

5.0 ENVIRONMENTAL IMPACTS AND MITIGATION

5.1 AESTHETICS

5.1.1 Proposed Projects

This section addresses the potential impacts on visual aesthetic resources as a result of construction and operation of the Proposed Projects and the No Project Alternative. Components that influence the visual quality of the environment include land topography, water bodies, flora, and man-made structures.

Significance Criteria

To determine the level of potential impacts on visual aesthetics from the Proposed Projects, several factors have to be considered. The following criteria from Appendix G, California Environmental Quality Act (CEQA) Guidelines were used to determine whether significant project-related impacts would:

- Have a substantial adverse effect on a scenic vista
- Substantially degrade the existing visual character or quality of the site and its surroundings
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area

The evaluation of potential impacts on visual resources include physical changes to landscape features from both construction and operation activities. The assessment considered impacts from areas with unobstructed views of the project site. The summaries below take into account the visually dominant features in the existing landscape compared to the Proposed Projects. The important features that are used to define a landscape are those that characterize its color, scale, texture, and line or form. For the project area, the Pacific Ocean, with its varying colors dependant on light and fog cover, dominates the landscape and provides a dynamic visual energy that contrasts with the calm open vistas of the hills and mountains surrounding the DCPD property. The rugged San Luis Mountain range to the east of the property, and the Irish Hills, which sweep through a portion of the site gently sloping to the cliffs that meet the Pacific Coast, are the most dominant landscape features. These land mass features provide the backdrop for developed facilities of the DCPD that are sometimes visible from the air and from some vantage points along the Pacific Ocean. Therefore, the natural elements of water, fog, and the

topography integral to the site would have a dominance over the majority of activities that occur on the site.

5.1.1.1 Replacement Steam Generator Transport Options

The visual aesthetic change from the Proposed Projects that would be most noticeable to the public relates to the transport of the RSGs from the Long Beach Port (or similar nearby offload port) to either Port San Luis or the Intake Cove. For both transportation options the visual change would be temporary and consist of the four steam generators in the horizontal position on top of one or more barges. Each generator is approximately 16 feet wide by 60 feet long. The barge size required to stabilize the transport weight may vary from 100 feet wide by 200 feet long to 100 feet wide by 400 feet long. The total height of the barge and steam generators is expected to be approximately 20 to 25 feet tall. The barge would be towed and stabilized as needed by one to two tugboats approximately 25 feet wide, 50 feet long and 20 feet tall.

The total transport time to and from the Port of Long Beach to either Port San Luis or the Intake Cove is expected to be 2 days in each direction. The total offloading period is expecting to range from 2 to 4 days, depending on which staging option is employed by PG&E. Therefore, the total time that the barge and associated equipment for transporting the RSGs would be visible in the area is expected to be approximately 2 to 4 days. The Replacement Steam Generator deliveries would take place during two different periods, approximately 1 year apart. Therefore, the transport portion of the Proposed Projects would have a visual effect for approximately 2 to 4 days per year, or a total of 8 days in 2 consecutive years.

Port San Luis Transport Option

When compared with other project activity, transport of the steam generators into Port San Luis would be most noticeable to the public because Port San Luis is the only publicly accessible area proposed for use in the Proposed Project construction. All necessary approvals and arrangements would be made with the appropriate parties to ensure access along the Harford Pier to Harbor Landing for offloading activities. PG&E would have to secure permission from the harbor master to temporarily relocate existing moored vessels if a larger clearance path is necessary to bring the barge as close to the shore as required under this option. See Figure 3-6. This activity could potentially require temporarily vacating mooring buoys leading towards and along the south edge of the pier, including moorings D9-I9, CC1, DD1, EE1, FF1 and guest Mooring 7, indicated on Figure 3-6. This visual effect would primarily be noticeable to users and visitors in this immediate area.

Once the barge approaches the shoreline, the two tugboats would stabilize it and a bridge would be used to connect to the parking lot or shoulder of the road for offloading. PG&E is considering two scenarios for securing the barge: “live offload,” mooring the barge slightly offshore, or “pin the nose” mooring the barge to the shoreline riprap edge. Mats would most likely be used to protect the barge from the riprap or ocean bottom, as well as protect the natural environment. In both cases a loading bridge would be used. The visual effect would be similar under both offload scenarios. Pinning the nose to the shore would have a slightly more obvious visual effect because it would be closer to the public walkway and road instead of being slightly offshore. The most noticeable effect would be the visual effect of having the steam generators temporarily stored in the Port San Luis parking lot due for a short period of time while waiting for transport up the access road.

Two methods for offloading of the RSGs are being considered. The first method involves offloading the four RSGs and storing them for a short period (2 to 4 days) in the Port San Luis parking lot before moving them to the RSGSF in the temporary staging area (TSA). This method would require special approval from the harbor master, but it would allow for a quicker release of the barge or barges. Under this approach, however, the steam generators would be in a publicly visible area. Then the RSGs would be moved to the RSGSF (in the TSA). In order to minimize traffic impacts on both the public roads and on the access road, these moves would most likely occur at night, within 2 to 4 consecutive nights. The second method involves offloading the RSGs directly from the barge and transporting them to the TSA in one step. This approach, also most likely occurring at night, is expected to complete within 2 to 4 consecutive nights.

After offloading the steam generators from the barge, the transporter would travel the 7-mile length of the access road to deliver them to the RSGSF. The RSGs would not be visible to the public after entering the PG&E Avila Gate due to the presence of the Irish Hills and the San Luis Mountains, which would block public views from the Avila Gate. Only the visual experience of PG&E workers and individuals in boats offshore could possibly be affected at this point.

The visual effect from any activities in Port San Luis would only be noticeable to people fishing, recreating, and sightseeing in this area. The visual effect would be temporary (for only 2 to 4 days) during the offloading time while transitioning the RSGs in front of and onto the DCPD property. Because the duration of disturbance would be short and because there are like facilities south of the proposed offloading areas, there would be no impact. Port San Luis has already been developed, and the developed areas would be used as much as possible during the delivery process.

If the Port San Luis Transport option is chosen for offloading, methods to minimize the disruption would be implemented. The possibility of carrying out the work during non-peak period for tourist and local residents would also be taken into consideration. This temporary visual impact to the aesthetics of the environment would be barely noticeable, because the delivery would be completed within approximately 2 to 4 days; therefore, no significant impact is anticipated.

Intake Cove Transport Option

For the Intake Cove Option, the public would barely be able to see the RSGs on the barge during their offshore transit from Long Beach up to Point San Luis because it would be on the ship route. The barge stays rather far out to sea as it travels up and down the coast and would only be visible when it is in front of the plant. After this point, the RSG barge would be hidden from view as it moves north along the coast in front of private property of DCPP to the Intake Cove. At this distance, the transport of the barges would appear similar in size and scale to other medium-sized vessels that transit along the coastline in this area. Therefore, the RSG barge would not greatly differ from existing views of boat traffic currently experienced by the public in this area.

As the barge approaches the Intake Cove, only the vessels using the immediate area and the PG&E employees would notice the delivery of the RSGs. Once the barge is inside the cove, the RSGs would not be discernable because of the height of the breakwater limiting any view of these activities from the Pacific Ocean. The Intake Cove area has been previously developed and used for delivery and storage of DCPP parts. From here they would be delivered to the RSGSF inside the TSA by a transporter, approximately 1 mile away.

Maritime traffic was reviewed to determine the likelihood of interaction with the Intake Cove in previous studies. During those studies it was revealed that shipping tankers stay 5 to 10 miles offshore and the coastal shipping lane is 20 miles offshore. Only a small number of smaller vessels were recorded as using the area in front of the DCPP.

There would not be a significant impact on the visual aesthetics of the environment because these activities would not be easily visible to the public and any visible activity would only be noticeable for a short period.

5.1.1.2 Replacement Steam Generator Preparation (Staging)

As set forth in Section 3.0, during the steam generator replacement projects, project personnel would increase from several workers today to approximately 900 workers during the two steam generator replacement outages. To support these personnel and the scope of steam generator replacement work, a number of temporary facilities and services must be established. These facilities would include a replacement steam generator storage facility and other buildings to accommodate training activities and equipment storage. The facilities are estimated to be relatively compact prefabricated modular units or warehouse facilities up to a maximum of 30 feet tall. Several TSA options are being considered at this time (see Figure 1-2).

As described in Section 4.1, none of these activities or facilities could be easily viewed by the general public as there is no public access to DCPD itself. Designated public park locations where access is allowed do not permit direct views to the majority of the DCPD site. The construction and new TSA facilities may be seen from the ocean, but from this vantage point it would be difficult to see specific changes in site use. The TSA options are proposed within the previously developed flat terrace area above the cliffs, making it nearly impossible to notice a change from the ocean; therefore, the only viewpoint would be from the air. Views from the water and air are not considered typical public viewpoints because they are not accessible to the general population.

The rugged coastline, Irish Hills, and San Luis Mountains are the dominant features in the visual landscape. Changes to the facilities and corresponding activities would barely be noticeable from most vantage points due to the natural visual prominence of the topography. Weather conditions often include fog conditions at various times throughout the day, making visibility along the coastline difficult. There would be no significant impacts, because of the factors above and the temporary nature of the RSG staging areas created for the Proposed Projects.

5.1.1.3 Original Steam Generator Removal, Transportation, and Storage

During OSG dismantling, most of the activities described in Section 3.0 of this Environmental Assessment would occur inside Unit 1 and 2 facilities. As mentioned above, these facilities are not accessible to the public. Even most of the PG&E employees would not be able to see and determine the activities associated with this portion of the construction process. Rather these activities would generally blend in with normal plant operation activities that constitute the existing baseline. The estimated time for this process is approximately 20 days.

Only when the OSGs are lifted out through the hatch and during the transport to their storage site would they be noticeable. The actual movement of each steam generator through the equipment hatch would most likely take place over the course of a single day.

The storage of the existing steam generators would require the construction and use of an on-site Original Steam Generator Storage Facility (OSGSF). This facility would be constructed to fit and secure all eight of the original steam generators, stored on their sides. The facility is anticipated to be approximately 160 feet wide by 160 feet long by 30 feet tall. The proposed location is one of two optional areas at the eastern edge of the plant site near the 500 kV switchyard. Both of these sites are located in the canyon behind and above the primary DCPD facilities. This location is not visible from the remainder of DCPD site, let alone from the ocean. This process would only be noticeable during the transit and securing of the OSGs in the OSGSF which would occur over a several-day period. The OSGSF would be designed and built on existing disturbed land to blend with existing facilities and would not be notably distinguishable from other facilities on the site. Because the OSGSF would be indistinguishable from other existing buildings on site and would be located in a remote portion of the facility obstructed from public view, the change to the visual aesthetics would not be significant.

5.1.1.4 Replacement Steam Generator Installation

The replacement process would occur in the reverse order from the removal of the OSG. The RSGs would be stored in the temporary RSGSF near Units 1 and 2 until ready for transport. The RSGSF would be constructed well in advance of the replacement. The construction and replacement process would only be visible to personnel directly involved with the Proposed Projects within the vicinity of Unit 1 and 2 facilities for a short duration.

Once the RSGs are in place and operational, there would be no visual aesthetic difference to the Unit 1 and 2 complex, because this is a like-for-like replacement. The RSGSF may be removed if built as a temporary facility that cannot be used or integrated into the DCPD site for other programs. It is expected that the temporary facility would not be distinguishable and would blend with existing facilities on site because the RSGSF would be designed and constructed similar to other prefabricated facilities, in areas that have experienced previous development. Therefore, the visual impact would not be significant.

5.1.1.5 Light and Glare

Additional light and glare would be caused by the use of night time lighting during the delivery and construction processes associated with replacing the SGs. Two to six 110-volt diesel-powered portable light towers may be used to assist with lighting required for these activities. The only public area that may be affected is at Port San Luis, if that delivery option is chosen. This would last for a period up to 2 to 4 days for offloading and moving the RSGs from the port up to the TSA on DCPD property. The very temporary nature of these impacts demonstrate that no significant impact would occur.

5.1.2 Mitigation Measures

The project areas that would be affected from the Steam Generator Replacement Projects have already experienced development; no new undeveloped land is anticipated to be affected. All of the effects to the visual aesthetic environment during construction and operation would be temporary. Since the majority of the construction and all of the operational activities would occur within the private property of the DCPD, the change to the visual aesthetics would only be noticeable to PG&E employees. The only public area that may be affected is Port San Luis for 2 to 4 days, if that delivery option were chosen.

No significant impacts are anticipated as a result of the Proposed Projects; therefore, mitigation would not be required.

5.1.3 No Project Alternative

New generation facilities in Alameda and Kern Counties would be located so that 1,000 MW could be supplied from two separate facilities. It is difficult to predict the total visual effect because the actual location is not known at this time; however, a visual inventory and analysis would be performed during the separate environmental documentation process required for siting a facility of this type. It is possible that siting a power generating facility of this type may include significant impacts that could cause disturbance to the existing visual character.

5.2 AGRICULTURAL RESOURCES

5.2.1 Proposed Projects

This section addresses the potential impacts on agricultural resources as a result of construction and operation of the Proposed Projects and the No Project Alternative.

Significance Criteria

The following criteria from Appendix G, CEQA Guidelines were used to determine whether significant project-related impacts may occur as a result of the Proposed Projects. Impacts were considered significant if:

- The projects would convert prime agricultural land to non-agricultural land.
- The projects would impair the agricultural productivity of prime farmland.

5.2.1.1 Replacement Steam Generator Transport Options

There are two transport options to deliver RSGs and other equipment. Both transport options and their associated impacts are described below.

Port San Luis Transport Option

As described more fully in Section 3.4.1, this option would consist of transporting the RSGs from Port San Luis to the DCPD Avila Gate, then using an existing approximately 7-mile access road to the project site. The entire 7-mile access road is located within the PG&E property boundary, and is routinely used for delivery of industrial equipment and supplies. This transport option may also make use of a graded and paved staging area located at the Port. The access road and the staging area are not located on soil types classified as prime farmland (NRCS, 1984 and 1979; CDC, 1995) or farmland of statewide importance (CDC, 1995). Use of the Port San Luis staging area under this transport option would not result in impacts on agricultural resources.

Land use along the 7-mile access road is zoned as agricultural land and is used for cattle grazing. A farm is located in the east-southeast section, along the access road, that produces legumes and cereal grass (grains).

If this option is not chosen for the transportation of the RSGs, the Port San Luis staging area would not be required. The 7-mile road would still be the main access to the site for construction workers and equipment. Construction activities would cause a temporary increase in vehicular traffic that may result in a short-duration disruption in farming and grazing activities that are directly associated with the road (which are few). This potential disruption of farming and grazing would be temporary and intermittent, and would not impair the agricultural productivity of the area or the ability to conduct existing agricultural practices. Such impacts would be not significant, if they occur at all.

Intake Cove Transport Option

This transport option would use a docking area at the project site. This transport option would occur in previously paved areas or roads entirely within the existing plant boundary and would not result in significant impacts on agricultural resources.

5.2.1.2 Replacement Steam Generator Preparation (Staging)

These activities would occur in previously paved areas or roads entirely within the existing plant boundary and no impacts on agricultural resources are expected from use of staging areas during construction.

5.2.1.3 Original Steam Generator Removal, Transportation, and Storage

These activities would occur in previously paved areas or roads entirely within the existing plant boundary and no impacts on agricultural resources are expected from removal of the original steam generators, use of on-site staging areas during construction, or storage of the original steam generators in the OSGSF.

5.2.1.4 Replacement Steam Generator Installation

These activities would occur in previously paved areas or roads entirely within the existing plant boundary and no impacts on agricultural resources are expected from installation of the RSGs.

5.2.2 Mitigation Measures

No significant impacts are anticipated as a result of the Proposed Projects; therefore, mitigation would not be required.

5.2.3 No Project Alternative

New generation facilities sited in Alameda and Kern Counties could result in impacts on agricultural resources depending on the site location chosen. Sites located on or near prime farmland or farmland of statewide importance may result in significant impacts on agricultural resources. This could include impacts from the installation of new transmission lines that may be required to connect a new facility into a power system. Appropriate mitigation measures would be specific to site selection and local jurisdictional requirements.

5.3 AIR QUALITY

5.3.1 Proposed Projects

Potential air quality impacts may occur during construction of the Proposed Projects. New air quality impacts during operation are not expected because operations before and after the Proposed Projects are anticipated to be identical. Therefore, the following sections focuses on the potential air quality impacts during construction.

Significance Criteria

According to CEQA guidelines and San Luis Obispo Air Pollution Control District (SLOAPCD) policy, the air quality impacts of a project are considered significant if the Proposed Projects would:

- Conflict with or obstruct the implementation of the applicable air quality plan.
- Violate an air quality standard or contribute to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of a criteria pollutant for which the project region is in nonattainment under the federal or state ambient air quality standard.
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.
- Result in the exceedance of the following construction emission thresholds, as defined by the San Luis Obispo County Air Pollution Control District (CEQA Air Quality Handbook, SLOAPCD, April 2003), which includes both daily and quarterly thresholds.
 - ROG, and NO_x: 2.5 tons/quarter or 185 lb/day
 - PM₁₀: 2.5 tons/quarter or 4.0 acres of land graded

5.3.1.1 Replacement Steam Generator Transport Options

Transport of the RSGs would involve a mix of vehicles and equipment powered by either gasoline or diesel. Diesel-powered tugboats may also be used to stabilize and anchor the barge during offloading of the RSGs at either Port San Luis or the Intake Cove. Activities during this phase would result in emissions of criteria pollutants from exhaust emissions of vehicles and equipment and tugboats. Additional personnel traveling to the DCPD to work on the Proposed Projects would result in vehicle exhaust emissions. Fugitive dust emissions (PM₁₀) would be generated from vehicles and equipment traveling on paved roads.

Exhaust emissions (including those from the prime movers) were calculated using emission factors and load factors contained in the construction mode of the URBEMIS2002 emission estimation model. URBEMIS2002 is a model generally accepted by air districts throughout California for calculating emissions from various sources, including construction equipment and on-road vehicles. These construction equipment factors are based on CARB's Off-Road Model. Fugitive dust emissions from the prime movers were estimated using U.S. EPA's AP-42 emission factors for paved roads (U.S. EPA AP-42, Volume 1, Draft Chapter 13.2.1, August 2003). Exhaust emissions from on-road vehicles are calculated using URBEMIS2002 operations mode. URBEMIS contains vehicle emission factors based on CARB's latest EMFAC2002 emission factor model. Emissions from tugboats were estimated using emission factors contained in AP-42, Table 3.4-2.

Port San Luis Transport Option

Port San Luis is approximately 7 miles from the project site. Transport of the RSGs from Port San Luis would occur by one of two methods. The RSGs would either be transported from the barge to a temporary staging area at the port and then transported one by one to the RSGSF, or the RSGs would be transported one by one directly from the barge to the RSGSF. This transport activity is expected to occur over a period of 2 to 4 days. Based on currently available information, daily and quarterly emissions were estimated for the worst-case day, i.e., the day that would produce the highest emissions for either of these two scenarios. Hours of equipment operations were assumed based on likely types of work to be conducted. Table 5.3-1 lists the vehicle and equipment types, capacities, and expected hours of operation used in the analysis. In addition to the items listed on Table 5.3-1, the analysis took into account that up to 200 additional workers would be expected at DCPD during the transport activities. Thirty of these additional workers would be involved in the actual transport to the RSG while the remaining staff are needed at the project site for other project-related tasks. The calculations assumed that

workers (commuters) would travel 20 miles, to and from their origin, each direction, each day of the RSG transport (equivalent distance from the DCPD to San Luis Obispo). The average commuter occupancy rate of 2 was used for the commuter emission calculations along with the assumption that 10 percent of the commuters would use the site’s vanpool. The estimated daily emissions from these vehicles and equipment are presented in Table 5.3-2. These emissions are well below the SLOAPCD daily construction thresholds for ROG and NO_x of 185 lb/day. Quarterly emissions were based on 5 days of the peak transport-related activity assumed in Table 5.3-1 and 90 days of 200 workers commuting to work. Table 5.3-3 presents the quarterly emissions, which are less than the SLOAPCD quarterly threshold.

The temporary emissions are not expected to conflict with the SLOAPCD air quality plan, or to result in a violation of the ambient air quality standards. There are no nearby sensitive receptors along the transportation route and thus substantial pollutant or odor exposures to sensitive receptors are not likely. Therefore, air quality impacts as a result of this transportation option are expected to be short term and not significant.

**Table 5.3-1
 Equipment and Vehicle Usage Used in the Port San Luis Analysis**

Equipment/Vehicle	Quantity	Size or Rated HP	Fuel Type	Operating Hours or Miles Traveled per Day
Prime Movers				
Tugboats	2	600 HP	Diesel	24 hr
Tractor Trailers	6	500 HP	Diesel	2 hr
Service Fleet: Off-Road				
Tractor/Trailers	3	400 HP	Diesel	2 hr
Hydraulic Pumps for Gantry Crane	2	200 HP	Diesel	4 hr
Forklift	3	200 HP	Diesel	4 hr
Cranes	2	200 HP	Diesel	4 hr
Light Towers	4	25 HP	Diesel	8 hr
Service Fleet: On-Road				
Tire/Utility/Mechanic Trucks	5	Light Duty Truck	Diesel	14 miles
Pickup Trucks	6	Light Duty Truck	Diesel	14 miles
Gasoline SUVs/Autos	6	Light Duty Truck	Gas	14 miles
Gasoline Traffic Control Vehicles	2	Light Duty Truck	Gas	14 miles

**Table 5.3-2
Maximum Daily Emissions During Port San Luis Transport**

	NO_x	CO	SO₂	PM₁₀	ROG
Prime Movers and Off-road Service Fleet (lb)	115.3	133.1	17.5	11.4	16.1
On-road Service Fleet (lb)	0.8	3.1	0.0	0.5	0.4
Commuters (lb) ^(a)	5.2	47.3	0.0	5.6	3.5
Total (lb)	121.3	183.5	17.5	17.5	20.0
SLOAPCD Daily Construction Thresholds (lb)	185.0	None	None	None	185.0

Note:

^(a) Assumes 200 commuters, 2.0 vehicle occupancy, 10% vanpool, and 20 miles one-way travel distance.

**Table 5.3-3
Quarterly Emissions During Port San Luis Transport**

	NO_x	CO	SO₂	PM₁₀	ROG
Prime Movers and Off-road Service Fleet (lb)	576.5	665.5	87.5	57.0	80.5
On-road Service Fleet (lb)	4.0	15.5	0.0	2.5	2.0
Commuters (lb) ^(a)	409.0	3,686.1	2.4	433.0	272.7
Total (lb)	989.5	4,367.1	89.9	492.5	355.2
Total (tons)	0.5	2.2	0.0	0.2	0.2
SLOAPCD Quarterly Construction Threshold (tons)	2.5	None	None	None	2.5

Note:

^(a) Assumes 200 commuters per day for 90 days, 2.0 vehicle occupancy, 10% vanpool, and 20 miles one-way travel distance.

Intake Cove Transport Option

The Intake Cove option would involve prime movers traveling 1 mile from the Intake Cove to the RSGSF. The transport activity would occur over a period of 2 to 4 days. Based on the best currently available information, daily emissions were estimated for the worst-case day (i.e., the day that results in the highest emissions). Hours of equipment operations were assumed based on likely types of work to be conducted. Table 5.3-4 lists the vehicle and equipment types, capacities, and the expected hours of operation used in the analysis. In addition to the items listed on Table 5.3-4, the analysis took into account that up to 200 additional workers would be expected during the transport activities. Thirty of these additional workers would be involved in the actual transport of the RSGs while the remaining staff would be needed at the project site for other project-related tasks. The calculations assumed that commuters would travel 20 miles, to

and from their home, each direction, each day of the RSG transport (equivalent distance from the DCP to San Luis Obispo). The average commuter occupancy rate of 2.0 was used for the commuter emission calculation along with the assumption that 10 percent of the commuters use the vanpool. The daily emissions from these vehicles and equipment are presented in Table 5.3-5. These emissions are equal to or less than those estimated for the Port San Luis option. These emissions are well below the SLOAPCD daily construction thresholds for ROG and NO_x of 185 lb/day. Quarterly emissions were based on 5 days of the peak activity assumed in Table 5.3-4 and 90 days of 200 workers commuting to work. Table 5.3-6 presents the quarterly emissions, which are less than the SLOAPCD quarterly threshold.

The temporary emissions are not expected to conflict with the SLOAPCD air quality plan or to result in a violation of the ambient air quality standards. There are no nearby sensitive receptors along the transportation route, and thus, substantial pollutant or odor exposures to sensitive receptors are not likely. Therefore, air quality impacts as a result of this transportation option are expected to be short term and not significant.

**Table 5.3-4
 Equipment and Vehicle Usage Used in the Intake Cove Analysis**

Equipment/Vehicle	Quantity	Size or Rated HP	Fuel Type	Operating Hours or Miles Traveled per Day
Prime Movers				
Tugboats	2	600 HP	Diesel	24 hr
Tractor Trailers	3	500 HP	Diesel	1 hr
Service Fleet: Off-Road				
Tractor/Trailers	3	400 HP	Diesel	1 hr
Hydraulic Pumps for Gantry Crane	2	200 HP	Diesel	2 hr
Forklift	3	200 HP	Diesel	2 hr
Cranes	2	200 HP	Diesel	2 hr
Light Towers	2	25 HP	Diesel	8 hr
Service Fleet: On-Road				
Utility/Mechanic Trucks	5	Light Duty Truck	Diesel	2 miles
Pickup Trucks	6	Light Duty Truck	Diesel	2 miles
Gasoline SUVs/Autos	6	Light Duty Truck	Gas	2 miles

**Table 5.3-5
Maximum Daily Emissions During Intake Cove Transport Option**

	NO_x	CO	SO₂	PM₁₀	ROG
Prime Movers and Off-road Service Fleet (lb)	61.3	60.9	17.5	2.8	7.5
On-road Service Fleet (lb)	0.1	0.6	0.0	0.1	0.1
Commuters (lb)	5.2	47.3	0.0	5.6	3.5
Total (lb)	66.6	108.8	17.5	8.5	11.1
SLOAPCD Daily Construction Thresholds (lb)	185.0	None	None	None	185.0

Note:

^(a) Assumes 200 commuters, 2.0 vehicle occupancy, 10% vanpool, and 20 miles one-way travel distance.

**Table 5.3-6
Quarterly Emissions During Intake Cove Transport Option**

	NO_x	CO	SO₂	PM₁₀	ROG
Prime Movers and Off-road Service Fleet (lb/day)	306.5	304.5	87.5	14.0	37.5
On-road Service Fleet (lb)	0.5	3.0	0.0	0.5	0.5
Commuters (lb) ^(a)	409.0	5,685.1	2.4	433.0	272.7
Total (lb)	716.0	3,993.6	89.9	447.5	310.7
Total (tons)	0.4	2.0	0.04	0.2	0.2
SLOAPCD Quarterly Construction Threshold (tons)	2.5	None	None	None	2.5

Note:

^(a) Assumes 200 commuters per day for 90 days, 2.0 vehicle occupancy, 10% vanpool, and 20 miles one-way travel distance.

5.3.1.2 Replacement Steam Generator Preparation, OSG Removal, and RSG Installation

The various activities during the RSG preparation, OSG removal, and RSG installation phases would require the use of a limited number of pieces of heavy-duty equipment. Emissions from these types of equipment were estimated based on currently available information. Table 5.3-7 shows the types of equipment expected to be used at the peak level of activity during OSG removal and RSG installation phases. This table also shows the assumed hours per day each piece of equipment would be used. Based on these assumptions, Table 5.3-8 presents the predicted daily emissions from these pieces of equipment.

A number of workers would be required in addition to those needed for normal operations. For the purposes of this analysis, a conservative worst-case estimate of 2,000 workers was used. The number of additional workers would peak at up to 2,000 workers during the OSG removal and RSG installation phases. A peak of 900 RSG project workers would be required and an additional 1,100 workers would be needed for the regularly occurring outage activities. While these 1,100 additional workers are not directly attributable to the Proposed Projects, they were taken into account in the analysis because the regular outage would occur simultaneously with the OSG removal/RSG installation. The work required for regular outage would probably not use 1,100 workers for the entire SGR outage, since the 80-day SGR outage provides ample time to do the normal 30-day outage work. Accordingly, it is very conservative to assume 2,000 workers for the entire SGR outage. The Proposed Projects would also extend the duration of the outage from approximately 40 to 80 days. Table 5.3-8 below shows the commuter vehicle emissions generated assuming each worker travels 20 miles each direction, with 10 percent of the workers traveling by vanpool, and the rest traveling in cars having an average occupancy rate of 2.0. The total daily emissions of NO_x and ROG from the heavy-duty equipment and worker vehicles are predicted to be less than the SLOAPCD daily emission thresholds.

Quarterly emissions were also estimated assuming the peak activity presented in Table 5.3-7 would last for 8 days out of the quarter. In addition, the analysis assumes that 2,000 workers would be at the DCPD for 80 calendar days and then this work force would be reduced to 700 workers the rest of the quarter (10 calendar days). The resulting quarterly emissions are presented in Table 5.3-9. The results show that the short-term NO_x and ROG emissions are predicted to be less than the SLOAPCD quarterly emission thresholds.

Construction in the temporary staging area structures may also generate fugitive dust (PM₁₀). However, the amount of land disturbed would be less than the 4.0 acres threshold specified by SLOAPCD's CEQA Air Quality Handbook. Therefore, fugitive dust emissions are not expected to be significant.

In addition, the emissions are not expected to conflict with the SLOAPCD air quality plan or to result in a violation of the ambient air quality standards. Emissions from the commuter vehicles are not expected to expose sensitive receptors to substantial levels of pollutants or odors. Therefore, air quality impacts as a result of the RSG preparation, OSG removal, and RSG installation are expected to be short term and not significant.

**Table 5.3-7
Expected Equipment Usage During OSG Removal and RSG Installation**

Equipment/Vehicle	Quantity	Size or Rated HP	Fuel Type	Operating Hours or Miles Traveled per Day
Prime Movers				
Platform Trailer	2	500 HP	Diesel	2 hr
Service Fleet: Off-road				
Hydraulic Pumps for Gantry Crane	1	400 HP	Diesel	6 hr
Lift System	1	200 HP	Diesel	6 hr

**Table 5.3-8
Daily Emissions from Commuter Vehicles During OSG Removal**

	NO _x	CO	SO ₂	PM ₁₀	ROG
Prime Movers and Off-road Service Fleet (lb)	27.0	37.7	0.0	1.0	4.4
Commuters (lb)	52.4	472.6	0.3	55.5	35.0
Total (lb)	79.4	510.3	0.3	56.5	39.4
SLOAPCD Daily Construction Thresholds (lb)	185.0	None	None	None	185.0

Note:

^(a) Assumes 200 commuters, 2.0 vehicle occupancy, 10% vanpool, and 20 miles one-way travel distance.

**Table 5.3-9
Quarterly Emissions from Commuter Vehicles During OSG Removal**

	NO _x	CO	SO ₂	PM ₁₀	ROG
Prime Movers and Off-road Service Fleet (lb)	216.0	301.6	0.0	8.0	35.2
Commuters (lb)	3,783.5	3,4096.2	22.1	4,004.8	2,522.4
Total (lb)	3,999.5	3,4397.8	22.1	4,012.8	2,557.6
Total (tons)	2.0	17.2	0.01	2.0	1.3
SLOAPCD Quarterly Construction Threshold (tons)	2.5	None	None	None	2.5

Note:

^(a) Assumes 200 commuters per day for 90 days, 2.0 vehicle occupancy, 10% vanpool, and 20 miles one-way travel distance.

5.3.2 Mitigation Measures

No significant impacts are anticipated as a result of the Proposed Projects; therefore, mitigation would not be required.

5.3.3 No Project Alternative

5.3.3.1 Replacement Facilities – New Generation Component

The retirement of the DCPD Units 1 and 2 would result in a reduction in electric power generation of approximately 2,200 MW. Over the last several years, the DCPD units have operated at an annual capacity factor of approximately 90 percent. Thus, they currently provide approximately 17.35 million megawatt hours (MWh) per year of generation to meet the demand in central California. Simulations of the Western U.S. electricity grid conducted on behalf of PG&E have determined that a cessation of DCPD Units 1 and 2 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 further projected that approximately half of the new generation might originate in Alameda County, with the remaining half produced in Kern County. This analysis develops estimates of the air pollutant emissions that would be created by this replacement capacity.

A review was conducted to evaluate alternative generation technologies to provide approximately 17.35 million MW-hours per year of power with the approximate breakdown of new capacity by geographical area indicated above. Because DCPD operates as a base load facility, it is reasonable to expect that the plants that would be developed to replace it would also be operated as base load plants. In recent years, the great majority of such facilities have been configured as combined cycle gas turbine (CCGT) projects with heat-recovery steam generators (HRSG) to maximize power generation. Additionally, new plants are now often equipped with duct firing in the HRSGs to meet peak season demand and/or 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 licensed during the last several years, it has been assumed that the new plants would use General Electric “F” Class gas turbines or equivalent, fired exclusively on natural gas and using a 2-on-1 configuration (i.e., two combustion turbine/HRSG trains served by one steam generator). A total of four such 2-on-1 units would be required to provide

the replacement capacity. For purposes of this analysis, it has been assumed that all replacement power resulting from retirement of DCPD Units 1 and 2 would be generated by plants of this design located in Alameda County and in Kern County. In order to estimate the pollutant emissions associated with the replacement capacity, each plant was assumed to consist of two 2-on-1 CCGT units operating at 100 percent load, with duct firing capacity to maintain a constant output of 1,000 MW. Note that the annual number of MW-hours that would be generated by 2,000 MW at full load is nearly identical to that from a 2,200 MW plant operating at a 90 percent capacity factor.

Regulatory emissions limitations for large combined cycle gas turbines are currently quite similar in the two replacement plant site areas considered in this analysis, which are within the jurisdictions of the Bay Area Air Quality Management District (BAAQMD) and San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD). Recent Best Available Control Technology (BACT) determinations for actual combined cycle “F” class turbine projects in both areas were examined to help understand the emission levels that would be allowed for future plants. BACT requirements for a given project are determined based on precedents at other similar facilities, and thus change over time. Obviously, the emission limits that would be in effect for CCGTs in 2012 cannot be precisely foreseen. Although the trend has certainly been toward increasingly stringent emission standards over time, the advances already achieved in gas turbine emission control technologies over the last 10 to 15 years and the current near-exclusive use of natural gas fuel for new commercial power generation in California suggest that the requirements that would govern emissions of the DCPD Unit 1 and 2 replacement generation units may not in fact 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 may be lower than the estimates presented in this section.

Table 5.3-10 shows the current BACT emission levels for CCGT plants in Alameda and Kern Counties. In order to produce a conservative estimate, it was assumed that by 2012 the new facilities in both locations would likely be required to meet at least the most stringent emissions control requirements for all pollutants that are currently in effect anywhere in California. The level of control achievable for NO_x, CO, VOC, and ammonia does not rely heavily on site-specific factors, and is determined primarily by the type of control equipment selected. On the other hand, BACT limits for power plant PM₁₀ and SO₂ are normally tied to the sulfur content and other properties of the natural gas available for fuel in a given area. Because SO₂ and particulate emissions are generally minor air quality issues for plants fired by natural gas, it was considered prudent to assume the highest of the SO₂ and PM₁₀ emission rates that have been recently permitted in the state. Table 5.3-11 shows the assumed future emission limits for the DCPD replacement plants.

Note that these emission limits are slightly more stringent for some pollutants than those that have been required to date for large combined cycle plant in Alameda and Kern Counties.

**Table 5.3-10
Current Best Available Control Technology Requirements for Combined Cycle Power Plants in Selected Replacement Site Areas**

County	NO _x (ppmvd @ 15% O ₂)	CO (ppmvd @ 15% O ₂)	SO _x (grain S/100 dscf)	PM ₁₀	VOC (ppmvd @ 15% O ₂)	NH ₃ (ppmvd @ 15% O ₂)
Alameda	2.0	4.0	1.0	Pipeline quality fuel gas with sulfur content no greater than 1 grain per 100 dscf	2.0	5.0
Kern	2.0	4.0	0.75	Pipeline quality fuel gas with sulfur content no greater than 0.75 grain per 100 dscf	1.5	5.0

**Table 5.3-11
Assumed Best Available Control Technology Requirements for Combined Cycle Power Plants to replace DCPD Units 1 and 2**

NO _x (ppmvd @ 15% O ₂)	CO (ppmvd @ 15% O ₂)	SO _x (grain S/100 dscf)	PM ₁₀ (lb/hour/turbine- HRSG train)	VOC (ppmvd @ 15% O ₂)	NH ₃ (ppmvd @ 15% O ₂)
2.0	3.0 ¹	1.0	11 (no duct firing) ² 19.5 (with duct firing) ³	1.5	5.0

Notes:

¹ South Coast AQMD proposed BACT level

² Based on PM₁₀ emission factor of 0.006 lb/MMBtu and an average Frame 7 turbine full-load fuel usage rate of 1,790 MMBtu/hour

³ Typical PM₁₀ emission rate per Frame 7 turbine-HRSG train with duct firing based on licensing documents for various recent California power generation projects.

ppmvd = parts per million by volume dry.

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, emission limits for ammonia are now specified in permits involving CCGT plants equipped with SCR, and the

most stringent limit that has been specified thus far for new units in California (5 ppm by volume dry basis at 15 percent O₂) was assumed for the replacement plants in this analysis.

The replacement power plants 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. It is estimated that the required makeup generation by duct firing to maintain operations at these plants' rated capacity would vary, depending on ambient temperature, from approximately 0 to 8 percent. Inlet evaporative cooling is provided in virtually all new plants in the southwestern United States, and was assumed to limit duct firing requirements at the replacement plants to hours of the year when ambient temperatures are 75 °F or higher. Available annual meteorological data sets for the areas assumed to be suitable sites for future new plants were processed to determine the local frequencies of temperatures in this range. Specifically, hourly data recorded during 1997-1999 at Tracy (near Livermore) in Alameda County, and 1964 data for Bakersfield in Kern County showed that the number of hours of 75 °F or above amount to approximately 1,454 hours and 2,495 hours, respectively. Accordingly, duct firing was assumed to generate an average of 4 percent of the replacement plant MW-hours for the corresponding number of hours above 75 °F at each location. The MW-hours generated by combined cycle operation without duct firing were estimated as the total required generation minus the MW-hours calculated for duct firing. The results are presented in Table 5.3-12.

Table 5.3-12
Estimated MW-hours Generated by
Combined Cycle Plants with and without Duct Firing

Duct Firing	Alameda County	58,160 MW-hours
	Kern County	99,920 MW-hours
No Duct Firing	Alameda County	8,701,840 MW-hours
	Kern County	8,660,080 MW-hours

Since duct firing is assumed to be used in this analysis only to provide sufficient makeup power to maintain the output of each of the two replacement plants at a 1,000 MW capacity, the estimated contribution of duct firing to the annual generation (and to pollutant emissions) is very low and would have a minimal effect on the calculated emissions for these facilities.

Using the assumed BACT requirements described above and the mass emission rates corresponding to these levels for "F" Class turbines, emission factors for each pollutant (tons of

emission per MW-hour) for both turbines and duct firing were calculated. These factors were then multiplied by the projected annual replacement MW-hour requirements for the two plant sites to obtain estimated annual emissions. The annual estimates were based on an assumed capacity factor of 100 percent, which would roughly correspond to the same total MW-hours that would be lost by a shutdown of DCPD Units 1 and 2. The results are presented in Table 5.3-13, including estimated emissions from the replacement plants and the net increase above the current DCPD emissions. The only significant existing sources of emissions at DCPD are six large locomotive-style emergency diesel engines that are maintained at the site to generate electricity in the event of a loss of off-site power. These engines are essentially idle, but kept ready for use, and are normally only run for periodic testing. As indicated in Table 5.3-13, these testing emissions are considered negligible in comparison with those that would result from the fossil fuel-fired replacement plants.

The total emissions shown in Table 5.3-13 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 California, where water resources are limited. It is thus quite possible that dry cooling would be required for some, if not all, new plants by 2012, and plants using such systems would suffer an annual energy penalty of approximately 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 5.3-13.

Table 5.3-13
Estimated Annual Pollutant Emissions for
DCPD 1 and 2 Replacement Combined Cycle Power Plants¹

State/Area	NO _x (tons/year)	CO (tons/year)	SO _x (tons/year)	PM ₁₀ (tons/year)	ROG (tons/year)	NH ₃ (tons/year)
Alameda County	233.0	213.1	63.3	192.4	72.9	239.1
Kern County	232.1	212.3	63.3	192.2	72.7	238.1
Total Replacement Emissions	465.2	425.4	126.6	384.6	145.6	477.2
<i>DCPD Emissions</i>	<i>insignificant²</i>	<i>insignificant²</i>	<i>insignificant²</i>	<i>insignificant²</i>	<i>insignificant²</i>	<i>0</i>
Total Emissions Increase	465.2	425.4	126.6	384.6	145.6	477.2
Total Emissions Increase (assuming all dry cooling)	479.2	438.2	130.4	396.1	150.0	491.5

Notes:

1. Assumes combined cycle plants using four “F”-Class turbines in two 2-on-1 trains, with duct firing for hours with ambient temperature at or above 75°F.
2. Emissions from emergency diesel generators that operate only for periodic testing (PG&E, 2003a).

Use of fossil-fuel power generation in lieu of DCPD Units 1 and 2 would also produce additional emissions of carbon dioxide (CO₂), a greenhouse gas implicated in global climate change. Using the emission factor of 0.484 tons (0.432 metric tons) of CO₂ per MW-hour 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 17.35 million MW-hours with gas-fired units would amount to about 8.4 million tons of CO₂ per year, versus the comparatively negligible quantity produced by the DCPD plant. 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 pollutants.

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 DCPD Units 1 and 2 generation. Offsetting of new plant emissions, most likely those of NO_x, VOC, and PM, would be required 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) would 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 nonattainment pollutant or precursor, even those for which offsets are not required by the regulation of the local air district. Depending on site-specific factors, areas close to such plants would experience some degradation of air quality which would likely exceed one or more of the CEQA significance criteria, including impacts to sensitive receptors, contributing to existing air quality violations and producing a cumulatively considerable net increase of a nonattainment pollutant. In any case, the No Project Alternative would result in a substantial increase in emissions of air pollutants when compared with the current or future operations of DCPD.

5.4 BIOLOGICAL RESOURCES

5.4.1 Proposed Projects

Impacts or effects on biological resources may occur when communities or habitats are altered or destroyed during, or because of, project implementation. Direct effects include potential activities such as destruction or filling of wetlands, destruction or removal of vegetation, interrupting or limiting migratory corridors, and loss of foraging or breeding habitat. Indirect effects are actually direct effects; however, their relative distance or timing often leads to a conceptual distinction from direct effects. Indirect effects can include potential activities such as increased sedimentation, erosion, or changes in hydrology.

Significance Criteria

Significance criteria follow Appendix G of the CEQA Guidelines for biological resources. An impact would be considered significant if the Proposed Projects would:

- Have a substantial adverse effect, either directly or through habitat modifications, on listed or special status species;
- Have a substantial adverse effect on riparian habitat or other sensitive natural community;
- Have a substantial adverse effect on jurisdictional wetlands;
- Interfere substantially with the movement of native, resident, or migratory fish or wildlife species or with established migratory corridors, or impede the use of nursery sites;
- Conflict with the provisions of an adopted Habitat Conservation Plan.

5.4.1.1 Replacement Steam Generator Transport Options

Port San Luis Transport Option

Marine Habitat. The depth of Port San Luis is sufficient to allow a barge to closely approach the landing area without touching the rock revetment under the live offload option. The Port San Luis location supports dense beds of mussels scattered among the rocks. If the rocks with

mussels are affected by the barge during landing under the option where the nose of the barge is pinned against the rock revetment, a few mussels may be affected; however, these few mussels would be replaced through natural recolonization. Other biota on the rocks that may be affected would recover quickly. No listed or special status species are known to be present on the rocks at the revetment; thus, no significant effects are expected to occur.

Fisherman's Beach immediately adjacent to the landing area at Port San Luis has been regularly monitored for grunion (*Leuresthes tenuis*) spawning activity over the past several years. The monitoring is a requirement of the Port's dredging permit whenever that beach area is used for disposal of dredge spoils from the small boat hoist area. Grunion spawning can occur on the spring tide periods from March through August. No significant impacts are expected to occur.

Terrestrial Habitat. The RSGs would be transported from Port San Luis at no more than 10 miles per hour over the existing 7-mile access road into the facility. No activity would occur in areas off the paved road. No vegetation would be affected because none is present on the paved surface. No effects (significant or otherwise) are expected to wildlife that may cross the road, as the slow speed at which the RSGs would travel would allow wildlife to leave the area. Therefore, no significant effects on terrestrial habitat or wildlife are expected from transport.

Intake Cove Transport Option

Marine Habitat. The slope of the jetty at the Intake Cove is sufficient to allow a barge to closely approach the landing area without touching the revetments. Scattered stands of giant kelp occur in the immediate vicinity of the barge landing/offloading location. Plants would be temporarily shaded by the barge and tug, but would not be significantly affected. A similar occasion of short-term barge docking and storage occurred in the Intake Cove landing area in 1984-1985, as part of a project to repair the intake cove breakwaters that were storm-damaged. No significant ecological impacts on giant kelp and associated biota from the barge were observed (Tenera, unpublished observations).

No effects on fish would be expected from the barge docking. Marine mammals, such as harbor seals use beaches and rocks in the cove as haulout sites. They are not expected to be present on the jetty and would not otherwise be harmed by the proposed activities. Mobile marine life, such as fish and marine mammals, tend to move away from vessel activity, particularly from activities such as docking that can include short-term sudden sounds or movements. Barges and tugboats moving within the Intake Cove would also be moving slowly, allowing ample time for marine life to avoid the area of activity. Thus, no significant effects would occur.

Terrestrial Habitat. The RSGs would be transported from the Intake Cove at no more than 10 miles per hour over the existing road into the facility. No activity would occur in areas off the paved road. No vegetation would be affected since none is present on the paved surface. No effects (significant or otherwise) are expected to wildlife that may cross the road, as the slow speed at which the RSGs would travel would allow wildlife to leave the area.

5.4.1.2 Replacement Steam Generator Preparation (Staging)

Marine Habitat. There is no marine habitat in these areas.

Terrestrial Habitat. The temporary staging area, containment structure, and temporary storage facility are on developed property. No sensitive habitats are present within the site and no special status species are expected to be present. Therefore, no significant effects would occur.

5.4.1.3 Original Steam Generator Removal, Transportation, and Storage

The OSG removal occurs entirely within or at existing DCPD structures (Units 1 and 2, auxiliary building) and on paved or developed property. There is no sensitive biological habitat present in these areas and no special status species are expected to be present. Therefore, no significant effects would occur.

The OSGs would be transported approximately 1 mile to the on-site OSGSF. No vegetation or sensitive habitat would be affected because the transportation would occur entirely on existing paved surfaces and at a slow speed. The OSGSF would be constructed at a previously disturbed and developed site (Figure 1-2). No sensitive vegetation, wildlife, or habitat would be affected by the construction of the OSGSF because none are present or are expected to use the site. Therefore, no significant effects would occur.

The OSGSF would remain at the site for the life of the Proposed Projects and until decommissioning of DCPD. No effects to sensitive vegetation or wildlife would occur as a result of the presence of this storage facility.

5.4.1.4 Replacement Steam Generator Installation

The RSG installation would occur entirely within or at existing structures. This includes Units 1 and 2, the auxiliary building and paved and developed property. No sensitive biological habitat

is present at these areas and no special status species are expected to occur. Therefore, no significant impacts would occur.

The RSGs would be transported along existing paved roads a short distance from the TSA to Units 1 and 2 for installation. No vegetation or sensitive habitat would be affected, because transport would occur entirely along existing paved surfaces. Therefore, no significant impacts would occur.

5.4.2 Mitigation Measures

No significant impacts are anticipated as a result of the Proposed Projects; therefore, mitigation would not be required.

5.4.3 No Project Alternative

If the project is not implemented, other facilities would need to be constructed to replace the lost DCPP power generation capacity. Two 1,000 megawatt power plants would be needed to replace the 2,200 megawatts generated by DCPP. These facilities would likely be constructed on land not previously developed, which could result in significant impacts on habitats or special status species. Examples of such impacts would include increased sedimentation, loss of foraging or breeding habitat, loss of wetland or riparian habitat, and interruption or restriction of migratory corridors.

5.5 CULTURAL RESOURCES

5.5.1 Proposed Projects

Significance Criteria

In considering impact significance under CEQA, the significance of the resource itself must first be determined. At the state level, consideration of significance as an “important archaeological resource” is measured by cultural resource provisions considered under CEQA Sections 15064.5 and 15126.4, and the draft criteria regarding resource eligibility to the California Register of Historic Resources (CRHR).

Generally under CEQA, a historical resource (these include built-environment historic and prehistoric archaeological resources) is considered significant if it meets the criteria for listing on the CRHR. These criteria are set forth in CEQA Section 15064.5 and defined as any resource that:

- (a) Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
- (b) Is associated with lives of persons important in our past;
- (c) 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 values; or
- (d) Has yielded, or may be likely to yield, information important in prehistory or history.

Section 15064.5 of CEQA also assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. These procedures are detailed under California Public Resources Code (PRC) Section 5097.98.

Impacts on “unique archaeological resources” and “unique paleontological resources” are also considered under CEQA, as described under PRC 21083.2. A unique archaeological resource implies an archaeological artifact, object, or site demonstrates, without merely adding to the current body of knowledge, there is a high probability that it meets one of the following criteria:

- (a) The archaeological artifact, object, or site contains information needed to answer important scientific questions, and there is a demonstrable public interest in that information;
- (b) The archaeological artifact, object, or site has a special and particular quality, such as being the oldest of its type or the best available example of its type; or
- (c) The archaeological artifact, object, or site is directly associated with a scientifically recognized important prehistoric or historic event or person.

A non-unique archaeological resource indicates an archaeological artifact, object, or site that does not meet the above criteria. Impacts on non-unique archaeological resources and resources that do not qualify for listing on the CRHR receive no further consideration under CEQA.

Under CEQA Section 15064.5, a project potentially would have significant impacts if it would cause substantial adverse change in the significance of one of the following:

- (a) A historical resource (i.e., a cultural resource eligible for the CRHR)
- (b) An archaeological resource (defined as a unique archaeological resource which does not meet CRHR criteria)
- (c) A unique paleontological resource or unique geologic feature (i.e., where the project would directly or indirectly destroy a site or resources)
- (d) Human remains (i.e., where the project would disturb or destroy burials)

A non-unique archaeological or paleontological resource is given no further consideration, other than the simple recording of its existence, by the lead agency.

Potential impacts on identified cultural resources need only be considered if the resource is an “important” or “unique archaeological resource” under the provisions of CEQA Sections 15064.5 and 15126.4, and the eligibility criteria. If a resource cannot be avoided, then the resource must be examined vis-à-vis the provisions of CEQA Sections 15064.5 and 15126.4 and of the eligibility criteria as an “important” or “unique archaeological resource.” In many cases, determination of a resource’s eligibility can only be made through research and archaeological testing.

5.5.1.1 Replacement Steam Generator Transport Options

Port San Luis Transport Option

The records search indicates that nearly the entire Port facility has been previously surveyed for cultural resources. The Harford Pier has been determined eligible for listing in the NRHP/CRHR, and the Harford Pier Warehouse appears eligible for NRHP/CRHR via previous survey evaluation. Known prehistoric resources are located in the headlands to the west of Harford pier.

Vessels currently moored in the harbor may need to be temporarily relocated. The two RSG offloading options, live offload or pinning the nose, as described in Section 3.4.1.2, would not adversely affect previously recorded historical or archaeological resources. Specialized transporters would move the RSGs between Port San Luis and the project site along the 7-mile access road. Transport would occur on an existing roads capable of handling the loads. Since none of the offloading and delivery methods would not adversely affect previously recorded historical or archaeological resources, there would be no significant impact.

Intake Cove Transport Option

The records search indicates that nearly the entire project site has been previously surveyed for cultural resources. Archaeological resources are known to exist within the immediate DCPD area. This transportation option would use existing roads for transporting the RSGs within the project site. These roads contain or traverse no known historical or archeological resources. This option would not adversely affect known historical or archaeological resources; therefore, there would be no significant impact.

5.5.1.2 Replacement Steam Generator Preparation Staging

The Proposed Project preparation area would be located within existing facilities, or on previously excavated, disturbed, and recompacted lands within DCPD. No cultural resources have been previously identified within the proposed staging areas. To the extent possible, existing DCPD structures and facilities would be used to support the RSG activity. Staging actions would not adversely affect known historical or archaeological resources; therefore, there would be no significant impact.

5.5.1.3 Original Steam Generator Removal, Transportation, and Storage

The removal, transportation, and storage process would not involve known built environment cultural resources eligible for the CRHR. These actions are not located in areas with previously recorded cultural resources, and would not adversely affect known historical or archaeological resources. Therefore, there would be no significant impact.

5.5.1.4 Replacement Steam Generator Installation

The RSG installation would not involve known built environment cultural resources eligible for the CRHR. These actions are not located in areas with previously recorded cultural resources, and would not adversely affect known historical or archaeological resources. Therefore, there would be no significant impact.

5.5.2 Mitigation Measures

No significant impacts are anticipated as a result of the Proposed Projects; therefore, mitigation would not be required. However, the potential always exists to encounter previously undetected archaeological resources. In the event that cultural remains are detected during site preparation or construction activities, all work in the immediate area of the find shall be halted and a qualified archaeologist called out to examine the finds under the procedures set forth at CEQA Section 15064.5.

5.5.3 No Project Alternative

New generation could be sited in a manner that reduces or avoids impact on land use; however, significant impacts may still occur, depending upon the location chosen. Appropriate mitigation considerations would be specific to the site selected and local jurisdictional requirements for a new generation facility. For the purposes of this analysis, it is assumed that there are no impacts that cannot be reasonably mitigated as part of the new generation permitting process.

5.6 GEOLOGY

5.6.1 Proposed Projects

This section addresses potential impacts on geology as a result of construction and operation of the Proposed Projects.

Significance Criteria

In accordance with Appendix G of the CEQA Guidelines, project impacts from the Proposed Projects would generally be considered significant if they would:

- Expose people or structures to potentially substantial adverse effects, including the risk of loss, injury, or death from rupture of a known earthquake fault; strong seismic ground shaking; or seismic-related ground failure, including liquefaction.
- Result in substantial soil erosion.
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Proposed Projects, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse, creating substantial risks to life or property.

5.6.1.1 Replacement Generator Transport Options

Port San Luis Transport Option

Dredging would not be required to accommodate the barge offloading operations. Therefore, no impacts on the existing seafloor configuration in Port San Luis would occur. Excavation and reinforcement of offloading areas and roadways at Port San Luis and at natural drainage crossings along the access to the project site could cause some short-term impacts. The access road from Port San Luis to Diablo Canyon Facility is in good condition, having been designed and built to accommodate heavy vehicular traffic and loads when the power plant was constructed. Transporters with RSGs would weigh approximately 500 tons. Potential short-term impacts along the 7-mile access road could occur in areas where the road traverses drainage crossings or steep slopes and/or landslides, particularly in Franciscan Formation materials which are susceptible to mass wasting processes. These impacts are expected to be not significant

because of the small number of vehicular trips involving heavy loads, specifically the four trips required for each project to transport the RSGs, and the fact that the road was designed for such heavy loads and equivalent loads have been previously transported on this road without adverse effects.

Intake Cove Transport Option

No dredging would be required to accommodate the barge offloading operations. Therefore, no impacts on the existing seafloor at the Intake Cove would occur. Offloading of the RSGs within Intake Cove would be accomplished using ramps. The shoreline offloading area would be protected using mats and other ground surface reinforcing material, if required.

The approximately 1-mile transport route from the Intake Cove follows Marina Drive to Breakwater Boulevard, then east on Shore Cliff Road to the Temporary Staging Area (TSA). Shore Cliff Road passes immediately north of Patton Cove. The Patton Cove landslide is reportedly affecting Shore Cliff Road. This portion of Shore Cliff Road is planned to be moved and reconstructed slightly to the north of its current location (Patton Cove Bypass) as part of the Independent Spent Fuel Storage Installation project (MRS, 2003) to avoid the area affected by the Patton Cove landslide. Therefore, no significant impacts from transportation of the RSG are anticipated.

5.6.1.2 Replacement Steam Generator Preparation (Staging)

The TSA would likely be located north of Patton Cove to the east of the Intake Cove. No new grading activities involving cut and fill are proposed in this area. Because no new cut and fill is proposed as part of the Proposed Projects, no significant impacts are anticipated.

Geologic conditions such as expansive soils would be taken into consideration during the design and construction of temporary buildings. These include buildings for mock-up facilities, fabrication and weld test shops, containment access space, decontamination facilities, and replacement team offices. Because these temporary buildings were designed according to the characteristics of the project site soils, no significant impacts are anticipated.

5.6.1.3 Original Steam Generator Removal, Transportation, and Storage

The OSGs are to be removed from Units 1 and 2 and transported to an OSG Storage Facility (OSGSF) for storage. The OSGSF options are located near Diablo Creek, immediately north or

east of the intersection of Reservoir Road and Oak Tree Lane. Construction of a new 10,000 SF building is planned for the OSGSF.

Geologic conditions, such as nearby faults or expansive soils would be taken into consideration during design and construction of OSGSF. These activities would be done in conformance with NRC standards, as required by 10 CFR 50.59. Therefore, no significant impacts are anticipated.

5.6.1.4 Replacement Steam Generator Installation

No short- or long-term significant geologic environmental consequences are anticipated as a result of the Replacement Steam Generator Installation phase of the Proposed Projects.

5.6.2 Mitigation Measures

5.6.2.1 Replacement Generator Transport Options

No significant impacts are anticipated as a result of the Proposed Projects; therefore, mitigation would not be required.

5.6.3 No Project Alternative

The short- or long-term geologic environmental consequences associated with the No Project Alternative are difficult to evaluate at this time without site-specific information. Replacement power for the DCPD Units 1 and 2 would likely be from several CCGT plants. Based on current generation proposals and demand, such plants may be located in Alameda or Kern County. Siting and construction of CCGT plants may cause significant impacts.

5.7 HAZARDS AND HAZARDOUS MATERIALS

5.7.1 Proposed Projects

Managed and disposed of properly, hazardous materials used and stored and hazardous wastes generated during the Proposed Projects would not cause significant environmental or health and safety impacts. The Proposed Projects would use the same cleansers and degreasers used for a normal outage. The materials and activities would be essentially the same, including painting, welding, cutting, fabrication, etc.

Significance Criteria

According to Appendix G of the CEQA Guidelines, potential impacts would be considered significant if:

- The Proposed Projects would result in safety hazards or create a public hazard through transport, use, accidental release, or disposal of hazardous materials.

5.7.1.1 Replacement Generator Transport Options

Port San Luis Transport Option

Transport would occur according to the DCPD Health and Safety Program, which implements OSHA standards. The RSGs are not radioactive and do not contain hazardous materials. Transport would occur in a manner that does not pose a threat to public safety.

There are no sensitive receptors in the immediate transport route. In the event of an emergency, there would be no impairment or physical interference with the DCPD adopted emergency response plan or emergency evacuation plan.

The RSG transporters could be re-fueled at the DCPD site, and would not need to be refueled at Port San Luis, or along the travel route. Other vehicles and equipment would be refueled on site or by tanker trucks. Procedures would be developed for fueling and maintenance of vehicles and equipment. Drip pans or other collection devices would be placed under the equipment at night to capture drips or spills. Equipment would be inspected daily for potential leakage or failures.

Hazardous materials that would be transported by truck include fuel (diesel fuel and gasoline) and lubricants for equipment. Containers used to store hazardous materials would be properly

labeled and kept in good condition. Hazardous waste is not expected to be generated during the transport of the RSGs.

Portable toilets used for the Proposed Projects would be secured during transport. The refueling, portable toilet vehicle, or other appropriate vehicles would carry shovels and absorbent materials (i.e., absorbent socks or rags) in accordance with the DCPD spill prevention and response guidance. If used, spent absorbent and contaminated sand or soil would be collected and brought back to the DCPD and handled according to the DCPD spill prevention and response procedures and Hazardous Waste Management Program.

There is minimal potential for impacts from use and transport of hazardous materials during transportation of the RSGs. Small volumes of hazardous materials would be used. Trained personnel would be handling these materials. There is minimal potential for incidents involving release of gasoline, diesel fuel, oil hydraulic fluid, and lubricants from vehicles or other equipment. Contaminated soil materials produced during cleanup of a spill would be contained and transported by appropriate personnel for off-site disposal as a hazardous waste. If a spill or leak into the environment were to involve hazardous materials equal to or greater than the specific reportable quantity (25 gallons for petroleum products); federal, state, and local reporting requirements would be adhered to. Emergency telephone numbers would be available on site for the fire department, or other regulatory agencies. No significant impacts are anticipated.

Intake Cove Transport Option

The procedures and equipment used for the Intake Cove Transport Option would be similar to the Port San Luis Transport Option. Transport of these RSGs would occur according to the DCPD Health and Safety Program, which implements Occupational Safety and Health Administration (OSHA) standards. The RSGs are not radioactive and do not contain hazardous materials. Transport would occur in a manner that does not pose a threat to public safety.

No sensitive receptors exist in the immediate vicinity of the transport route. Implementation of this transportation would not physically or procedurally interfere with the DCPD emergency response plan or emergency evacuation plan.

Refueling would not be required during transport from the Intake Cove. Tanker trucks would be used for refueling other construction vehicles. Procedures would be developed for fueling and maintenance of vehicles and equipment. Drip pans or other collection devices would be placed

under the equipment at night to capture drips or spills. Equipment would be inspected daily for potential leakage or failures.

If portable toilets are required, they would be secured during transport. The DCPSP spill prevention and response plan would be followed for all activities involving portable toilets. If used, spent absorbent and contaminated sand or soil would be collected and brought back to the DCPSP and handled according to the DCPSP spill prevention and response procedures and Hazardous Waste Management Program.

Hazardous materials that would be transported by truck include fuel (diesel fuel and gasoline) and lubricants for equipment. Containers used to store hazardous materials would be properly labeled and kept in good condition. No hazardous waste is expected to be generated during the transport of the RSGs.

There is minimal potential for impacts from the use and transport of hazardous materials during the Intake Cove Transport Option. Small volumes of hazardous materials would be used. Trained personnel would be handling these materials. There is potential for incidents involving release of gasoline, diesel fuel, oil hydraulic fluid, and lubricants from vehicles or other equipment. Contaminated soil materials produced during a cleanup of a spill, would be contained and transported by appropriate personnel for off-site disposal as a hazardous waste. If a spill or leak into the environment were to involve hazardous materials equal to or greater than the specific reportable quantity (25 gallons for petroleum products), federal, state, and local reporting requirements would be adhered to. Emergency telephone numbers would be available on site for the fire department, or other services. No significant impacts are anticipated.

5.7.1.2 Replacement Steam Generator Preparation (Staging)

RSG preparation would include the assembly of facilities that would be required for OSG removal and RSG installation. Once on site, the RSGs would be temporarily staged in a storage facility within the TSA until ready for installation. The TSA also would include fabrication, mock-up, weld testing, warehouse, laydown, and other set-up facilities. Cutting, templating, machining, welding and other specialized procedures would be conducted in the TSA. These facilities would use minor amounts of materials typically used on site. Containers used to store hazardous materials would be properly labeled and kept in good condition. All hazardous materials would be used and stored according the existing DCPSP Hazardous Materials Management Program.

The Containment Access Facility (CAF), which would serve as the central processing point for workers moving into and out of the containment building. Reconfiguration of the existing decontamination facility or an additional temporary decontamination space may be required to support additional personnel.

A Health and Safety Plan for this effort would be prepared and implemented. The Health and Safety Plan would generally follow the existing DCPD Health and Safety Program and the Radiation Protection Program. No significant impacts are anticipated from RSG preparation staging.

Small quantities of hazardous wastes such as common cleansers and degreasers would likely be generated over the course of the Proposed Projects. Hazardous wastes would be handled and disposed of according to the applicable laws and regulations and the DCPD hazardous waste management program.

5.7.1.3 Original Steam Generator Removal, Transportation, and Storage

Hazardous and low level radioactive waste will be generated during the OSG removal, transportation, and storage. These wastes would be handled and disposed of according to applicable rules and regulations, and DCPD procedures.

In the process of removing the OSGs from the containment building and staging them for transportation, the OSGs would be treated with a protective coating to encapsulate them and prevent the release of any loose surface contamination during transport. Steel covers would also be installed on the main coolant, steam, and feedwater piping openings of the OSGs to seal the internal portion of the OSGs.

A Health and Safety Plan would be prepared and implemented according to the Radiation Protection Program. The work areas would be decontaminated as necessary before work begins. Only employees trained in radiation protection practices would be involved. These employees would monitor work activities and ensure personnel radiation exposure is minimized. No significant impacts are anticipated.

The OSGSF is an approximately 10,000-square-foot concrete building, planned at the upper portion of the project site near the 500 kV Yard to store the OSGs until DCPD is decommissioned. The enclosed facility will be reinforced concrete with sufficient shielding to ensure dose rates remain within acceptable regulatory limits in accordance with 40 CFR 190. A

passive floor sump pit without a roof vent/inspection opening will also be provided. The USNRC Generic Letter 81-38 along with DCPD operating license and applicable building codes would be followed to ensure the long-term safety of storing the OSGs. Appropriate permits would be required prior to the construction of this facility. Therefore, no significant impacts are anticipated.

5.7.1.4 Replacement Steam Generator Installation

RSG installation and return-to-service activities are similar in nature to OSG removal, Transportation, and Storage activities. Welding of pipes would be required to install the RSGs. Similar types of hazardous materials and wastes as during the RSG preparation would be produced during this phase of the Proposed Projects. All hazardous materials would be used and stored according to the existing DCPD hazardous materials management program. All hazardous wastes would be generated and stored according to the DCPD hazardous waste management program. Piping would be decontaminated to minimize the radiation exposure to workers. As described in the DCPD existing Radiation Protection Program, only employees trained in radiation protection practices would work with tasks located in Radiologically Controlled Areas (RCAs). These employees would monitor work activities and ensure personnel radiation exposure is minimized. No significant impacts are anticipated.

5.7.2 Mitigation Measures

No significant impacts are anticipated as a result of the Proposed Projects; therefore, mitigation would not be required.

5.7.3 No Project Alternative

New power plants could cause potential impacts to hazardous materials and hazardous wastes. Depending upon the location in Alameda and Kern Counties, the level of significance may vary. Hazardous materials and hazardous wastes would be used and generated by the construction of the required power plants. All applicable regulatory requirements would apply to the use, generation, and storage of these materials. Construction and operation of new generation facilities would require the elimination and/or reduction of hazardous waste or materials exposure to workers, the public, and the environment.

5.8 HYDROLOGY/WATER QUALITY

5.8.1 Proposed Projects

This section presents significance criteria and the potential environmental consequences of the Proposed Projects with respect to hydrology and water quality.

Significance Criteria

In accordance with CEQA Guidelines, Appendix G, potential impacts would be considered significant if they resulted in any of the following:

- Substantial flooding, erosion, or siltation;
- Alteration of stream flow characteristics, resulting in erosion, sedimentation, or flooding;
- Substantial alteration of the existing site drainage pattern;
- Creation of runoff water exceeding the capacity of existing stormwater drainage systems;
- Creation of substantial sources of polluted runoff;
- Other substantial degradation of water quality; and/or
- Location of facilities in flood-prone areas.

5.8.1.1 Replacement Generator Transport Options

The RSGs would be offloaded at Port San Luis and transported to the TSA or offloaded at DCPD Intake Cove, as described in Section 3.4.2. Offloading of the RSGs would be conducted to avoid or minimize shoreline impacts. All appropriate permits and clearances would be obtained from regulatory agencies. No significant impacts on hydrology or water quality are anticipated.

Port San Luis Transport Option

Under this option, the RSGs would be transported either to Port San Luis and offloaded from a barge to a staging area at the Port and then transported one by one to a storage facility within the TSA, or else transported one by one directly from the barge to the TSA. If possible, the barge will enter and leave Port San Luis during high tide conditions. Ballast water would only be discharged from clean tanks on the barge and only as necessary to stabilize the barge during

unloading operations. The barge route and mooring configuration at Port San Luis are presented in Figures 3-6 and 3-7.

Transporters would be used to move the RSGs to the DCPD Avila Gate and along an approximately 7-mile access road to the RSGSF. This is the same route used during construction of the DCPD. The roads were constructed to withstand heavy equipment and heavy loads.

The transport route does not cross Diablo Creek. Drainage ditches are also located adjacent to the access road in some areas to collect channel runoff into the creek. No new construction at unloading areas or drainage crossings is anticipated. If construction is needed to reinforce unloading areas and portions of the road, it could cause some short-term effects to surface water runoff. Standard best management practices (BMPs) would be used to prevent uncontrolled runoff, erosion, or migration of contaminants. Such BMPs would include dust suppression, revegetation, slope stabilization, construction of ditches and berms, and/or placement of straw bales or other sediment traps as appropriate. No significant impacts are anticipated.

As described in Section 3.4.1.8, the transporters would not require refueling en route. Refueling for other equipment and vehicles would be conducted on site or by tanker truck in accordance with the DCPD Site Spill Prevention Guidance. The refueling truck would carry shovels and absorbent materials in accordance with the DCPD Site Spill Prevention Guidance. Drip pans or other collection devices would be placed under equipment at night to contain drips and/or spills. All equipment would be inspected daily for potential leaks. Portable toilets would be staged at Port San Luis or DCPD site, if needed. Spill response procedures are described in the DCPD Spill Contingency Plan (PG&E, 2003b).

Fuel, lubricants, and drinking water would be transported to the site by truck. No hazardous waste generation is anticipated during RSG transport. Solid waste (trash) generated would be properly recycled and/or disposed of appropriately, so as not to impact water quality.

Intake Cove Transport Option

This transportation option involves offloading the RSGs at the DCPD Intake Facility (Figures 1-2, 3-5, 3-9). Smaller barges and transport vehicles would be more likely to be used for this option than for the Port San Luis option, because of site constraints. As in the Port San Luis option, no hazardous waste would be generated and solid waste would be recycled and/or appropriately disposed.

Groundwater would not be affected. Surface water could be affected by spills or releases; however, as described above, no significant impacts are anticipated, because the likelihood of such spills is minimal and the use of BMPs for spill prevention and response would prevent significant effects.

5.8.1.2 Replacement Steam Generator Preparation (Staging)

The RSGs would be stored in a temporary facility within the TSA. Alternative locations for the TSA are shown on Figure 1-2. No significant impacts on groundwater or surface water are anticipated from RSG staging.

5.8.1.3 Original Steam Generator Removal, Transportation, and Storage

During removal from the containment building, steel covers would be installed on the main coolant, and steam and feedwater piping openings of the OSGs, which would then be treated with a protective coating to prevent release of potential loose radioactive material. The coating helps to seal the surface of the OSGs and prevent the spread of loose contamination. After the OSGs are removed, they would be moved to and stored at a building near the 500 kV switchyard (shown on Figure 1-2). The facility will be reinforced concrete and a roof with sufficient shielding to ensure dose rates remain within acceptable regulatory limits in accordance with 40 CFR 190. A passive floor sump pit without a roof vent/inspection opening will also be provided. The USNRC Generic Letter 81-38 along with DCPD operating license and applicable building codes would be followed to ensure the long-term safety of storing the OSGs. Therefore, no significant impacts on groundwater or surface water are anticipated from OSG removal, transportation, and storage.

5.8.1.4 Replacement Steam Generator Installation

RSG installation does not involve surface or groundwater. Therefore, no significant impacts are anticipated on these resources.

5.8.2 Mitigation Measures

No significant impacts are anticipated as a result of the Proposed Projects; therefore, mitigation would not be required.

5.8.3 No Project Alternative

Under the No Project Alternative, the OSGs would not be replaced and DCPD Units 1 and 2 would no longer generate electricity. However, if these units were no longer operational, new generation capacity would need to be constructed. Construction of new capacity could have significant impacts on surface and groundwater, depending on the project location and design. Issues that would need to be addressed would include: source of and discharge of water used in cooling towers, source of steam generation makeup water, source and discharge of potable water used by site personnel, storm water management, and construction impacts on groundwater, surface water and drainage.

5.9 LAND USE AND PLANNING

5.9.1 Proposed Projects

The following section presents significance criteria and the potential environmental consequences of the project with respect to land use and planning.

Significance Criteria

According to Appendix G, CEQA Guidelines, impacts would be considered significant if the Proposed Projects would:

- Physically divide an established community
- Conflict with land use plans, policies or regulations
- Conflict with an existing habitat conservation plan or other type of habitat management plan

5.9.1.1 Replacement Generator Transport Options

Port San Luis Transport Option

Transport would occur in compliance with the applicable county and Port San Luis Harbor District policies and programs. Transport would be scheduled to avoid adverse effects on existing land uses in the San Luis Port area and in compliance with federal, state, and local policies, including objectives outlined in the Port San Luis Harbor District Master Plan. This transport option does not propose alterations to the port facilities that would require permits under the Port San Luis Harbor District Plan or the County Land Use Element. Similarly, transport along Diablo Canyon Access Road would occur in a manner that does not adversely affect existing agricultural uses. The access road was originally designed to accommodate transportation of large loads into the plant site, and exists for the purpose of supporting plant activities. No significant impacts are expected.

Intake Cove Transport Option

Transport would occur in accordance with applicable federal, state and local regulations, including but not limited to county and DCPD policies and programs. Transport would be

scheduled to avoid adverse effects on existing land uses in the Intake Cove area. No significant impacts are anticipated to the designated land uses at the Intake Cove.

5.9.1.2 Replacement Steam Generator Preparation (Staging)

RSG preparation would include the assembly of facilities that would be required for original steam generator removal and RSG installation. Once on site, the RSGs would be temporarily kept in a storage facility within the TSA until ready for installation. The TSA would also include fabrication, mock-up, weld testing, warehouse, laydown, and other set-up facilities. Cutting, templating, machining, welding, and other specialized procedures would be conducted in the TSA. For the proposed TSA locations, applicable permits and approvals would be obtained from San Luis Obispo County and other applicable agencies. Potential impacts would be evaluated and mitigated if required as part of the permitting process. However, significant impacts are not anticipated, because the facilities would be consistent with existing operations at the project site.

5.9.1.3 Original Steam Generator Removal, Transportation, and Storage

The OSGs are to be removed from Units 1 and 2 and transported to the OSGSF for storage. All OSGSF options are located in the upper portion of DCP, either in or near the 500 kV switchyard (Figure 1-2) and outside of the California Coastal Zone. Construction of a new 10,000-square-foot building is planned for the OSGSF. Applicable permits and approvals would be obtained if required from applicable agencies. Potential impacts would be evaluated and mitigated if required as part of the permitting process. Significant impacts are not expected, because the OSGSF would be designed to be consistent with applicable federal, state, and local plans and policies.

5.9.1.4 Replacement Steam Generator Installation

RSG installation is similar in nature to OSG removal, transportation, and storage activities. The proposed locations for these activities are located within the existing facility designated for public facilities and is consistent with existing land uses. Applicable permits and approvals would be obtained if required from federal, state, and local agencies. Potential impacts would be evaluated and mitigated if required as part of the permitting process. No significant impacts are anticipated.

5.9.2 Mitigation Measures

No significant impacts are anticipated as a result of the Proposed Projects; therefore, mitigation would not be required.

5.9.3 No Project Alternative

New replacement CCGT generation may be sited in a manner that causes significant impact on land use. Appropriate mitigation considerations would be specific to the site selected and consistent with local jurisdictional requirements for a new generation facility.

5.10 MINERAL RESOURCES

5.10.1 Proposed Projects

This section addresses the potential impacts on mineral resources as a result of construction and operation of the Proposed Projects and the No Project Alternative. The following criteria from Appendix G of the CEQA Guidelines were used to determine whether significant project-related impacts might occur as a result of the Proposed Projects. Impacts were considered significant if:

- The Proposed Projects would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- The Proposed Projects would result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

5.10.1.1 Replacement Generator Transport Options

Port San Luis Transport Option

No known mineral resources of economic value are located in the area of the transport route or off-site staging area. No impacts on mineral resources are anticipated for this transport option.

Intake Cove Transport Option

Activities, including a staging area, for the Intake Cove transport option would take place entirely within the DCPD property boundary. No known mineral resources of economic value are located within the DCPD property boundary; therefore, no impacts on mineral resources are anticipated.

5.10.1.2 Replacement Steam Generator Preparation (Staging)

Staging and preparation of the RSGs would take place entirely within the DCPD property. No known mineral resources of economic value are located within the DCPD property boundary; therefore, no impacts on mineral resources are anticipated.

5.10.1.3 Original Steam Generator Removal, Transportation, and Storage

Removal of the original steam generators, and movement to the OSGSF, would take place entirely within the DCPD property. There are no known mineral resources of economic value within the DCPD property boundary; therefore, no impacts on mineral resources are anticipated. No impacts on mineral resources from transportation and storage of the original steam generators are expected.

5.10.1.4 Replacement Steam Generator Installation

Activities associated with installation of the RSGs would take place entirely within the DCPD property boundary; therefore, no impacts on mineral resources are anticipated.

5.10.2 Mitigation Measures

No significant impacts are anticipated as a result of the Proposed Projects; therefore, mitigation would not be required.

5.10.3 No Project Alternative

New generation facilities sited in Alameda and Kern Counties may result in significant impacts on mineral resources depending on the site location chosen. An analysis of sites located on or near known or unknown mineral resources would be necessary to determine the level of significance. If necessary, appropriate mitigation measures would be designed to the specific site selection and local jurisdictional requirements.

5.11 NOISE

The following section presents the significance criteria and the environmental consequences of the project with respect to noise.

5.11.1 Proposed Projects

According to Appendix G of the CEQA Guidelines, the Proposed Projects would result in a significant impact if:

- Exposure of persons to or generation of noise levels in excess of standards established in the County Noise Ordinance or the Noise Element of the County General Plan.
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

The County of San Luis Obispo (County) Noise Ordinance Section 22.10.120 has established noise standards for acceptable exterior noise levels. The following exceptions to the standards apply:

“Noise sources associated with construction, provided such activities do not take place before 7 a.m. or after 9 p.m. on any day except Saturday or Sunday, or before 8 a.m. or after 5 p.m. on Saturday or Sunday,” and

“Noise sources associated with work performed by private or public utilities in the maintenance or modification of its facilities.”

Therefore, the County Noise Ordinance does not apply to the Proposed Projects.

The Noise Element of the County General Plan regulates noise from stationary noise sources, but does not address construction noise. Table 5.11-1 is from the County General Plan that summarizes the maximum allowable noise exposure for stationary noise sources.

**Table 5.11-1
 San Luis Obispo County
 Maximum Allowable Noise Exposure Stationary Noise Sources¹**

	Daytime (7 a.m. to 10 p.m.)	Nighttime² (10 p.m. to 7 a.m.)
Hourly L _{eq} , dB	50	45
Maximum Level, dB	70	65
Maximum Level, dB-Impulsive Noise	65	60

¹ As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of noise barriers or other property line noise mitigation measures.
² Applies only where the receiving land use operates or is occupied during nighttime hours.

5.11.1.1 Replacement of Steam Generator Transport Options

Port San Luis Transport Option

Transportation of the RSGs from Port San Luis to a storage facility within the temporary staging area at DCPD would be along the 7-mile facility access road. Under this option, two delivery installments would be made, one for each project, in two consecutive years (one delivery of four RSGs per barge). The transport cycle would occur as set forth in Section 3.4. The equipment used during this process is listed in Section 3.4.1.

A minor increase in noise level would occur within the immediate vicinity of transport activities (including loading, transport, and offloading) as a result of operation of transport equipment. The residences near Port San Luis (Port San Luis Trailer Park and Harbor Terrace) may experience increased sound levels during transport. However, sound levels would be consistent with the existing land use, would be temporary in nature, and would occur over a short duration. Therefore, no significant impact on sensitive receptors would occur near offloading activities.

No sensitive receptors are along the access road, and the closest sensitive receptors to the plant site are the residential communities of Los Osos approximately 8 miles to the north, Avila Beach approximately 6 miles to the southeast, and Morro Bay approximately 10 miles northwest. Noise from activities within the plant site would not be audible at these residences, because of the distance and intervening topography. Hence, there would be no significant impact to sensitive receptors as a result of the Port San Luis transport option.

Intake Cove Transport Option

Transportation of the RSGs from the Intake Cove to a temporary staging area within the DCPD would use existing roads within the plant site. Due to the limited maneuverability in the Intake Cove, this option would likely occur in four delivery installments, two deliveries per project (in 2008 for Unit 2, and in 2009 for Unit 1) of two RSGs per barge. The transport cycle is described more fully in Section 3.4. The equipment used during this process is listed in Section 3.4.2.

An increase in noise level would occur within the immediate vicinity of transport activities (including loading, transport, and offloading) due to operation of transport equipment. The closest sensitive receptors to the plant site are the residential communities of Los Osos approximately 8 miles to the north, Avila Beach approximately 6 miles to the southeast, and Morro Bay approximately 10 miles northwest, and there is substantial intervening topography between the plant site and residences. Due to the distance and intervening topography from the plant site to the sensitive receptors, noise from activities at Intake Cove would not be audible at the residences. Hence, there would be no significant impact to sensitive receptors as a result of the Intake Cove transport option.

5.11.1.2 Replacement Steam Generator Preparation

To prepare for removal and installation of the steam generators, site planning at DCPD would be necessary. Approximately 90,000 additional square feet (SF) would be required in temporary or existing facilities in order to establish the necessary services. A description of the facilities is provided in Section 3.5.

Noise associated with project staging and preparation would be from operation of the construction equipment used to construct buildings and equipment used to train workers (welding, machining, etc.). The increase in noise level would be experienced primarily close to the noise source. The magnitude of the impact would depend on the type of construction activity, noise level generated by various pieces of construction equipment, duration of the construction phase, and distance between the noise source and receiver. Figure 5.11-1 shows average noise levels generated by individual pieces of construction equipment. Sound levels of typical construction equipment range from approximately 65 dBA to 95 dBA at 50 feet from the source. Sound levels of typical demolition equipment range from approximately 65 dBA to 90 dBA at 50 feet from the source (U.S. Environmental Protection Agency [U.S. EPA], 1971).

As mentioned above, the sensitive receptors closest to the plant site are in the residential communities within 10 miles. Therefore, noise from the preparation activities would be inaudible for the residential communities, because of the distance and intervening topography. There would be no significant impact on sensitive receptors as a result of RSG preparation activities.

5.11.1.3 Original Steam Generator Removal, Transportation, and Storage

The preferred method for removing the OSGs is to haul them out of the containment building through the equipment hatch over the Auxiliary Building roof and through the Fuel Handling building. A description of the method is provided in Section 3.6.1.

Noise associated with OSG removal, transportation, and storage would consist of operation of the construction equipment used to remove the shield wall, demolition/construction of structures within the generator compartments, cranes used to move the OSGs, and other associated activities. Sound levels of typical construction equipment range from approximately 65 dBA to 95 dBA at 50 feet from the source, as shown on Figure 5.11-1. Sound levels of typical demolition equipment range from approximately 65 dBA to 90 dBA at 50 feet from the source (U.S. EPA, 1971).

Noise from the removal, transportation, and storage activities would not be audible at the closest residences, because of the distance of up to 10 miles and intervening topography. There would be no significant impact on sensitive receptors as a result of OSG removal.

5.11.1.4 Replacement Steam Generator Installation

The RSGs would be moved into the containment facility in a manner that is essentially the reverse of the OSG removal. A description of the method is provided in Section 3.7.

Noise associated with RSG installation would also be similar to OSG removal and consist of operation of the construction equipment used for demolition/construction of structures within the generator compartments, cranes used to move the RSGs, and other associated activities. Sound levels of typical construction equipment range from approximately 65 dBA to 95 dBA at 50 feet from the source, as shown on Figure 5.11-1 (U.S. EPA, 1971).

5.11 Noise

The distance and topography make the noise from the RSG installation activities inaudible at the closest residences. There would be no significant impact on sensitive receptors as a result of RSG installation.

5.11.2 Mitigation Measures

No significant impacts are anticipated as a result of the Proposed Projects; therefore, mitigation would not be required.

5.11.3 No Project Alternative

The No Project Alternative proposes the construction of new generation capacity to meet system needs in Alameda and Kern Counties. The siting of these projects may result in significant impacts, such as an increase in audible noise levels to sensitive receptors. Construction and operation of the replacement would be subject to separate analysis and permitting processes and potential noise impacts would be addressed at that time.

Figure 5.11-1. Typical Construction Equipment Noise Generation Levels

[CLICK HERE TO VIEW](#)

5.12 POPULATION AND HOUSING

5.12.1 Proposed Projects

To analyze the worst-case scenario for the Proposed Projects, the temporary additional plant outage workers would be combined with the temporary additional RSG workers. Both the Proposed Projects and the regularly occurring outage would be running concurrently during two 80-day periods in mid-2008 and mid-2009. The overall number of SGRP personnel would range from 100 to 700 additional workers during these design, staging, and preparation periods, and is expected to increase to up to 900 workers during the peak (80-day) outage periods during removal and installation of the steam generators. The peak of 900 project workers would be in addition to the 1,100 workers required for the regularly occurring refueling outage; therefore, a maximum of approximately 2,000 temporary additional workers would be at DCPD when compared to a non-fuel-outage situation. Conducting the following analysis for the worst-case scenario allows for a more thorough evaluation of the potential impacts on the project vicinity.

This section addresses potential impacts on the population and housing from the Proposed Projects during construction and operations. The following criteria from Appendix G of the CEQA Guidelines were used to determine whether significant project-related impacts might occur as a result of the Proposed Projects. Impacts were considered significant if:

- The Proposed Projects would induce substantial population growth or housing demand in the area, either directly or indirectly.
- The Proposed Projects would displace a substantial number of existing people or housing.

5.12.1.1 Replacement Generator Transport Options

There are two transport options to deliver RSGs and other associated materials/equipment to DCPD. Population and housing impacts associated with each transport option are described below.

Port San Luis Transport Option

Use of this transport option, including a possible staging area in the port parking lot, would not result in a demand for permanent housing or an increase in population because only 30 additional

personnel are expected over a 2- to 4-day period. Also, using this transport option would not result in the relocation of existing people or homes. Therefore, no significant impacts are anticipated.

Intake Cove Transport Option

Use of this transport option would not result in a demand for permanent housing or an increase in population because only 30 additional personnel are expected over a 2- to 4-day period. Also, using this transport option would not result in the relocation of existing people or homes. Therefore, no significant impacts are anticipated.

5.12.1.2 Replacement Steam Generator Preparation (Staging)

As previously mentioned above and in Section 1.2, as well as graphically shown on Figure 3-10, all combined project-related activities would require a maximum of approximately 900 temporary additional workers for the RSG and plant outage processes at DCPD during the peak period. Beginning in mid-2006, approximately 100 additional workers would be located at DCPD in order to participate in preparations for the Proposed Projects. Most of the 100 additional workers would remain at DCPD until the Proposed Projects are completed in mid-2009. The number of workers on site would increase from 200 to 700 during the project staging period. There are adequate lodging facilities in the region to accommodate these workers; therefore, no significant impacts are anticipated.

5.12.1.3 Original Steam Generator Removal, Transportation, and Storage

To analyze the worst-case scenario, a conservative worst-case estimate of 2,000 temporary workers at DCPD was used. This included the 900 OSG project workers and 1,100 regular outage workers. It was determined that the 2,000 personnel could be adequately accommodated through the ample supply of lodging in the nearby communities of San Luis Obispo, Avila Beach, Shell Beach, and Pismo Beach, as discussed in Section 4.12. This includes short-term apartment rentals, motels, hotels, mobile homes, recreational vehicle sites and campgrounds. Nearly 100,000 transient visitors to the area are accommodated by these facilities during portions of any given year. In the past, the California Department of Parks and Recreation estimated that the peak visitor month of August has a daytime transient population of 5,000, and nighttime transient population of 400. This indicates that as long as the peak visitor month is avoided, additional people can be accommodated. Currently, the maximum number of workers are projected to be on site from February to May 2008 and January to April 2009, which avoids the

peak visitor periods. Therefore, this portion of the Proposed Projects would not result in induced demand for permanent housing or an increase in population. After the Proposed Projects are completed, the temporary workers would no longer be working and staying in the vicinity of the DCP. Also, the relocation of existing people or homes is not expected. Therefore, no significant impacts are anticipated.

5.12.1.4 Replacement Steam Generator Installation

This phase of the project overlaps with the OSG Removal, Transportation, and Storage phase above and occurs during the last portion of the 80-day replacement outage. The worst-case scenario of the additional 2,000 temporary workers at DCP was considered during this phase because this is the peak period. The additional workers can be adequately accommodated from the supply of lodging in the nearby communities of San Luis Obispo, Avila Beach, Shell Beach, and Pismo Beach, as discussed in Section 4.12. This maximum number is somewhat similar to other outages in the past that have exceeded the 1,100 regular outage workers in the area. Therefore, no significant impacts from the temporary induced demand, and no permanent housing or an increase in population are anticipated. After the Proposed Projects are completed, the temporary workers would no longer be at DCP. Also, the relocation of existing people or homes is not expected. Therefore, no significant impacts are anticipated.

5.12.2 Mitigation Measures

No significant impacts are anticipated as a result of the Proposed Projects; therefore, mitigation would not be required.

5.12.3 No Project Alternative

Two new power generation facilities in Alameda and Kern Counties may have significant impacts on local population or housing, depending upon the site location chosen.

5.13 PUBLIC SERVICES

5.13.1 Proposed Projects

This section addresses the potential impacts on public services as a result of the construction and operation activities associated with the Proposed Projects. According to Appendix G, CEQA Guidelines, impacts would be considered significant if:

- The Proposed Projects would result in substantial adverse changes to governmental facilities or acceptable service ratios, response times, or other performance objectives for any public services such as fire, police, schools, parks, and emergency response.

5.13.1.1 Replacement Generator Transportation Options

The transportation options (Port San Luis or the Intake Cove) would not result in an increased need for public services (fire, police, schools, parks and recreation, and hospitals). No significant adverse impacts are anticipated and no mitigation measures are required. It is expected that the entire transportation process, from arrival in Port San Luis or the Intake Cove to transportation to the RSGF, would occur within 2 to 4 days, with the possibility of some of the activities taking place at night. It is expected that 30 workers would be employed during the transportation activities. The short-term nature of this activity and relative few personnel dedicated for either alternative would not impact public services.

5.13.1.2 Replacement Steam Generator Preparation (Staging)

The project activities would require from 100 to 700 additional workers during the design, staging, and preparation periods. Given that most of these temporary employees are transient in nature, the project would not result in the increased need for public services; therefore, no significant adverse impacts are anticipated.

5.13.1.3 Original Steam Generator Removal, Transportation, and Storage

A peak of 900 project workers would be required during OSG activities phase and would be in addition to the 1,100 workers required for the regularly occurring refueling outage. Therefore, a maximum of approximately 2,000 temporary additional workers would be at DCPD during peak periods. Previous outages also have involved a substantial number of additional temporary

workers and no significant impacts on public services occurred during those periods. Given that most of these temporary workers are transient in nature, the project would not result in the increased need for public services; therefore, no significant adverse impacts are anticipated.

5.13.1.4 Replacement Steam Generator Installation

This RSG installation overlaps with the OSG activities and would occur during the peak 80-day outage periods. A maximum of 900 project personnel and 1,100 personnel for regularly occurring outage activities would be present. The public services in the area would be adequate to accommodate the temporary increase. No significant impacts on public services are anticipated because other outages have resulted in large numbers of transient workers in the past.

5.13.2 Mitigation Measures

No significant impacts are anticipated as a result of the Proposed Projects; therefore, mitigation would not be required.

5.13.3 No Project Alternative

The siting of new facilities in Alameda or Kern County may result in the need for additional public services. While new generation could be sited in a manner that reduces or avoids impacts on local public services, significant impacts would have to be analyzed on the ultimate location chosen. Additional fire protection, police protection and other emergency response services may be needed depending upon where replacement facilities would be located. Therefore, significant impacts may be possible.

5.14 RECREATION

5.14.1 Proposed Projects

This section addresses the potential recreation impacts from the Proposed Projects during construction and operations.

The following criteria from Appendix G, CEQA Guidelines were used to determine whether significant project-related impacts may occur as a result of the Proposed Projects. Impacts were considered significant if:

- The Proposed Projects would increase the use of state, regional, or local parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- The Proposed Projects would include recreational facilities or require the construction/expansion of recreational facilities which may have an adverse physical effect on the environment.

5.14.1.1 Replacement Generator Transport Options

There are two transport options to deliver RSGs and other associated materials/equipment to DCCP. Recreational impacts associated with each transport option are described below.

Port San Luis Transport Option

While there are fishing and recreational users in the vicinity of the proposed delivery landing at Port San Luis, temporary displacement of a limited number of boats for clearing access would not result in the deterioration of the local recreational facilities. Figure 3-6 shows the barge transport route through the mooring configuration at Port San Luis. A close up of the possible offloading docking and potential staging areas is shown in Figure 3-7. Use of this transport option and the nearby parking lot as a staging area may also temporarily limit some access along the shoreline for recreational users. This area is not heavily used for recreation at most times. Other recreational opportunities are available, however, within 1 mile at the Avila State Beach area, which is located in the City of Avila Beach.

No significant impacts would occur because of the short time period of 2 to 4 days for this phase of work and the availability of other recreation amenities.

Intake Cove Transport Option

Use of this transport option would not result in the deterioration of the local recreational facilities because all of the delivery would occur on DCPD property. There are no public recreational facilities in this area; therefore, no significant impacts would occur.

5.14.1.2 Replacement Steam Generator Preparation (Staging)

As previously mentioned above and in Section 1.2, as well as graphically shown on Figure 3-10, all combined project-related activities would require from 100 to 700 additional workers. Beginning in mid-2006, approximately 100 additional workers would be located at DCPD to participate in preparations for the Proposed Projects. This would increase to approximately 700 workers by the end of 2007. Most of the additional workers would remain at DCPD until the Proposed Projects are completed in mid-2009. There would be a reduction in workers required to approximately 200 between outages from approximately June 2008 to November 2008. There would not be significant impacts on recreational activities from this portion of the Proposed Projects, because all project activities would occur within the DCPD property and there are no publicly accessible recreation opportunities at DCPD.

As discussed in Section 4.14, the project vicinity has abundant state, regional, and local recreational facilities. This is evidenced by the fact that nearly 100,000 transient visitors visit this area during portions of any given year and effectively use them. The temporary increase in workers at DCPD as part of the Proposed Projects would not significantly affect available local recreational resources. This portion of the Proposed Projects would not result in the deterioration of the local recreational facilities, take place in local recreational facility, or result in the construction or expansion of local recreational facilities that would have an adverse effect on the environment. Therefore, no significant impacts are anticipated.

5.14.1.3 Original Steam Generator Removal, Transportation, and Storage

This phase would take place during the 80-day peak period when 900 additional OSG/RSG personnel and 1,100 additional regularly occurring outage personnel would be on site. There are no public recreational amenities within DCPD. As discussed in Section 4.14 and above, many recreational opportunities are located in the project vicinity and the area has abundant state,

regional, and local recreational facilities. The temporary increase in workers at DCPD as part of the Proposed Projects would not significantly affect available local recreational resources. The OSG activities would not result in the deterioration or change to the local recreational facilities. Therefore, no significant impact to recreational resources would occur.

5.14.1.4 Replacement Steam Generator Installation

This RSG installation overlaps with the OSG activities and would occur during the 80-day peak period, where the maximum number of additional workers would be on site. Therefore, the same effect on recreation would occur as described above under the OSG removal, staging, and disposal phase. As above, no recreational resources would be affected by the increase in personnel during the peak period.

5.14.2 Mitigation Measures

The Proposed Projects would not interfere with the maintenance and/or operation of state, regional, or local recreational facilities as no such resources are located at DCPD. There are recreational amenities in the vicinity of the Proposed Projects. These amenities can accommodate an increase in the number of visitors to the area represented by the project. Therefore, no mitigation is recommended.

5.14.3 No Project Alternative

Introducing two new power generation facilities in Alameda and Kern Counties may have adverse impacts on state, regional, or local recreational facilities depending upon the site location chosen. Sites located on or near local recreational facilities would be evaluated to determine the potential for significant impacts in a separate analysis.

5.15 TRANSPORTATION/TRAFFIC

5.15.1 Proposed Projects

This section addresses the potential transportation/traffic impacts from the Proposed Projects during construction and operation. The following criteria were used to determine whether significant project related impacts may occur as a result of the Proposed Projects. According to Appendix G, from CEQA Guidelines, impacts were considered significant if:

- The Proposed Projects would cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system.
- The Proposed Projects would exceed, either individually or cumulatively, a level of service standard established by a local agency.
- The Proposed Projects would substantially increase roadway hazards due to a design feature.
- The Proposed Projects would result in inadequate emergency access.
- The Proposed Projects would result in inadequate parking capacity.
- The Proposed Projects would conflict with alternative modes of transportation.

5.15.1.1 Replacement Generator Transport Options

There are two transport options to deliver RSGs and other associated materials/equipment to DCPP. Transportation and traffic impacts associated with each transport option are described below.

Port San Luis Transport Option

Use of this transport option, including the use of the Port parking lot as a staging area, would not result in significant increased traffic or transportation circulation impacts throughout the project vicinity. However, use of this transport option may temporarily interrupt activities adjacent to the proposed offloading area, which include parking and access to the Harford Pier and Landing areas.

Under the Port San Luis Option, there are two potential methods for offloading the RSGs, which were previously discussed in Section 3.4.1.2. Both methods involve barging the RSGs into Port San Luis during high tide conditions, if possible. The potential offloading of the RSGs in the Port San Luis vicinity may draw a limited number of curious on-lookers depending upon the

conditions and duration; however, traffic controls should avoid adverse effects from such on-lookers. In addition, the distance from the Port San Luis offload area to the DCPD Avila Gate is only approximately 1,000 feet. The offloading activities could occur primarily at night, if required.

Taking these factors into account as well as the limited time of the Proposed Projects' use of the parking lot for offloading of the RSGs, no significant impacts on traffic or transportation circulation in the project vicinity are anticipated. In order to further reduce traffic/transportation circulation impacts in the Avila Beach area during the summer season as discussed in Section 4.15, to the extent practicable, RSG offloading would be conducted during the weekdays before or after the busy summer season.

No new roadways would be constructed as part of this transport option as adequate facilities already exist. Also, no LOS standard, air traffic pattern, emergency access, parking capacity, or alternative modes of transportation would be affected with this transport option. No significant impacts are expected.

Intake Cove Transport Option

Use of this transport option would not result in increased traffic or transportation circulation impacts because the RSG offloading would occur on DCPD property, which is not accessible to the public. No new roadways would be constructed as part of this transport option, because adequate facilities already exist. Also, no LOS standard, air traffic pattern, emergency access, parking capacity, or alternative modes of transportation would be affected with this transport option. Therefore, no significant impacts are anticipated.

5.15.1.2 Replacement Steam Generator Preparation (Staging)

As previously mentioned above and in Section 1.2, as well as graphically shown on Figure 3-10, the overall number of project personnel would range from 100 to 700 additional workers during the design, staging, and preparation periods. The increased traffic from the workers can be accommodated without affecting LOS, access, and parking. Therefore, no significant impacts are anticipated.

5.15.1.3 Original Steam Generator Removal, Transportation, and Storage

During the peak OSG activity, 900 project workers would be at DCPD in addition to the 1,100 workers required for the regularly occurring refueling outage. As shown in Section 4.15, the project vicinity traffic/transportation circulation system currently has adequate capacity for these temporary additional workers at DCPD. The majority of the additional workers would arrive at DCPD in mid-2008 and again in mid-2009. Therefore, future traffic conditions have been assessed for potential worst-case impacts when the 2,000 additional workers would be present.

The existing and future degree of congestion experienced on roadways and intersections in project vicinity was recently evaluated in the Spent Fuel Storage Installation Draft EIR released in September 2003 (MRS, 2003). Much of the following information was derived from that document. As a part of the DCISFSI EIR, current and future roadway conditions were analyzed for the project vicinity. Current roadway conditions were evaluated in Section 4.15, indicating that portions of Route 101 currently experience congestion at certain locations with poor LOS levels. One stretch of Route 101 experiences LOS E, which indicates that roadway capacity is nearing its maximum capacity with closely spaced vehicles during the peak operating hours. LOS D conditions are present on Route 101 at two separate locations and coincide with reduced vehicle speeds and diminished maneuverability. Currently, the arterial roads in the Avila Beach area do not approach adverse congested levels under normal operating conditions. Current and future (Year 2015) average daily traffic numbers and peak hour traffic flows were used to calculate LOS as shown on Table 5.15-1.

Table 5.15-1 indicates that most of Route 101 in the project vicinity would operate at LOS D or worse by 2015 and Avila Beach Drive is expected to deteriorate from LOS C to LOS F, even without the additional workers associated with the combined project-related activities. As previously stated, LOS D conditions coincide with reduced vehicle speeds and diminished maneuverability, LOS E conditions are associated with roadway capacity nearing its maximum with closely spaced vehicles during the peak operating hours, and LOS F conditions consist of stop-and-go conditions resulting in significant travel delay. The remaining two arterial roads in the Avila Beach area do not approach adverse congested levels under future operating conditions.

**Table 5.15-1
Current and Future LOS Classifications**

Roadway	Current			Future		
	ADT	LOS*	Peak Hour	ADT	LOS*	Peak Hour
Avila Beach Drive	10,157	C	1,396	12,359	F	1,699
San Luis Bay Drive	6,532	A	625	7,948	B	761
Diablo Canyon Road	-	A	-	-	A	-
Route 101 at Oak Park Road (in Pismo Beach)	51,000	C	6,400	53,056	C	7,788
Route 101 at Pismo Oaks Road (in Pismo Beach)	58,000	C	7,400	60,047	D	9,004
Route 101 at Villa Clark Road (in Pismo Beach)	66,000	D	8,400	70,201	E	10,221
Route 101 at Jct. Route 1 South (in Pismo Beach)	55,000	C	8,400	66,925	D	10,221
Route 101 at North Shell Beach Road	55,000	C	4,750	66,925	D	5,780
Route 101 at Avila Beach Drive	62,000	D	7,800	73,660	E	9,491
Route 101 at San Luis Bay Drive	58,000	C	6,900	75,861	F	8,396
Route 101 at Sante Fe Road (in San Luis Obispo)	69,000	E	8,300	89,189	F	10,100
Route 101 at Los Osos Road (in San Luis Obispo)	69,000	E	8,000	103,881	F	9,735
Route 101 at Madonna Road (in San Luis Obispo)	54,000	C	5,500	72,240	E	6,692

Notes: * LOS calculated using Santa Barbara County thresholds or Highway Capacity Software. ADT = Average Daily Traffic. LOS = Level of Service.

Sources: Route 101 – Caltrans, 2001. Avila Beach Roads – San Luis Obispo County Traffic Volumes 2002, which include data from 1993.

For the purposes of this analysis, only the impacts of the temporary 2,000 additional workers are discussed. At this time, it is assumed that the temporary 2,000 additional workers would be split into two 12-hour shifts, with approximately 75 percent working during the day and approximately 25 percent working at night, during the combined project-related activities.

Traffic increases associated with the combined project-related activities would be most noticeable on Avila Beach Drive, given that this is the only road that accesses DCPD.

Future traffic growth in the Avila Beach area is mostly dependent upon an increase in tourists, not on population growth. Traffic on Avila Beach Drive is expected to deteriorate from LOS C to LOS F, even without the additional workers associated with the combined project-related activities. The remaining two arterial roads in the Avila Beach area do not approach adverse congested levels under normal future operating conditions. Therefore, there would be no significant traffic impacts.

5.15.1.4 Replacement Steam Generator Installation

RSG installation overlaps with the OSG activities during the 80-day peak period and has been analyzed with the same assumptions as the OSG removal, transportation, and storage operations described above. No new roadways would need to be constructed as part of the Proposed Projects. Also, this portion of the Proposed Projects would not affect LOS standards, emergency access, parking capacity, or alternative modes of transportation; therefore, no significant impacts are expected to occur.

5.15.2 Mitigation Measures

No significant impacts are anticipated as a result of the Proposed Projects; therefore, mitigation would not be required.

5.15.3 No Project Alternative

The introduction of two new power generation facilities in Alameda and Kern Counties may have adverse impacts on traffic/transportation circulation, depending upon the site location chosen. Sites located on or near roadways with inadequate capacity may result in significant impacts.

5.16 UTILITIES AND PUBLIC SERVICES

5.16.1 Proposed Projects

This section addresses the potential impacts on utilities and related services as a result of the construction and operation activities associated with the Proposed Projects. According to Appendix G of the CEQA Guidelines, impacts would be considered significant if:

- The Proposed Projects exceeded wastewater treatment requirements of the Regional Water Quality Control Board
- The Proposed Projects required or result in the construction of new water, wastewater, storm water treatment facilities or expansion of existing facilities
- The Proposed Projects' solid waste could not be accommodated by a landfill with sufficient permitted capacity
- The Proposed Projects did not comply with federal, state, and local statutes and regulations related to solid waste

5.16.1.1 Replacement Generator Transportation Options

The transportation options (Port San Luis or Intake Cove) would not result in an increased need for utility or public services. No significant impacts are anticipated and no mitigation measures are required. It is expected that the entire transportation process, from arrival in Port San Luis or the Intake Cove to transportation to the TSA, would be completed within 2 to 4 days, with most of the activities likely taking place at night. Other than the short distance from Port San Luis to the plant entrance, all potential road impacts would be on DCPD property. DCPD would repair any damages to the public roadways during the delivery of the replacement generators. The Proposed Projects would not require improvement or replacement of wastewater, stormwater, sewer systems, sanitation services (recycling, composting or solid waste), or the construction of new landfills because of the short-term nature of this activity.

5.16.1.2 Replacement Steam Generator Preparation (Staging)

RSG staging would not require additional infrastructure service improvements, including wastewater, stormwater, sewer systems, sanitation services, or the construction of new landfills. During previous regular outages when there was an increase in temporary workers (typically 1,000 to 2,000 people), the DCPD wastewater plant received a flow rate of 20,000 to 25,000 gallons/day of wastewater, which is well below the operation criteria for the treatment system. Workers

required for the RSGP staging would vary from 100 to 700 additional personnel. Temporary utilities for construction trailers would be required; however, as demonstrated during previously occurring outages, all services can be supplied by DCPD site services. Therefore, there would be no significant impacts from the short-term use of existing utilities and services.

5.16.1.3 Original Steam Generator Removal, Transportation, and Storage

The OSG activities would occur during the 80-day outage period when a peak of 900 additional project personnel would be on site and 1,100 regularly occurring outage personnel are anticipated. However, additional infrastructure service improvements, including wastewater, stormwater, sewer systems, sanitation services or the construction of new landfills would not be required. As described above, there are adequate utilities currently available that have been used for previous outages when 1,000 to 2,000 additional workers were on site. Temporary utilities for construction trailers would also be required; however, as demonstrated during previous outages, all services can be supplied by DCPD site services. Therefore, there would be no significant impacts from the short-term use of existing utility services.

5.16.1.4 Replacement Steam Generator Installation

RSG installation overlaps with the OSG removal, transportation, and storage described above. The RSG installation activities would occur during the 80-day outage period, when 900 additional workers would be on site along with 1,100 regularly occurring outage personnel. All services can be supplied by existing DCPD site services. Therefore, there would be no significant impacts from the short-term use of existing utilities and public services.

5.16.2 Mitigation Measures

No significant impacts are anticipated as a result of the Proposed Projects; therefore, mitigation would not be required.

5.16.3 No Project Alternative

New generation facilities may cause significant impacts on utilities and other public services in Alameda and Kern Counties. New generation facilities could require the construction of new storm water facilities and would produce additional wastewater. In addition, new generation facilities would most likely require additional water sources other than ocean cooling. Mitigation considerations would be specific to site selection and local jurisdictional requirements for any new generation facility.