of the structures with the owners of the private airstrips to the extent feasible during final engineering design. The potential impacts on private airstrips after applying this protocol would be less than significant, according the Valley-Rainbow Interconnect PEA. Valley-Rainbow would not interfere with an adopted emergency response plan or emergency evacuation plan (SDG&E 2001).

During construction, there is a risk of wildfire from construction equipment; however, protocols would prevent or minimize this risk. During operation there is a risk of flashovers or that a conducting object could come into close contact with the transmission line, or a live line or conductor could fall to the ground igniting a wildfire. However, it is anticipated that regular trimming of trees and other regular maintenance of the ROW, transmission structures, and lines would reduce this potential risk to a less than significant level (SDG&E 2001).

No hazardous material sites are recorded for the Talega-Escondido Transmission Line ROW and no significant hazards to the public or the environment would result from the additional Talega-Escondido Transmission Line circuit improvements. Additionally, the impacts of electric induction on objects would not be significant from this line (SDG&E 2001).

5.7.2.2.3.2 Valley-Rainbow Substation Changes/Modifications

No potential impacts from existing hazards and hazardous materials were identified in the study area for the new Rainbow Substation. The other substation modifications, as described within the Valley-Rainbow PEA, would not result in significant impacts associated with hazards or hazardous materials (SDG&E 2001). Devers and Serrano Substation modifications and the new Rainbow Substation would likely not result in significant impacts associated with hazards or hazardous materials.

5.8 HYDROLOGY/WATER QUALITY

5.8.1 Proposed Project

In general, impacts on hydrology and water quality may be associated with discharge to surface or groundwater, changes to surface or groundwater quality, modification of the surface or groundwater flow, or construction in the floodplain. Surface and groundwater quality impacts will be considered

significant if transportation activities result in either the short- or long-term violation of Federal water quality standards or water quality objectives. Water quality objectives are not numerical standards but are general goals of an agency as stated in the agency's water quality control plans or resource management plan. Impacts on hydrology and water quality will be considered significant if one or more of the following will occur:

- Transport across streambeds alters the channel beds, resulting in short- and long-term bed erosion on streams of high erosion potential, resuspension of heavy metals or organic contaminants that will degrade the quality of water serving downstream beneficial uses, long-term (greater than 3 years) sedimentation occurs that will affect the operation of irrigation or municipal water control structures, gates, or valves, or biotic resources in estuaries are affected.
- Transport will substantially reduce the streamflow quantity. Such impacts will include instream construction to the extent that streamflows will be substantially reduced.
- Transport will alter or reduce the flow of groundwater to wetland areas, or significantly degrade the quality of groundwater used for municipal, domestic, and industrial purposes.

5.8.1.1 Replacement Steam Generator Transport Options

5.8.1.1.1 Beach and Road Route Transport Option

This option will not involve disturbance of soils or other construction, other than potential minor, routine maintenance of some sections of dirt roads. BMPs for erosion control will be applied with such routine maintenance, if needed. Therefore, this option is not expected to result in creation of conditions in the soil more subject to erosion than existing conditions, and no adverse impacts on water quality are expected from sedimentation or other potential effects on water quality.

There is some potential that water will be flowing at some of the stream crossings, such as the Santa Margarita River. Such crossings will occur at the transition of the stream to the Pacific Ocean. The placement and removal of matting at crossings to allow for continued water flow as described in Sections 3.1.1.6 and 3.1.1.7 may result in some minor suspension of sediment that is expected to flow directly into the surf zone of the Pacific Ocean. In this case, minor suspension of sediments is intended to refer to fine materials that may be lifted into the water column by vacuum action when mats and/or timbers are removed. These minor sediments are expected to disperse within a period of a few minutes or less,

returning to the predisturbance state. This placement and removal of matting does not constitute a discharge of dredged or fill material to waters of the United States because it does not result in replacement of waters of the United States with dry land or changing the bottom elevation of the waters of the United States. The potential minor suspension of sediment will occur in the flowing path of the stream, but is not expected to exceed the level of suspended sediment in the flowing portion of the stream. The surf zone is subject to constant wave action, which also maintains a naturally high level of suspended sediment that is much higher than the minor levels expected to be generated by placement and removal of the timbers and mats. Therefore, the potential minor sediment suspension generated by placement and removal of the mats is not expected to be adverse relative to the stream or the Pacific Ocean, will be of very short duration, and will not be significant.

The only potential adverse impact on surface water quality would be from an unlikely spill of fuel or other material into surface waters. No refueling is planned along the beach portion of this route (unless an emergency occurs). In the unlikely event of a spill or leak, containment measures would be implemented to prevent the spill from reaching surface waters. Therefore, no adverse impacts on surface waters from a spill are expected to result from this option. No other potential impacts on surface waters have been identified for this option.

The only potential adverse impact on ground water quality would be from an unlikely spill of fuel or other material into surface waters. No refueling is planned along the beach portion of this route (unless an emergency occurs). In the unlikely event of a spill or leak, containment measures would be implemented to prevent the spill from reaching ground waters. Therefore, no adverse impacts on surface waters from a spill are expected to result from this option. No other potential impacts on ground waters have been identified for this option.

5.8.1.1.2 Inland Route Transport Options

These options will occur on existing roads with several minimal off-road transitions. They are otherwise very similar in effect to the Beach and Road Route Transport Option. They are not anticipated to result in adverse impacts on water resources and use of BMPs will avoid adverse effects in the few areas where ground disturbance may occur.

5.8.1.2 Replacement Steam Generator Preparation

Compliance with dust control provisions and existing National Pollutant Discharge Elimination System (NPDES) Permit requirements for activities will be required. Wastewater generated from the Project will comply with local, State, and Federal waste discharge requirements. RSG preparation activities will comply with the SONGS 2 & 3 Stormwater Pollution Prevention Plan associated with Industrial Activities. No adverse impacts are anticipated, and no mitigation measures are required.

5.8.1.3 Original Steam Generator Removal, Staging, and Disposal

Compliance with dust control provisions and existing NPDES Permit requirements for activities will be required. Wastewater generated from the Project will comply with local, State, and Federal waste discharge requirements. Original steam generator removal, staging, and disposal activities will comply with the existing SONGS 2 & 3 Stormwater Pollution Prevention Plan associated with Industrial Activities. No adverse impacts are anticipated, and no mitigation measures are required.

5.8.1.4 Replacement Steam Generator Installation and Return to Service

Compliance with dust control provisions and existing NPDES Permit requirements for activities will be required. Wastewater generated from the Project will comply with local, State, and Federal waste discharge requirements. RSG installation and return to service activities will comply with the existing SONGS 2 & 3 Stormwater Pollution Prevention Plan associated with Industrial Activities. No adverse impacts are anticipated, and no mitigation measures are required.

5.8.2 No Project Alternative

5.8.2.1 Replacement Facilities – New Generation Component

New generation could be sited in a manner that reduces impacts; however, significant impacts could still occur depending on the ultimate location chosen. Water supply is a critical resource and will be a major consideration for the facilities. If an available and appropriate water source is not available, a dry cooling system may be an alternative that can be considered. Wastewater generation can be controlled and managed with available technology to ensure that discharges are within local, State, and Federal discharge requirements. Appropriate mitigation considerations will be specific to site selection and local jurisdictional requirements for a new generation facility. For the purpose of this analysis, it is

assumed that there are no impacts that cannot be reasonably mitigated as part of the new generation project approval process. The use of appropriate water management technologies will minimize impacts to an insignificant level.

5.8.2.2 Replacement Facilities – New Transmission Component

New transmission could be sited in a manner that reduces or avoids hydrological impacts; however, depending on the ultimate location chosen, significant impacts could still occur.

5.8.2.2.1 Reinforced 230 kV SCE/SDG&E Interface No Project Alternative

5.8.2.2.1.1 Reinforced 230 kV SCE/SDG&E Interface Transmission Lines

The construction and placement of additional transmission towers associated with the Reinforced 230 kV SCE/SDG&E Interface would have the potential to accelerate soil erosion, increase run-off, increase downstream sedimentation, and reduce water quality. New access roads may have to be constructed within the corridor and new tower pads would also be constructed. However, the impacts would likely be less than significant with implementation of protocols and compliance with existing laws. A detailed analysis has not been performed. Impacts could vary and would require description and analysis in a PEA before approval.

5.8.2.2.1.2 Reinforced 230 kV SCE/SDG&E Interface Substation Changes/Modifications

Modifications to existing substations and the switchyard would likely not result in a significant impact. However, impacts could vary and would require description and analysis in a PEA before approval.

5.8.2.2.2 Imperial Valley-Ramona No Project Alternative

5.8.2.2.2.1 Imperial Valley-Ramona Transmission Lines

Consideration of project impacts are basically the same for all transmission line components. The Imperial Valley-Ramona transmission lines would have the potential to accelerate soil erosion, increase run-off, increase downstream sedimentation, and reduce water quality. New access roads would have to be constructed for portions of the transmission lines that are not adjacent to existing lines, and new tower pads would also be constructed. However, the impacts would likely be less than significant with implementation of protocols and compliance with existing laws. A detailed analysis has not been

performed because the exact siting of the Imperial Valley-Ramona transmission lines is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.8.2.2.2.2 Imperial Valley-Ramona Substation Changes/Modifications

A detailed analysis has not been performed because the exact siting of the Ramona Substation is unknown. Modifications to existing substations would likely not result in a significant impact. However, impacts could vary and would require description and analysis in a PEA before approval. If necessary, compliance with ACOE, RWQCB, and CDFG mitigation requirements would reduce potential impact to less than significant.

5.8.2.2.3 Valley-Rainbow No Project Alternative

5.8.2.2.3.1 Valley-Rainbow Transmission Lines

As described within the Valley-Rainbow Interconnect PEA, the Valley-Rainbow Transmission Line would have the potential to accelerate soil erosion, increase run-off, increase downstream sedimentation, and reduce water quality. However, the impacts of the Valley-Rainbow Transmission Line on hydrologic resources would be less than significant with implementation of protocols and compliance with existing laws. The new transmission line under the No Project Alternative would likely result in similar impacts, as previously described. Installation of the second circuit on the existing Talega-Escondido Transmission Line would also be subject to protocols and compliance with existing laws, and would, therefore, result in a less than significant impact (SDG&E 2001).

5.8.2.2.3.2 Valley-Rainbow Substation Changes/Modifications

The new Rainbow Substation, as described within the Valley-Rainbow Interconnect PEA, would result in impacts on jurisdictional wetlands. Full compliance of the ACOE and CDFG mitigation requirements would reduce the overall impact to less than significant. Modifications to existing substations as described within the Valley-Rainbow PEA would not be anticipated to adversely affect hydrologic resources (SDG&E 2001). The Devers and Serrano Substation modifications would also not likely result in significant impacts because improvements would occur within the existing fence line. The new Rainbow Substation may or may not significantly impact hydrologic resources.

5.9 LAND USE/PLANNING

5.9.1 Proposed Project

5.9.1.1 Replacement Steam Generator Transport Options

5.9.1.1.1 Beach and Road Route Transport Option

This transport option will provide for maintenance of an existing facility and will be consistent with existing land uses. Therefore, no mitigation measures are required. Transport will be scheduled with MCBCP to avoid adverse impacts on existing land use of MCBCP. Similarly, the transport along Old Highway 101 will occur in a manner that does not adversely affect recreational uses along the portion of Old Highway 101 on San Onofre State Park. Therefore, no mitigation measures are required.

5.9.1.1.2 Inland Route Transport Options

Each Inland Transport option will provide for maintenance of an existing facility and will be consistent with existing land uses. Transport will be scheduled with MCBCP to avoid adverse impacts on existing land use of MCBCP. Similarly, the transport along Old Highway 101 will occur in a manner that does not adversely affect recreational uses along the portion of Old Highway 101 on San Onofre State Park. Therefore, no mitigation measures are required.

5.9.1.2 Replacement Steam Generator Preparation

This component of the Project will include the assembly of structures consistent with the existing nuclear generating facility land uses. No adverse impacts are anticipated and no mitigation measures are required.

5.9.1.3 Original Steam Generator Removal, Staging, and Disposal

This component of the Project does not change the land use and is consistent with current land uses. No adverse impacts are anticipated and no mitigation measures are required.

5.9.1.4 Replacement Steam Generator Installation and Return to Service

This component of the Project does not change the land use and is consistent with current land uses. No adverse impacts are anticipated and no mitigation measures are required.

5.9.2 No Project Alternative

5.9.2.1 Replacement Facilities – New Generation Component

New generation could be sited in a manner that reduces or avoids impacts on land use; however, significant impacts could still occur depending on the ultimate location chosen. Land uses near a generation facility are typically industrial or zoned appropriately for power generation use. It is expected that generation facilities of the size considered in this assessment will need between 30 to 50 acres of land, depending on siting, steam turbine cooling system technology used, and buffer zone needs. Appropriate mitigation considerations will be specific to site selection and local jurisdictional requirements for a new generation facility. For the purpose of this analysis, it is assumed that there are no impacts that cannot be reasonably mitigated as part of the new generation project approval process.

5.9.2.2 Replacement Facilities – New Transmission Component

New transmission could be sited in a manner that reduces or avoids impacts on land use; however, significant impacts could still occur depending on the ultimate location chosen.

5.9.2.2.1 Reinforced 230 kV SCE/SDG&E Interface No Project Alternative

5.9.2.2.1.1 Reinforced 230 kV SCE/SDG&E Interface Transmission Lines

The Reinforced 230 kV SCE/SDG&E Interface could result in potentially significant impacts on land use. However, a detailed analysis has not been performed because the exact siting of additional transmission towers and other improvements within this corridor are unknown. Although improvements would occur within an existing corridor, new components could still conflict with an existing land use, such as recreation and residential. Impacts could vary and would require additional description and analysis in a PEA before approval.

5.9.2.2.1.2 Reinforced 230 kV SCE/SDG&E Interface Substation Changes/Modifications

Improvements to the existing substations and switchyard would occur within the current fence lines and no significant impacts are anticipated. However, a detailed analysis has not been performed. Impacts could vary and would require description and analysis in a PEA before approval.

5.9.2.2.2 Imperial Valley-Ramona No Project Alternative

5.9.2.2.2.1 Imperial Valley-Ramona Transmission Lines

The Imperial Valley-Ramona transmission lines would not likely result in significant impacts on land use. However, a detailed analysis has not been performed because the exact siting of the Imperial Valley-Ramona transmission lines is unknown. Although the majority of the Imperial Valley-Ramona transmission lines parallel existing lines, these lines could still conflict with an existing land use (recreation), specifically the Dulzura-Ramona Leg of the route. This portion of the route traverses mostly undeveloped areas. Impacts could vary and would require description and analysis in a PEA before approval.

5.9.2.2.2.2 Imperial Valley-Ramona Substation Changes/Modifications

Improvements to the existing substations would occur within SDG&E and SCE-leased or SDG&E and SCE-owned land. The new Ramona Substation would likely not result in significant land use impacts. However, a detailed analysis has not been performed because the exact siting of the Ramona Substation is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.9.2.2.3 Valley-Rainbow No Project Alternative

5.9.2.2.3.1 Valley-Rainbow Transmission Lines

As proposed within the Valley-Rainbow Interconnect PEA, the Valley-Rainbow Transmission Line would not physically divide an established community and would not conflict with plans, policies, or regulations of an agency with jurisdiction. Additionally, the Valley-Rainbow Transmission Line would not be located in areas that would conflict with an HCP or NCCP. The Valley-Rainbow Transmission Line would cross portions of the Southwestern Riverside County Multi-Species Reserve and the Riverside County Stephens' Kangaroo Rat HCP. Potential impacts on existing reserves, HCPs, or NCCPs that may arise would be reduced to less than significant levels upon application of protocols and additional mitigation measures specific to the Riverside County Stephens' kangaroo rat HCP (SDG&E 2001). The new transmission line under the No Project Alternative would likely result in similar impacts.

The new 230 kV transmission circuit for the Talega-Escondido Transmission Line would be constructed within the existing 300-foot ROW on existing support structures already containing one 230 kV circuit. No additional ROW would be required. Therefore, potential impacts on land use resources would be less than significant.

5.9.2.2.3.2 Valley-Rainbow Substation Changes/Modifications

No existing or proposed specific development plans exist on or adjacent to the new Rainbow Substation site. Consequently, no significant impacts were identified. Improvements to the existing substations would occur within SDG&E and SCE-leased or SDG&E and SCE-owned land (SDG&E 2001). The new Rainbow Substation would likely not result in significant land use impacts.

5.10 MINERAL RESOURCES

5.10.1 Proposed Project

5.10.1.1 Replacement Steam Generator Transport Options

5.10.1.1.1 Beach and Road Route Transport Option

No adverse impacts are anticipated and no mitigation measures are required because there are no economic mineral resources developed or known within the transport route.

5.10.1.1.2 Inland Route Transport Options

No adverse impacts are anticipated and no mitigation measures are required, regardless of the option, because there are no economic mineral resources developed or known within the transport routes.

5.10.1.2 Replacement Steam Generator Preparation

No adverse impacts are anticipated and no mitigation measures are required because there are no economic mineral resources developed or known within the existing SONGS 2 & 3 site.

5.10.1.3 Original Steam Generator Removal, Staging, and Disposal

No adverse impacts are anticipated and no mitigation measures are required because there are no economic mineral resources developed or known within the existing SONGS 2 & 3 site.

5.10.1.4 Replacement Steam Generator Installation and Return to Service

No adverse impacts are anticipated and no mitigation measures are required because there are no economic mineral resources developed or known within the existing SONGS 2 & 3 site.

5.10.2 No Project Alternative

5.10.2.1 Replacement Facilities – New Generation Component

New generation could be sited in a manner that reduces or avoids mineral resource impacts; however, significant impacts could still occur depending on the ultimate location chosen. Impacts on existing or unknown mineral resources, such as a sand mind, may be considered significant. Appropriate mitigation considerations will be specific to site selection and local jurisdictional requirements for a new generation facility. For the purpose of this analysis, it is assumed that there are no impacts that cannot be reasonably mitigated as part of the new generation project approval process.

5.10.2.2 Replacement Facilities – New Transmission Component

New transmission could be sited in a manner that reduces or avoids mineral resource impacts; however, depending on the ultimate location chosen, significant impacts could still occur

5.10.2.2.1 Reinforced 230 kV SCE/SDG&E Interface No Project Alternative

5.10.2.2.1.1 Reinforced 230 kV SCE/SDG&E Interface Transmission Lines

The Reinforced 230 kV SCE/SDG&E Interface would likely not result in impacts on known mineral resources because much of the surface has been disturbed by previous transmission line construction and no mineral resources of economic value are known to occur there. However, a detailed analysis has not been performed. Impacts could vary and would require description and analysis in a PEA before approval.

5.10.2.2.1.2 Reinforced 230 kV SCE/SDG&E Interface Substation Changes/Modifications

Modifications to existing substations and switchyard would likely not result in significant impacts on known mineral resources. A detailed analysis has not been performed. Impacts could vary and would require description and analysis in a PEA before approval.

5.10.2.2.2 Imperial Valley-Ramona No Project Alternative

5.10.2.2.2.1 Imperial Valley-Ramona Transmission Lines

The Imperial Valley-Ramona transmission lines would likely not result in impacts on known mineral resources, specifically within the areas where the new transmission lines would be adjacent to existing transmission lines because much of the surface has been disturbed by previous transmission line construction. However, a detailed analysis has not been performed because the exact siting of the Imperial Valley-Ramona transmission lines is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.10.2.2.2.2 Imperial Valley-Ramona Substation Changes/Modifications

Modifications to existing substations and the siting of the new Ramona Substation would likely not result in significant impacts on known mineral resources. A detailed analysis has not been performed because the exact siting of the Ramona Substation is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.10.2.2.3 Valley-Rainbow No Project Alternative

5.10.2.2.3.1 Valley-Rainbow Transmission Lines

According to the Valley-Rainbow Interconnect PEA, the Valley-Rainbow Transmission Line and the Talega-Escondido Transmission Line would not result in the loss of availability of a known mineral resource or of a locally important mineral resource recovery site (SDG&E 2001). The new transmission line would likely not result in the loss of availability of a known mineral resource or of a locally important mineral resource recovery site.

5.10.2.2.3.2 Valley-Rainbow Substation Changes/Modifications

The new Rainbow Substation, as described within the Valley-Rainbow Interconnect PEA would not result in the loss of availability of a known mineral resource or a locally important mineral resource recovery site. The existing substations, described within the Valley-Rainbow Interconnect PEA (Mission, Sycamore Canyon, Talega, Miguel, and Valley), would not be anticipated to affect known mineral resources (SDG&E 2001). Modifications to the Devers and Serrano Substations, which are not addressed within the Valley-Rainbow Interconnect PEA, would occur within the existing fence lines

and would likely not affect known mineral resources. The new Rainbow Substation would likely be sited in such a manner that impacts on mineral resources are avoided or reduced.

5.11 NOISE

5.11.1 Proposed Project

The Project will result in a significant impact if the following occurs:

- The Project will cause substantial, or potentially substantial, adverse changes in the ambient noise conditions within the area affected by the Project (e.g., increase long-term ambient noise by 5 to 10 dBA; or short-term ambient noise by 20 dBA) and these changes will affect noise-sensitive receptors.

The determination of substantial noise impact considers such factors as receptor proximity, time of day, change in noise level, absolute noise level, unusual characteristics of the noise, potential for sleep disturbance and risk of hearing damage. An increase in the long-term ambient noise level of 5 to 10 dBA is generally considered significant. This is because most people consider these noise level changes from an existing level as "substantially louder" to "twice as loud." Potential impacts on biological receptors (i.e., wildlife) are discussed in Section 5.4.

5.11.1.1 Replacement Steam Generator Transport Options

5.11.1.1.1 Beach and Road Route Transport Option

This option is a short-term linear Project. Noise impacts are primarily analyzed based on Project-related activity from which potential noise impacts are continuously moving during the transportation activities.

Project-related noise will primarily result from the use of motorized transportation equipment. Noise levels will vary depending on the type of equipment used, how it is operated, and how well it is maintained. Standard construction and transport equipment and trucks will be used for transport and related activities.

At locations near the MCBCP and alongside heavily traveled roadways, the noise level from transportation will typically be less than 20 dB above ambient noise levels. The potential noise impacts

on sensitive receptors along the route (campers at San Onofre State Park and Camp Del Mar) will not be significant because the transportation noise will be temporary, typical of other routine activity, and equipment will be installed with mufflers. The short-term nature of transportation noise and its movement along the Project route will not cause long-term noise impacts on the environment.

5.11.1.1.2 Inland Route Transport Options

The same considerations for the Beach and Road Transport Option apply to these options, and no adverse impacts are anticipated. These options are short-term and linear. Noise impacts are primarily analyzed based on Project-related activity from which potential noise impacts are continuously moving during the transportation activities.

Project-related noise will primarily result from the use of motorized transportation equipment. Noise levels will vary depending on the type of equipment used, how it is operated, and how well it is maintained. Standard construction and transport equipment and trucks will be used for transport and related activities.

At locations near the MCBCP and alongside heavily traveled roadways, the noise level from transportation will typically be less than 20 dB above ambient noise levels. The potential noise impacts on sensitive receptors along the route (San Onofre State Park and Camp Del Mar) will not be significant because the transportation noise will be temporary, typical of other routine activity, and equipment will be installed with mufflers. The short-term nature of transportation noise and its movement along the Inland Transport Routes will not cause long-term noise impacts on the environment.

5.11.1.2 Replacement Steam Generator Preparation

Federal and local agencies have established policies and regulations concerning the generation and control of noise that could adversely affect their citizens and noise-sensitive land uses. The various policies and laws established to achieve control of adverse environmental noise are not absolute prohibitions, but recognize the necessity and inevitability of noise associated with an urbanized technological society. No Federal or Navy standards specifically address construction noise, which is short-term as compared with the long-term noise generated by regular aircraft or roadway operations.

Noise-sensitive receptors are generally considered persons who occupy areas where quiet is an important attribute of the environment. Land uses often associated with noise-sensitive receptors include residential dwellings, mobile homes, hotels, hospitals, nursing homes, educational facilities, and libraries. None of these land uses are adjacent to SONGS 2 & 3. The closest residential use to SONGS 2 & 3 is military housing on MCBCP, located approximately 1.25 miles to the northeast across I-5. The north property line of SONGS 2 & 3 is approximately 0.68 miles, the south property line is approximately 0.38 miles, the east property line is approximately 425 feet, and the west property line is approximately 350 feet from the construction area. The existing noise environment is expected to be approximately 65 dBA CNEL as a result of vehicular traffic on I-5, operations from SONGS 2 & 3, military operations on MCBCP, and surf noise.

Noise will result from the operation of the construction equipment. The increase in noise level will be primarily experienced close to the noise source. Acoustical calculations were performed to estimate noise from construction activities at the property lines. This analysis is provided in Section 5.11.1.3.

There will be no significant impact as a result of the construction activity because there are no sensitive receptors adjacent to the activity. Workers will be protected from noise impacts by complying with existing SONGS 2 & 3 Site Safety Programs. Furthermore, the activity is temporary in nature and will provide no long-term, permanent impacts on the area's noise environment.

5.11.1.3 Original Steam Generator Removal, Staging, and Disposal

As discussed in Section 5.11.1.2, noise will result from the operation of the construction equipment. The increase in noise level will be primarily experienced close to the noise source. Acoustical calculations were performed to estimate noise from construction activities at the property lines. Noise from the activity was assumed to have point source acoustical characteristics. Strictly speaking, a point source sound decays at a rate of 6 dB per doubling of distance from the source receiver pair. This is a logarithmic relationship describing the acoustical spreading of a pure, undisturbed spherical wave in air. The rule applies to the propagation of sound waves with no ground interaction.

Calculations were based on sound level measurements performed by American Hydro during hydro-lazing of Surry Unit 1 plant in Virginia during 2003. To create an opening in the containment domes, similar processes and/or concrete chipping will occur. The measured worst-case sound level at Surry

Unit 1 was 113 dBA at 10 feet from hydro-lazing. Based on this source level, the direct line-of-sight calculated sound levels without consideration of other mitigating factors onsite will be 62 dBA at the north property line, 67 dBA at the south property line, 80 dBA at the east property line, 82 dBA at the west property line, and 57 dBA at the military housing to the northeast. The construction area is separated from all property lines by intervening structures and from the military housing by I-5, which will provide further attenuation of noise levels of up to 20 dBA, or approximately 42 dBA at the north property line, 47 dBA at the south property line, 60 dBA at the east property line, 62 dBA at the west property line, and 37 dBA at the military housing to the northeast. Sound levels at the San Onofre Bluffs campground at San Onofre State Park, south of SONGS 2 & 3, are expected to be less than the estimated 47 dBA at the south property line and sound levels at the San Mateo campgrounds at San Onofre State Park, northeast of SONGS 2 & 3, are expected to be similar to the estimated 37 dBA at the military housing to the northeast. These sounds will persist only during the hydro-lazing. Concrete chipping is expected to produce similar noise levels.

There will be no significant impact as a result of the construction activity because there are no sensitive receptors adjacent to the activity. Workers will be protected from noise impacts by complying with existing SONGS 2 & 3 Site Safety Programs. Furthermore, the activity is temporary in nature and will provide no long-term, permanent impacts on the area's noise environment.

5.11.1.4 Replacement Steam Generator Installation and Return to Service

As described in Sections 5.11.1.2 and 5.11.1.3, there will be no significant impact as a result of the construction activity because there are no sensitive receptors adjacent to the activity. Workers will be protected from noise impacts by following the existing SONGS 2 & 3 Site Safety Programs. Furthermore, the activity is temporary in nature and will provide no long-term, permanent impacts on the area's noise environment.

5.11.2 No Project Alternative

5.11.2.1 Replacement Facilities – New Generation Component

New generation could be sited in a manner that reduces noise impacts; however, depending on the ultimate location chosen, significant impacts could still occur. Generation facilities create noise and nearby sensitive receptors, such as wildlife, residents, hospitals, or schools, could be affected.

Appropriate mitigation considerations will be specific to site selection and local jurisdictional requirements for any new generation facility. For the purpose of this analysis, it is assumed that there are no impacts that cannot be reasonably mitigated as part of the new generation project approval process.

5.11.2.2 Replacement Facilities – New Transmission Component

New transmission could be sited in a manner that reduces noise impacts; however, significant impacts could still occur depending on the ultimate location chosen.

5.11.2.2.1 Reinforced 230 kV SCE/SDG&E Interface No Project Alternative

5.11.2.2.1.1 Reinforced 230 kV SCE/SDG&E Interface Transmission Lines

Construction of the Reinforced 230 kV SCE/SDG&E Interface would involve short-term activities that may cause ground disturbance and potentially significant, but short-term noise. Where construction is required near sensitive receptors, such as residences, schools, churches, or hospitals, the activities would be limited to daylight hours. Temporary noise barriers may be required. Operation and use of facilities would likely not have the potential for long-term impacts on noise. A detailed analysis has not been performed. Impacts could vary and would require description and analysis in a PEA before approval.

5.11.2.2.1.2 Reinforced 230 kV SCE/SDG&E Interface Substation Changes/Modifications

Modifications to existing substations and the switchyard would likely not result in significant noise impacts. A detailed analysis has not been performed. Impacts could vary and would require description and analysis in a PEA before approval.

5.11.2.2.2 Imperial Valley-Ramona No Project Alternative

5.11.2.2.2.1 Imperial Valley-Ramona Transmission Lines

Construction of the Imperial Valley-Ramona transmission lines would involve short-term activities that may cause ground disturbance and potentially significant, but short-term noise. Where construction is required near sensitive receptors, such as residences, schools, churches, or hospitals, the activities would be limited to daylight hours. Temporary noise barriers may be required. Operation and use of facilities would likely not have the potential for long-term impacts on noise. A detailed analysis has not

been performed because the exact siting of the Imperial Valley-Ramona transmission lines is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.11.2.2.2.2 Imperial Valley-Ramona Substation Changes/Modifications

The new Ramona Substation would likely be sited in a way that minimizes noise impacts. Modifications to existing substations would likely not result in significant noise impacts. A detailed analysis has not been performed because the exact siting of the Ramona Substation is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.11.2.2.3 Valley-Rainbow No Project Alternative

5.11.2.2.3.1 Valley-Rainbow Transmission Lines

According to the Valley-Rainbow Interconnect PEA, construction of the Valley-Rainbow Transmission Line and the Talega-Escondido Transmission Line would involve short-term activities that may cause ground disturbance and potentially significant, but short-term noise. Operation and use of facilities would not have the potential for long-term impacts on noise (SDG&E 2001). The new transmission line for the No Project Alternative would likely result in similar impacts.

5.11.2.2.3.2 Valley-Rainbow Substation Changes/Modifications

As discussed within the Valley-Rainbow Interconnect PEA, the noise levels for the new Rainbow Substation site can be classified as having no impact because land around the substation would be purchased by SDG&E, which would include property below the 45 dBA limit (SDG&E 2001). Modifications to existing substations, as described within the Valley-Rainbow PEA, would not result in a significant noise increase (SDG&E 2001). Modifications to the Devers and Serrano Substations would be similar and would likely not result in a significant noise increase. The new Rainbow Substation would likely be sited in a way that minimizes noise impacts.

5.12 POPULATION/HOUSING

5.12.1 Proposed Project

5.12.1.1 Replacement Steam Generator Transport Options

5.12.1.1.1 Beach and Road Route Transport Option

This transport option will not result in a demand for permanent housing or an increase in the population. No adverse impacts are anticipated.

5.12.1.1.2 Inland Route Transport Options

These transport options will not result in a demand for permanent housing or an increase in the population. No adverse impacts are anticipated.

5.12.1.2 Replacement Steam Generator Preparation

Project activities will require the need for up to 1,000 temporary employees and/or contractors at peak for all Project components combined. RFO activities, which are not part of the Proposed Project, will occur simultaneously. RFO activities will require an additional 1,000 temporary employees. The Project vicinity has an adequate supply of lodging, with San Clemente to the north and Oceanside to the south, as discussed in Section 4.12. SONGS 2 & 3 has a developed campground/RV park operated specifically for temporary employees and contractors during high demand periods, such as planned RFOs. The Project will not displace people or homes, and will not permanently increase population or housing needs.

5.12.1.3 Original Steam Generator Removal, Staging and Disposal

Project activities will require the need for up to 1,000 temporary employees and/or contractors at peak for all Project components combined. RFO activities, which are not part of the Proposed Project, will occur simultaneously. RFO activities will require an additional 1,000 temporary employees. The Project vicinity has an adequate supply of lodging, with San Clemente to the north and Oceanside to the south, as discussed in Section 4.12. SONGS 2 & 3 has a developed campground/RV park operated specifically for temporary employees and contractors during high demand periods, such as planned

RFOs. The Project will not displace people or homes, and will not permanently increase population or housing needs.

5.12.1.4 Replacement Steam Generator Installation and Return to Service

Project activities will require the need for up to 1,000 temporary employees and/or contractors at peak for all Project components combined. RFO activities, which are not part of the Proposed Project, will occur simultaneously. RFO activities will require an additional 1,000 temporary employees. The Project vicinity has an adequate supply of lodging, with San Clemente to the north and Oceanside to the south, as discussed in Section 4.12. SONGS 2 & 3 has a developed campground/RV park operated specifically for temporary employees and contractors during high demand periods, such as planned RFOs. The Project will not displace people or homes, and will not permanently increase population or housing needs.

5.12.2 No Project Alternative

5.12.2.1 Replacement Facilities – New Generation Component

New generation could be sited in a manner that reduces or avoids impacts on population and housing; however, depending on the ultimate location chosen, significant impacts could still occur.

Appropriate mitigation considerations will be specific to site selection and local jurisdictional requirements for any new generation facility. For the purpose of this analysis, it is assumed that there are no impacts that cannot be reasonably mitigated as part of the new generation project approval process.

5.12.2.2 Replacement Facilities – New Transmission Component

New transmission could be sited in a manner that reduces or avoids impacts on population and housing; however, significant impacts could still occur depending on the ultimate location chosen.

5.12.2.2.1 Reinforced 230 kV SCE/SDG&E Interface No Project Alternative

5.12.2.2.1.1 Reinforced 230 kV SCE/SDG&E Interface Transmission Lines

The Reinforced 230 kV SCE/SDG&E Interface would be in response to provide electric facilities sufficient to meet existing demand and to ensure that continuous reliable service is available to

customers. No substantial population growth is expected to be induced or created within the surrounding area either directly or indirectly as a result of construction.

It would be anticipated that some non-local labor would be used during construction. The use of non-local labor may cause a short-term, temporary need for accommodations for these workers. However, this short-term, temporary need for living accommodations will likely result in a less than significant impact on the existing housing supply because of the likely relative year-round availability of hotel/motel accommodations that serve the area. However, a detailed analysis has not been performed. Impacts could vary and would require description and analysis in a PEA before approval.

5.12.1.1.1.1 Reinforced 230 kV SCE/SDG&E Interface Substation Changes/Modifications

Modifications to existing substations and the switchyard would be within existing fence lines. A detailed analysis has not been performed. Impacts on Population and Housing could vary and would require description and analysis in a PEA before approval.

5.12.2.2.2 Imperial Valley-Ramona No Project Alternative

5.12.2.2.2.1 Imperial Valley-Ramona Transmission Lines

The Imperial Valley-Ramona transmission lines would be in response to provide electric facilities sufficient to meet existing demand and to ensure that continuous reliable service is available to customers. No substantial population growth is expected to be induced or created within the surrounding area either directly or indirectly as a result of construction.

It would be anticipated that some non-local labor would be used during construction. The use of non-local labor may cause a short-term, temporary need for accommodations for these workers. However, this short-term, temporary need for living accommodations will likely result in a less than significant impact on the existing housing supply because of the likely relative year-round availability of hotel/motel accommodations that serve the area. However, a detailed analysis has not been performed. Impacts could vary and would require description and analysis in a PEA before approval.

5.12.2.2.2.2 Imperial Valley-Ramona Substation Changes/Modifications

The new Ramona Substation would likely not affect Population or Housing. Modifications to existing substations would be within existing fence lines and/or SDG&E or SCE-leased or SDG&E or

SCE-owned land. A detailed analysis has not been performed because the exact siting of the Ramona Substation is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.12.2.2.3 Valley-Rainbow No Project Alternative

5.12.2.2.3.1 Valley-Rainbow Transmission Lines

According to the Valley-Rainbow Interconnect PEA, the Valley-Rainbow Transmission Line and the Talega-Escondido Transmission Line would not be an infrastructure improvement project that will foster growth. Valley-Rainbow would be in response to provide electric facilities sufficient to meet demand and to ensure that continuous reliable service is available to customers. Therefore, no substantial population growth will be induced or created within the surrounding area either directly or indirectly as a result of construction (SDG&E 2001). A new project pursuant to the No Project Alternative would also not foster growth because it would be replacement power for the lost SONGS 2 & 3 generation capacity.

Some non-local labor probably would be used during construction. The use of non-local labor may cause a short-term, temporary need for accommodations for these workers. However, this short-term, temporary need for living accommodations will result in a less than significant impact on the existing housing supply because of the relative year-round availability of hotel/motel accommodations that serve the area. Numerous housing complexes also exist in the surrounding areas of Fallbrook, Hemet, Murrieta, and Temecula (SDG&E 2001). The new transmission line for the No Project Alternative would be very similar to the Valley-Rainbow Transmission Line with regard to Population and Housing.

5.12.2.2.3.2 Valley-Rainbow Substation Changes/Modifications

One residence consisting of three structures would be displaced for construction of the new Rainbow Substation for the Valley-Rainbow Interconnect Project. This does not constitute a significant impact on substantial numbers of existing housing units relative to the approximately 570,000 existing homes currently available (16.9% vacancy rate) in Riverside County. Modifications to existing substations would not displace homes (SDG&E 2001). A new location for the new Rainbow Substation under the No Project Alternative may or may not displace residences; however, it is unlikely that such

displacement would be significant. Devers and Serrano Substation improvements would occur within the existing fence lines and would not displace homes. The new Rainbow Substation would likely be sited in such a manner that would reduce potential impacts on Population and Housing to a level less than significant.

5.13 PUBLIC SERVICES

5.13.1 Proposed Project

5.13.1.1 Replacement Steam Generator Transport Options

5.13.1.1.1 Beach and Road Route Transport Option

This Project option will not result in the increased need for public services (fire and police protection, schools, and parks). It is expected that approximately 60 to 70 people will be directly involved with the transport options. The short-term nature of this activity and relatively few dedicated people for this alternative will not adversely affect public community services. No adverse impacts are anticipated and no mitigation measures are required.

5.13.1.1.2 Inland Route Transport Options

These transport options will not result in the increased need for public services (fire and police protection, schools, and parks). No adverse impacts are anticipated and no mitigation measures are required. It is expected that approximately 60 to 70 people will be directly involved with the transport options. The short-term nature of this activity and relatively few dedicated people for this alternative will not adversely affect public community services.

5.13.1.2 Replacement Steam Generator Preparation

Overall Project activities will require the need for up to 1,000 temporary employees and/or contractors at peak for all project components. RFO activities, which are not part of the Proposed Project, will require an additional 1,000 temporary employees. This Project component will not result in the increased need for public services (fire and police protection, schools, and parks). No adverse impacts are anticipated and no mitigation measures are required.

5.13.1.3 Original Steam Generator Removal, Staging and Disposal

Overall Project activities will require the need for up to 1,000 temporary employees and/or contractors at peak for all project components. RFO activities, which are not part of the Proposed Project, will require an additional 1,000 temporary employees. This Project component will not result in the increased need for public services (fire and police protection, schools, and parks). No adverse impacts are anticipated and no mitigation measures are required.

5.13.1.4 Replacement Steam Generator Installation and Return to Service

Overall Project activities will require the need for up to 1,000 temporary employees and/or contractors at peak for all project components. RFO activities, which are not part of the Proposed Project, will require an additional 1,000 temporary employees. This Project component will not result in the increased need for public services (fire and police protection, schools, and parks). No adverse impacts are anticipated and no mitigation measures are required.

5.13.2 No Project Alternative

5.13.2.1 Replacement Facilities – New Generation Component

New generation could be sited in a manner that reduces or avoids impacts on public services; however, significant impacts could still occur depending on the ultimate location chosen and services required (water, gas, etc.). New generation would typically require the construction of new gas and waterlines. Appropriate mitigation considerations will be specific to site selection and local jurisdictional requirements for any new generation facility. For the purpose of this analysis, it is assumed that there are no impacts that cannot be reasonably mitigated as part of the new generation project approval process.

5.13.2.2 Replacement Facilities – New Transmission Component

New transmission could be sited in a manner that reduces or avoids impacts on public services; however, significant impacts could still occur depending on the ultimate location chosen and services required (water, gas, etc.).

5.13.2.2.1 Reinforced 230 kV SCE/SDG&E Interface No Project Alternative

5.13.2.2.1.1 Reinforced 230 kV SCE/SDG&E Interface Transmission Lines

The demand for new public services and/or facilities would likely not be affected by the Reinforced 230 kV SCE/SDG&E Interface No Project Alternative. However, a detailed analysis has not been performed because the exact siting of the additional towers is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.13.2.2.1.2 Reinforced 230 kV SCE/SDG&E Interface Substation Changes/Modifications

Modifications to existing substations and the switchyard would not increase the demand for Public Services. All improvements would occur within the existing fence lines.

5.13.2.2.2 Imperial Valley-Ramona No Project Alternative

5.13.2.2.2.1 Imperial Valley-Ramona Transmission Lines

The demand for new public services and/or facilities would likely not be affected by the Imperial Valley-Ramona transmission lines. However, a detailed analysis has not been performed because the exact siting of the Imperial Valley-Ramona transmission lines is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.13.2.2.2.2 Imperial Valley-Ramona Substation Changes/Modifications

The new Ramona Substation and modifications to existing substations would likely not increase the demand for new public services and/or facilities. However, a detailed analysis has not been performed because the exact siting of the Ramona Substation is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.13.2.2.3 Valley-Rainbow No Project Alternative

5.13.2.2.3.1 Valley-Rainbow Transmission Lines

According to the Valley-Rainbow Interconnect PEA, the Valley-Rainbow Transmission Line and the Talega-Escondido Transmission Line would not be an infrastructure improvement project that will foster growth. Valley-Rainbow would be in response to provide electric facilities sufficient to meet demand and to ensure that continuous reliable service is available to customers. Therefore, no

substantial population growth will be induced or created within the surrounding area either directly or indirectly as a result of construction (SDG&E 2001). A new project pursuant to the No Project Alternative would also not foster growth because it would be replacement power for the lost SONGS 2 & 3 generation capacity.

Some non-local labor probably would be used during construction. The use of non-local labor may cause a short-term, temporary need for accommodations for these workers. However, this short-term, temporary need for living accommodations will result in a less than significant impact on the existing housing supply because of the relative year-round availability of hotel/motel accommodations that serve the area. Numerous housing complexes also exist in the surrounding areas of Fallbrook, Hemet, Murrieta, and Temecula (SDG&E 2001). The new transmission line for the No Project Alternative would be very similar to the Valley-Rainbow Transmission Line with regard to Population and Housing.

5.13.2.2.3.2 Valley-Rainbow Substation Changes/Modifications

One residence consisting of three structures would be displaced for construction of the new Rainbow Substation for the Valley-Rainbow Interconnect Project. This does not constitute a significant impact on substantial numbers of existing housing units relative to the approximately 570,000 existing homes currently available (16.9% vacancy rate) in Riverside County. Modifications to existing substations would not displace homes (SDG&E 2001). A new location for the new Rainbow Substation under the No Project Alternative may or may not displace residences; however, it is unlikely that such displacement would be significant. Devers and Serrano Substation improvements would occur within the existing fence lines and would not displace homes. The new Rainbow Substation would likely be sited in such a manner that would reduce potential impacts on Population and Housing to a level less than significant.

5.14 RECREATION

5.14.1 Proposed Project

5.14.1.1 Replacement Steam Generator Transport Options

5.14.1.1.1 Beach and Road Route Transport Option

Transport along Highway 101 will allow continued park use. Although there will be a potential brief delay while equipment passes, cars, bikes, and pedestrians will be able to pass the transporter. This option will not result in the loss of recreational use or create the need for additional recreation, and no adverse impacts are anticipated. Therefore, no mitigation measures are required.

5.14.1.1.2 Inland Route Transport Options

Transport along Highway 101 will allow continued park use. Although there will be a potential brief delay while equipment passes, cars, bikes, and pedestrians will be able to pass the transporter. These options will not result in the loss of recreational use or create the need for additional recreation, and no adverse impacts are anticipated. Therefore, no mitigation measures are required.

5.14.1.2 Replacement Steam Generator Preparation

Existing San Onofre State Park regulations limit total use of the campgrounds to no more than 14-28 days per year, per vehicle. Therefore, extended use of these campgrounds by construction workers will not be feasible. The existing 245 RV spaces provided by SCE at the Mesa, will avoid potential adverse impacts on recreational campground use. Therefore, this Project component will not significantly increase the use of existing recreational facilities, and no mitigation measures are required.

5.14.1.3 Original Steam Generator Removal, Staging, and Disposal

Existing San Onofre State Park regulations limit total use of the campgrounds to no more than 14-28 days per year, per vehicle. Therefore, extended use of these campgrounds by construction workers will not be feasible. The existing 245 RV spaces provided by SCE at the Mesa, will avoid potential adverse impacts on recreational campground use. Therefore, this Project component will not significantly increase the use of existing recreational facilities, and no mitigation measures are required.

5.14.1.4 Replacement Steam Generator Installation and Return to Service

Existing San Onofre State Park regulations limit total use of the campgrounds to no more than 14-28 days per year, per vehicle. Therefore, extended use of these campgrounds by construction workers will not be feasible. The existing 245 RV spaces provided by SCE at the Mesa, will avoid potential adverse impacts on recreational campground use. Therefore, this Project component will not significantly increase the use of existing recreational facilities, and no mitigation measures are required.

5.14.2 No Project Alternative

5.14.2.1 Replacement Facilities – New Generation Component

New generation could be sited in a manner that reduces or avoids recreation resource impacts; however, significant impacts could still occur depending on the ultimate location chosen. Appropriate mitigation considerations will be specific to site selection and local jurisdictional requirements for any new generation facility. For the purpose of this analysis, it is assumed that there are no impacts that cannot be reasonably mitigated as part of the new generation project approval process.

5.14.2.2 Replacement Facilities – New Transmission Component

New transmission could be sited in a manner that reduces or avoids recreation resource impacts; however, significant impacts could still occur depending on the ultimate location chosen.

5.14.2.2.1 Reinforced 230 kV SCE/SDG&E Interface No Project Alternative

5.14.2.2.1.1 Reinforced 230 kV SCE/SDG&E Interface Transmission Lines

Construction of additional towers could result in potential, significant impacts regarding the use of, and demand for parks and recreation facilities. As described within Section 4.14, several parks and/or recreation areas are within or immediately adjacent to the existing transmission corridor. Construction may result in temporary closures of existing parks and/or recreation areas and may permanently change or reduce the current park and/or recreation areas size and/or opportunities available for use. However, a detailed analysis has not been performed because the exact location and required numbers of additional transmission towers is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.14.2.2.1.2 Reinforced 230 kV SCE/SDG&E Interface Substation Changes/Modifications

Modifications to existing substations and the switchyard would occur within existing fence lines and no existing recreation areas will be impacted. However, a detailed analysis has not been performed. Impacts could vary and would require description and analysis in a PEA before approval.

5.14.2.2.2 Imperial Valley-Ramona No Project Alternative

5.14.2.2.2.1 Imperial Valley-Ramona Transmission Lines

The use of, and demand for parks and recreation facilities would likely not be significantly affected by the Imperial Valley-Ramona transmission lines and would not include the construction of new recreation facilities or expansion of existing recreation facilities. Although the majority of the Imperial Valley-Ramona transmission lines would be adjacent to existing transmission lines, a portion of the Imperial Valley-Ramona transmission line, as it proceeds northward to the new Ramona Substation from the existing Imperial Valley-Ramona transmission line, would be located in a primarily undeveloped area where recreation uses could be impacted, though likely less than significant. However, a detailed analysis has not been performed because the exact siting of the Imperial Valley-Ramona transmission lines is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.14.2.2.2.2 Imperial Valley-Ramona Substation Changes/Modifications

Modifications to existing substations would occur within existing SDG&E and SCE-owned or SDG&E and SCE-leased lands. The new Ramona Substation would likely be sited in such a manner that would avoid or reduce impacts on existing or proposed parks, recreation, or preservation areas. However, a detailed analysis has not been performed because the exact siting of the Ramona Substation is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.14.2.2.3 Valley-Rainbow No Project Alternative

5.14.2.2.3.1 Valley-Rainbow Transmission Lines

The use of, and demand for parks and recreation facilities would not be significantly affected by the Valley-Rainbow Transmission Line or the Talega-Escondido Transmission Line and the transmission lines would not include the construction of new recreation facilities or expansion of existing recreation

facilities according to the Valley-Rainbow Interconnect PEA (SDG&E 2001). The new transmission line for the No Project Alternative would be similar to the Valley-Rainbow Transmission Line, as described above.

5.14.2.2.3.2 Valley-Rainbow Substation Changes/Modifications

No existing or proposed parks, recreation or preservation areas exist on or adjacent to the new Rainbow Substation site. Consequently, no significant impacts were identified (SDG&E 2001). Modifications to the existing substations (Mission, Miguel, Sycamore Canyon, Talega, Valley, Devers, and Serrano) would occur within the existing SDG&E and SCE-owned or SDG&E and SCE-leased lands (SDG&E 2001). The new Rainbow Substation would likely be sited in such a manner that would avoid or reduce impacts on existing or proposed parks, recreation, or preservation areas.

5.15 TRANSPORTATION/TRAFFIC

5.15.1 Proposed Project

5.15.1.1 Replacement Steam Generator Transport Options

Each transport option proposes a transportation route from the Camp Pendleton Del Mar Boat Basin to SONGS 2 & 3. Under each option, it is assumed that all necessary staff and equipment will be used to ensure local traffic control will be provided for all vehicles potentially affected by the equipment transportation. Caltrans will require specific traffic mitigation measures for travel on I-5. Traffic control measures are expected to include, but not be limited to:

- Trained vehicle operators to ensure the safe operations of equipment transport vehicles or vehicles associated with the equipment transportation.
- Necessary cones, barricades, signs, and additional warning devices as specified by the traffic control plan.
- Trained flaggers and other workers to direct traffic around the equipment transport vehicles, and necessary communication equipment, signs, signals, safety vests, and hard hats.

5.15.1.1.1 Beach and Road Route Transport Option

The Beach and Road Route Transport Option will involve transport on three distinct roadway facilities: transport on MCBCP roadways (segments A through E), transport along a short distance on I-5 to bypass Skull Canyon (segment F), and transport along MCBCP roads and Old Highway 101 (segments G through J). The proposed transport of equipment will cause no significant impacts on traffic operations for the portion of transport on MCBCP roadways because all transport will be coordinated with and approved by MCBCP officials. All such transport will be on roadways within MCBCP, which are not public roadways. The transport will conform at all times to MCBCP security and transportation requirements. Transport will occur only during the times specified by MCBCP officials, and the proposed transport will not adversely affect emergency or other necessary traffic on MCBCP.

Transport on I-5 to bypass Skull Canyon (segment F) will occur on the southbound portion of I-5 over a very short distance. Submission and approval of a detailed traffic control plan indicating required lane closures, hours of operation, appropriate signage and warning devices, and required work areas will be required by Caltrans for transport of equipment. The reduction in available southbound through travel lanes during this brief transport may result in reduced vehicle speeds and an increase in traffic congestion if one or more southbound through lanes are temporarily closed while at least one lane is maintained open. There is some potential that Caltrans will require all of the southbound lanes be closed during the brief transport on I-5, which will result in a brief stoppage of traffic in that lane. Transport will be brief and will occur during non-peak hours as directed by Caltrans when southbound I-5 traffic volumes are low. Non-peak hours are expected to occur at night; however, they could be at any time of day as directed by Caltrans. Therefore, the impact on traffic for southbound I-5 traffic should be minimal. No significant impacts on traffic on I-5 are expected in either case because the closure will be brief and occur during non-peak hours as directed by Caltrans when traffic levels are low.

For transport along the low-volume roadways in the immediate vicinity of SONGS 2 & 3 and the San Onofre State Park Old Highway 101, the traffic control measures listed in Section 5.15.1 will be sufficient to ensure that the transport of the equipment will not adversely affect the movement of other vehicles on the local roadways. Although minor vehicle delays may occur as a result of the nature of

the transport, the transport of the equipment will result in no significant impacts on traffic on Old Highway 101 or other local roadways, assuming all required traffic control measures are in place.

5.15.1.1.2 Inland Route Transport Options

The Inland Route Transportation Options consist of two possible travel routes that use portions of I-5, MCBCP roadways, and local roadways. The first inland route option consists primarily of travel along I-5 and some local roadways. The second inland route option consists primarily of travel on MCBCP roadways, using portions of I-5.

5.15.1.1.2.1 I-5/Old Highway 101 Option

As with the Beach and Road Route, the portions of this route on MCBCP will be authorized and controlled by MCBCP and no significant adverse effects on public traffic will occur therein. This option will require transport along approximately 6.8 miles of southbound I-5 (segments M,N,R,S, and F), which could affect traffic operations. Submission and approval of a detailed traffic control plan indicating required lane closures, hours of operation, appropriate signage and warning devices, and required work areas will be required by Caltrans before transport of equipment along I-5.

This transport option will enter I-5 from MCBCP at A Street between segments L and M. Traffic control will be required along southbound I-5 from A Street to the Cockleburr Road Overpass on segment M (approximately 2.3 miles). Based on the dimensions of the transport vehicle, one southbound lane may be maintained open during transport on I-5; however, Caltrans may require temporary closure of all southbound I-5 traffic lanes during transport. All four lanes of southbound I-5 will be closed for the Santa Margarita River Bridge crossing portion of this route (segment M) because the transporter will have to spread out overall four lanes at the bridge to prevent structural damage to the bridge. This transport will result in reduced vehicle speeds and increased traffic congestion that will significantly affect southbound I-5 travel if only one southbound travel lane is maintained open. In this case, limitation of transport to non-peak hours determined by Caltrans will reduce impacts to levels that are not significant. Closure of all of the southbound lanes of I-5 for the Santa Margarita River Bridge crossing is not expected to be significant because of its brief duration and occurrence at non-peak hours. Closure of all the southbound lanes of I-5 during transport on segment M will require mitigation, such as a detour for southbound traffic in concert with transport during non-peak hours. Similar

measures will be required for transport on segments S and F, which are discussed farther below. Potential detour options are presented after that discussion.

The transport will require the crossing of northbound I-5 at the following locations: 1) south of the Cockleburr Road overpass at Coaster Way Road on segment N, and 2) north of Cook Road at the United States Navy LCAC Facility on segment R. These crossings will require the brief closure of both the southbound and northbound lanes of I-5 during each transition onto and off MCBCP. These closures are not expected to be significant because of their brief duration and occurrence at non-peak hours.

For the portion of transport along southbound I-5 from the crossing point at segment R along segments S and F to MCBCP north of Skull Canyon (approximately 4.5 miles), the reduction in available southbound through travel lanes if only one southbound lane is maintained open may result in reduced vehicle speeds and increased traffic congestion that will significantly affect southbound I-5 travel for the duration of transport and possibly for an extended period after transport completion. However, the traffic impact for southbound I-5 traffic, as well as the traffic stopped for brief periods during lane crossings, should be minimal and mitigated to a level that is not significant because the transport duration will be brief and limited to non-peak hours as directed by Caltrans when southbound I-5 traffic volumes are low.

In reviewing the traffic control plan for the proposed transport, Caltrans may require closure of all lanes of southbound I-5 while transport is active on segments M, N, R, S, and F. Closure of southbound I-5 for the duration of active transport will result in potentially significant traffic impacts and could cause severe congestion for a substantial distance north of the transport area. A detour for southbound traffic will be required if closure of southbound I-5 is required. Potential detour options for southbound I-5 traffic are described below; however, final detour requirements, if necessary, will be determined by Caltrans.

One detour option will detour I-5 traffic to I-15. This detour option will require substantial advance signage, and use of major east-west freeways, such as SR-78, and it is not considered feasible in consideration of the length of the detour relative to the brief duration of the crossing. A second detour option is to construct temporary paved crossings to divert southbound I-5 traffic into one of the

northbound I-5 lanes and then back. This detour option will require substantial traffic control to separate northbound and southbound traffic within the respective I-5 travel lanes. A third detour option uses existing I-5 interchanges and overpasses to transition southbound I-5 traffic into one of the northbound I-5 lanes. This detour option will require similar traffic control as in the second detour option.

On low-volume roadways in the immediate vicinity of SONGS 2 & 3 and Old Highway 101, the traffic control measures listed for the Beach and Road Route Option will be sufficient to ensure that the transport of the equipment will not adversely affect the movement of other vehicles on the local roadways. Although minor vehicle delays may occur because of the nature of the transport, the transport of the equipment will result in no significant impacts on Old Highway 101 or other local roadways, assuming all required traffic control measures are in place.

5.15.1.1.2.2 MCBCP Inland Option

The MCBCP Inland Option will require transport along approximately 2.7 miles of southbound I-5 on segment AB, which will affect traffic operations on I-5. The MCBCP Inland Option will also require crossings of northbound I-5 travel lanes at segment AA and some traffic control on local streets and Old Highway 101. Submission and approval of a detailed traffic control plan indicating required lane closures, hours of operation, appropriate signage and warning devices, and required work areas will be required by Caltrans before transport of equipment along State freeways.

The MCBCP Inland Option will use roadways on MCBCP for most of the route, and will enter I-5 at the Immigration Checkpoint (segment AA). At the Immigration Checkpoint, traffic control will be required for the crossing of northbound and southbound I-5 to southbound I-5. Closure of northbound I-5 at this location will be required during transport across I-5 at segment AA until the transport continues along the southbound lane. However, the traffic impact resulting from the crossings of northbound and southbound lanes of I-5 should be minimal and mitigated to a level that is not significant because the transport duration will be brief and limited to non-peak hours as directed by Caltrans when I-5 traffic volumes are low.

For the portion of transport along approximately 2.7 miles of southbound I-5 on segment AB, the reduction in available southbound through travel lanes if only one southbound lane is maintained open

may result in reduced vehicle speeds and increased traffic congestion that will significantly affect southbound I-5 travel for the duration of transport and possibly for some period after completion of the transport. However, the traffic impact for southbound I-5 traffic should be minimal because the transport can be limited to several hours during non-peak hours as directed by Caltrans when southbound I-5 traffic volumes are low. This is currently the preferred option to minimize adverse effects on impacts on southbound I-5 traffic operations for transport on segment AB.

It is possible, however, that Caltrans will require complete closure of southbound I-5 for these 2.7 miles of transport on segment AB. A detour will be then likely be required. The detour options discussed in section 5.15.1.1.2.1 for the I-5/Old Highway 101 Transport Option will also apply to this transport option, and selection of final requirements will be determined by Caltrans.

The traffic control measures listed in section 5.15.1.1 will be sufficient to ensure that the transport of the equipment will not affect the movement of other vehicles on low-volume local roadways in the immediate vicinity of SONGS 2 & 3 and Old Highway 101. Although minor vehicle delays may occur as a result of the nature of the transport, the transport of the equipment will result in no significant impacts on Old Highway 101 or other local roadways, assuming all required traffic control measures are in place.

As with the other two transport options, transport on MCBCP will be at the discretion and approval of MCBCP. Transport on MCBCP will not result in adverse effects on public transportation.

5.15.1.2 Replacement Steam Generator Preparation

Parking and traffic control at the site will be provided by SCE. During the proposed operations, the workforce required at SONGS 2 & 3 is estimated at up to 1,000 workers during peak times. RFO activities, which are not part of the Proposed Project, will require an additional 1,000 temporary employees. Although some workers will live in the area or reside at the Mesa area, some workers may be housed in offsite facilities, such as hotels. The increased workers will result in an increased volume of traffic entering and leaving the SONGS 2 & 3 facility during shift changes. Assuming that approximately 245 workers will be housed at the Mesa area and that the remaining workers housed offsite will use carpools or vanpools, it is assumed that the maximum increase in vehicle traffic during shift changes will be approximately 200 vehicles or less.

Traffic impacts associated with the increased workers required will be minimal and will not be significant. Traffic impacts will be the result of the minor increase in vehicle traffic associated with the increased workers required, and will be limited to the site access roadways and the operations at the security checkpoints during shift changes. No impacts on roadway or intersection operations are foreseen on the public roadways near SONGS 2 & 3. Vehicle queues may develop at the security checkpoints and associated vehicle delays may result; however, impacts on roadway operations on Old Highway 101 should not be significant.

5.15.1.3 Original Steam Generator Removal, Staging, and Disposal

Parking and traffic control at the site will be provided by SCE. During the proposed operations, the workforce required at SONGS 2 & 3 is estimated at up to 1,000 workers during peak times. RFO activities, which are not part of the Proposed Project, will require an additional 1,000 temporary employees. Although some workers will live in the area or reside at the Mesa area, some workers may be housed in offsite facilities, such as hotels. The increased workers will result in an increased volume of traffic entering and leaving the SONGS 2 & 3 facility during shift changes. Assuming that approximately 245 workers will be housed at the Mesa area and that the remaining workers housed offsite will use carpools or vanpools, it is assumed that the maximum increase in vehicle traffic during shift changes will be approximately 200 vehicles or less.

Traffic impacts associated with the increased workers required will be minimal and will not be significant. Traffic impacts will be the result of the minor increase in vehicle traffic associated with the increased workers required, and will be limited to the site access roadways and the operations at the security checkpoints during shift changes. No impacts on roadway or intersection operations are foreseen on the public roadways near SONGS 2 & 3. Vehicle queues may develop at the security checkpoints and associated vehicle delays may result; however, impacts on roadway operations on Old Highway 101 should not be significant.

5.15.1.4 Replacement Steam Generator Installation and Return to Service

Parking and traffic control at the site will be provided by SCE. During the proposed operations, the workforce required at SONGS 2 & 3 is estimated at up to 1,000 workers during peak times. RFO activities, which are not part of the Proposed Project, will require an additional 1,000 temporary

employees. Although some workers will live in the area or reside at the Mesa area, some workers may be housed in offsite facilities, such as hotels. The increased workers will result in an increased volume of traffic entering and leaving the SONGS 2 & 3 facility during shift changes. Assuming that approximately 245 workers will be housed at the Mesa area and that the remaining workers housed offsite will use carpools or vanpools, it is assumed that the maximum increase in vehicle traffic during shift changes will be approximately 200 vehicles or less.

Traffic impacts associated with the increased workers required will be minimal and will not be significant. Traffic impacts will be the result of the minor increase in vehicle traffic associated with the increased workers required, and will be limited to the site access roadways and the operations at the security checkpoints during shift changes. No impacts on roadway or intersection operations are foreseen on the public roadways near SONGS 2 & 3. Vehicle queues may develop at the security checkpoints and associated vehicle delays may result; however, impacts on roadway operations on Old Highway 101 should not be significant.

5.15.2 No Project Alternative

5.15.2.1 Replacement Facilities – New Generation Component

New generation could be sited in a manner that reduces or avoids transportation/traffic impacts; however, significant impacts could still occur depending on the ultimate location chosen. Significant impacts could be related to the designation of appropriate roadways for the transport of hazardous materials related to the new generation facility. Additional significant impacts could result from the increased traffic related to the construction and operation of the new facility, and may require extensive roadway and intersection improvements (eg., roadway widening, ramp improvements, and traffic signal installation) on State and local facilities. Although it is difficult to assess the potential traffic impacts of new generation facility construction and operation, the potential for significant traffic impacts exists and could result in required mitigation improvements.

5.15.2.2 Replacement Facilities-New Transmission Component

New transmission could be sited in a manner that reduces or avoids transportation and traffic impacts; however, significant impacts could still occur depending on the ultimate location chosen.

5.15.2.2.1 Reinforced 230 kV SCE/SDG&E Interface No Project Alternative

5.15.2.2.1.1 Reinforced 230 kV SCE/SDG&E Interface Transmission Lines

Traffic related to the construction of the Reinforced 230 kV SCE/SDG&E Interface would be temporary and would likely not result in a substantial increase in traffic load. Traffic related to continued operation and maintenance would be similar to existing traffic and would likely not result in a substantial increase in long-term traffic load. Additionally, traffic related to construction would be short-term, temporary, and not result in a substantial increase in traffic volumes. Construction traffic would occur during off-peak times, usually before the AM and PM peak periods.

The Reinforced 230 kV SCE/SDG&E Interface would not be anticipated to cause a change in local air traffic patterns or levels. However, potential impacts would require notification and a hazard determination with the FAA.

The Reinforced 230 kV SCE/SDG&E Interface would likely not increase the potential for transportation or traffic hazards and would not result in inadequate emergency access. Short-term, temporary lane closures resulting from construction would be coordinated with local jurisdictions and emergency service providers. Additionally, the short-term, temporary construction activities would not likely displace existing parking capacity, and would not likely conflict with adopted policies, plans, or programs that support alternative transportation. However, a detailed analysis has not been performed. Impacts could vary and would require description and analysis in a PEA before approval.

5.15.2.2.1.2 Reinforced 230 kV SCE/SDG&E Interface Substation Changes/Modifications

Modifications to existing substations and the switchyard would likely not result in significant traffic impacts. A detailed analysis has not been performed. Impacts could vary and would require description and analysis in a PEA before approval.

5.15.2.2.2 Imperial Valley-Ramona No Project Alternative

5.15.2.2.2.1 Imperial Valley-Ramona Transmission Lines

Traffic related to the construction of the Imperial Valley-Ramona transmission lines would be temporary and would likely not result in a substantial increase in traffic load. Traffic related to continued operation and maintenance would be minimal and would likely not result in a substantial

increase in long-term traffic load. Additionally, traffic related to construction would be short-term, temporary, and not result in a substantial increase in traffic volumes. Construction traffic would occur during off-peak times, usually before the AM and PM peak periods.

The Imperial Valley-Ramona transmission lines would not be anticipated to cause a change in local air traffic patterns or levels. However, potential impacts would require notification and a hazard determination with the FAA.

The Imperial Valley-Ramona transmission lines would likely not increase the potential for transportation or traffic hazards and would not result in inadequate emergency access. Short-term, temporary lane closures resulting from construction would be coordinated with local jurisdictions and emergency service providers. Additionally, the short-term, temporary construction activities would not likely displace existing parking capacity, and would not likely conflict with adopted policies, plans, or programs that support alternative transportation. However, a detailed analysis has not been performed because the exact siting of the Imperial Valley-Ramona transmission lines is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.15.2.2.2.2 Imperial Valley-Ramona Substation Changes/Modifications

The new Ramona Substation and modifications to existing substations would likely not result in significant traffic impacts. A detailed analysis has not been performed because the exact siting of the Ramona Substation is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.15.2.2.3 Valley-Rainbow No Project Alternative

5.15.2.2.3.1 Valley-Rainbow Transmission Lines

Traffic related to the construction of the Valley-Rainbow and Talega-Escondido Transmission Lines will be temporary and will not result in a substantial increase in traffic load according to the Valley-Rainbow Interconnect PEA. Traffic related to continued operation and maintenance will be minimal and will not result in a substantial increase in long-term traffic load. Additionally, traffic construction will be short-term, temporary, and not result in a substantial increase in traffic volumes. Construction traffic will occur during off-peak times, usually before the AM and PM peak periods. Traffic related to

the continued operation and maintenance would be minimal and would not result in a substantial increase in long-term traffic load (SDG&E 2001).

The Valley-Rainbow Transmission Line would not be anticipated to cause a change in local air traffic patterns or levels. The potential impacts of the Valley-Rainbow Transmission Line upon public use (not private) airports or heliports or military airports or heliports would require notification and a hazard determination with the FAA. As a part of the Valley-Rainbow Transmission Line, a Notice of Proposed Construction or Alteration form would be filed with the FAA (FAA Form 7460-1). The form would be sent to the manager of the FAA Regional Air Traffic Division officer having jurisdiction over the area where the planned construction would be located. High-visibility devices would be installed where required by the FAA as a result of their review of that notice. Coordination with the DoD regarding the location and potential impacts of the Valley-Rainbow Transmission Line upon operations in military airspace would occur. Owners and operators of private airports and airstrips potentially affected by the Valley-Rainbow Transmission Line component would be contacted (SDG&E 2001).

The Valley-Rainbow Transmission Line would not increase the potential for transportation/traffic hazards and would not result in inadequate emergency access. Short-term, temporary lane closures resulting from construction would be coordinated with local jurisdictions and emergency service providers. Additionally, the short-term, temporary construction activities would not displace existing parking capacity and would not conflict with adopted policies, plans, or programs supporting alternative transportation (SDG&E 2001). The new transmission line for the No Project Alternative would be similar to the Valley-Rainbow Transmission Line, as described previously.

5.15.2.2.3.2 Valley-Rainbow Substation Changes/Modifications

The new Rainbow Substation and modifications to existing substations, as described within the Valley-Rainbow Interconnect PEA, would not result in significant traffic impacts. Modifications to the existing substations (Devers and Serrano), which are not included within the Valley-Rainbow Interconnect PEA, would likely not result in significant traffic impacts. The new Rainbow Substation would likely be sited in a manner that reduces or avoids significant traffic impacts.

5.16 UTILITIES/SERVICE SYSTEMS

5.16.1 Proposed Project

5.16.1.1 Replacement Steam Generator Transport Options

5.16.1.1.1 Beach and Road Route Transport Option

This Project option will not require additional infrastructure service improvements, including wastewater, stormwater, and sewer systems, or the construction of new landfills.

5.16.1.1.2 Inland Route Transport Options

These Project options will not require additional infrastructure service improvements, including wastewater, stormwater, and sewer systems, or the construction of new landfills.

5.16.1.2 Replacement Steam Generator Preparation

This Project component will not require additional infrastructure service improvements, including wastewater, stormwater, and sewer systems, or the construction of new landfills. Temporary utilities for trailers and other facilities will be required; however, these utilities will be provided through connections to existing infrastructure. There will be no significant impacts associated with this short-term use of utilities on existing SONGS 2 & 3 utility resources.

5.16.1.3 Original Steam Generator Removal, Staging, and Disposal

This Project component will not require additional infrastructure service improvements, including wastewater, stormwater, and sewer systems, or the construction of new landfills. Temporary utilities for trailers and other facilities will be required; however, these utilities will be provided through connections to existing infrastructure. There will be no significant impacts associated with this short-term use of utilities on existing SONGS 2 & 3 utility resources.

5.16.1.4 Replacement Steam Generator Installation and Return to Service

This Project component will not require additional infrastructure service improvements, including wastewater, stormwater, and sewer systems, or the construction of new landfills. Temporary utilities for trailers and other facilities will be required; however, these utilities will be provided through connections

to existing infrastructure. There will be no significant impacts associated with this short-term use of utilities on existing SONGS 2 & 3 utility resources.

5.16.2 No Project Alternative

5.16.2.1 Replacement Facilities – New Generation Component

New generation could be sited in a manner that reduces or avoids impacts on utilities; however, depending on the ultimate location chosen, significant impacts could still occur. New generation facilities could require the construction of new stormwater drainage facilities and would produce additional wastewater. Appropriate mitigation considerations will be specific to site selection and local jurisdictional requirements for any new generation facility. For the purpose of this analysis, it is assumed that there are no impacts that cannot be reasonably mitigated as part of the new generation project approval process. However, according to a recent gas market study (referenced in SCE-4), increased natural gas demand associated with replacing SONGS 2 & 3 with best available CCGT technology would impact natural gas prices statewide. The study estimates the increase statewide in natural gas prices would be approximately 15¢ per mmBTU in 2010, resulting in a nominal increase in the cost of natural gas to all California consumers of over $350 million annually. This increase would be spread across all end-uses, including electricity generation, space heating, water heating, and industrial gas use. This potential impact is the result of the No Project Alternative and this potential impact would be avoided with implementation of the proposed Project.

5.16.2.2 Replacement Facilities – New Transmission Component

New transmission could be sited in a manner that reduces or avoids impacts on utilities; however, significant impacts could still occur depending on the ultimate location chosen.

5.16.2.2.1 Reinforced 230 kV SCE/SDG&E Interface No Project Alternative

5.16.2.2.1.1 Reinforced 230 kV SCE/SDG&E Interface Transmission Lines

The Reinforced 230 kV SCE/SDG&E Interface would likely not tax existing utilities and service systems, would not produce wastewater, and would not require new stormwater drainage facilities or expansion. It is assumed that a small amount of potable water would likely be used by construction crews for drinking, non-potable water would likely be used for dust control, and only a small amount of

solid waste would likely be generated. Disposal of this solid waste would not be expected to exceed the permitted capacities of available landfill facilities in the area. All disposal of solid waste would be done in a manner that would comply with local, State, and Federal statutes and regulations related to solid waste. A detailed analysis has not been performed. Impacts could vary and would require description and analysis in a PEA before approval.

5.16.2.2.1.2 Reinforced 230 kV SCE/SDG&E Interface Substation Changes/Modifications

Modifications to existing substations, including the switchyard would likely not increase expansions of utilities and service systems other than the proposed transmission lines and other substation upgrades. A detailed analysis has not been performed. Impacts could vary and would require description and analysis in a PEA before approval.

5.16.2.2.2 Imperial Valley-Ramona No Project Alternative

5.16.2.2.2.1 Imperial Valley-Ramona Transmission Lines

The Imperial Valley-Ramona transmission lines would likely not tax existing utilities and services, would not produce wastewater, and would not require new stormwater drainage facilities or expansion. It is assumed that a small amount of potable water would likely be used by construction crews for drinking, non-potable water would likely be used for dust control, and only a small amount of solid waste would likely be generated. Disposal of this solid waste would not be expected to exceed the permitted capacities of available landfill facilities in the area. All disposal of solid waste would be done in a manner that would comply with local, State, and Federal statutes and regulations related to solid waste. A detailed analysis has not been performed because the exact siting of the Imperial Valley-Ramona transmission lines is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.16.2.2.2.2 Imperial Valley-Ramona Substation Changes/Modifications

A new Ramona Substation and associated permanent access roads would be built with appropriate stormwater drainage. Modifications to existing substations would likely not increase expansions of utilities and service systems other than the proposed transmission lines and other substation upgrades. A detailed analysis has not been performed because the exact siting of the Ramona Substation is unknown. Impacts could vary and would require description and analysis in a PEA before approval.

5.16.2.2.3 Valley-Rainbow No Project Alternative

5.16.2.2.3.1 Valley-Rainbow Transmission Lines

The Valley-Rainbow Transmission Line and the Talega-Escondido Transmission Line, according to the Valley-Rainbow Interconnect PEA, would not tax existing public services, would not produce wastewater, and would not require new stormwater drainage facilities or expansion. It is assumed that a small amount of potable water would be used by construction crews for drinking, non-potable water would be used for dust control, and only a small amount of solid waste would be generated. Disposal of this solid waste is not expected to exceed the permitted capacities of available landfill facilities in the area. All disposal of solid waste would be done in a manner that would comply with local, State, and Federal statutes and regulations related to solid waste (SDG&E 2001). The new transmission line for the No Project Alternative would be similar to the Valley-Rainbow Transmission Line as described previously.

5.16.2.2.3.2 Valley-Rainbow Substation Changes/Modifications

The new Rainbow Substation and associated permanent access roads would be built with appropriate stormwater drainage. Modifications to existing substations would not increase expansions of utilities and service systems other than the proposed transmission lines and other substation upgrades. Substation changes and modifications activities would be similar in nature to those described in Section 5.16.4.2.1. The new Rainbow Substation would likely be similar, with respect to Utilities and Service Systems impacts, as compared to the Rainbow Substation described within the Valley-Rainbow Interconnect PEA.

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