Initial Study

Environmental Checklist Form

B.1 Project Description

B.1.1 Project Title

Southern California Edison Company's Riverway Substation Project

B.1.2 Project Sponsor's Name and Address

Southern California Edison Company (SCE)
2244 Walnut Grove Avenue
Rosemead, California 91770

B.1.3 Lead Agency Name and Address

California Public Utilities Commission
Energy Division
505 Van Ness Avenue, Fourth Floor
San Francisco, California 94102

B.1.4 Lead Agency Contact Person and Phone Number

Jensen Uchida, Project Manager
Energy Division
California Public Utilities Commission
505 Van Ness Avenue, Fourth Floor
San Francisco, California 94102
(415) 703-5484

B.1.5 Project Location

Southern California Edison Company (SCE) proposes to construct a new 66/12 kilovolt (kV) low-profile substation (Proposed Project), including two 28 megavolt-ampere (MVA) transformers, two 4.8-megavolt-ampere reactive (MVAR) 12 kV capacitor banks, and six 12 kV distribution lines. The Proposed Project would include approximately 1,200 feet of underground 66 kV subtransmission lines, as well as new fiber optic cable and communication equipment to connect the substation to SCE's existing telecommunication system. SCE has stated that the project is necessary to maintain safe and reliable service and meet projected electrical load requirements in the City of Visalia and northern Tulare County (Electrical Needs Area). The substation would be constructed to meet the electrical demand in 2008 and accommodate future capacity increases beyond 2010, as required.

The Project Area has been defined as the region approximately bounded by Demaree Street, Dinuba Boulevard, Houston Avenue, and the Saint Johns River in the City of Visalia and Tulare County, California. The proposed Riverway Substation site would be located north of West Riggin Avenue and east of

North Mooney Boulevard within the City of Visalia (see Figures B.1-1 and B.1-2). The proposed Riverway Substation site, including buffer area, is approximately 277 feet by 300 feet, comprising approximately two acres. The substation site is currently used as a walnut orchard and is relatively flat with grading to accommodate irrigation of the existing trees.

B.1.6 Surrounding Land Uses and Setting

The City of Visalia is located in the delta of the Kaweah River. This area at the foot of the Sierra Nevada is optimal for agricultural use. The City of Visalia has been shaped by both rural and urban development. Agriculture, since the late 1800s, has been the predominant land use around the City of Visalia, while urban development has been characterized by gradual and steady growth around the City of Visalia's downtown area.

The substation site is located north of Riggin Avenue and east of North Mooney Boulevard, which is being extended north of Riggin Avenue.[1] The future Ranch Circle Drive, east of the extended Mooney Boulevard, would serve as the access road in and out of the substation after the roads are complete. English walnut trees are currently growing on the proposed substation site, and the current land use is agriculture.

Residential housing (North Park Homes neighborhood) and some businesses are located immediately south of the site. North of the site is presently used for agriculture; however, it is under development as part of the Shannon Ranch Master Plan for commercial/residential use. West of the site, the extension of Mooney Boulevard was graded by February 2007, and the land west of the Mooney Boulevard extension has recently been cleared. The land between the site and Riggin Avenue is enclosed by a chain-link fence and features a large barn-like structure, an equipment shelter, a large vertical tank, and open areas for moving and storing equipment and machinery. The land to the southeast contains two buildings that have been used as a farming operations office and equipment maintenance facility. The remainder of the non-agricultural lands are presently primarily south of Riggin Avenue.

The nearest existing residential properties are located approximately 300 feet south of the proposed substation site across Riggin Avenue; however, once the Shannon Ranch residential development is completed then the nearest residential receptors would be immediately across and along Ranch Circle Drive, north and east of the substation site. The precise orientation of future homes around the substation site is not known, and no firm schedule is in place for construction of the development (City of Visalia, 2007).

B.1.7 General Plan Designation

Local land use plans and zoning are considered in order to assist the CPUC in determining the Proposed Project's consistency with local policies. However, local discretionary permits (e.g., conditional use permits) and an evaluation of local plan consistency are not required for the Proposed Project because the CPUC has preemptive jurisdiction over the construction, maintenance, and operation of public utilities.

[1] The City of Visalia has plans to extend North Mooney Boulevard north of Riggin Avenue. The Mooney Boulevard extension was graded by February 2007. When referencing Mooney Boulevard north of Riggin Avenue, this document is referencing the Mooney Boulevard extension that is under development.

Figure B.1-1. Regional Map
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Figure B.1-2. Project Area
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The long-term development strategy for the City of Visalia include the Tulare County General Plan (Tulare County, 2001) and City of Visalia General Plan (City of Visalia, 1996). The Tulare County General Plan provides broad policies and objectives to guide development within the cities, and Specific Plans that provide detailed policies and site development standards for planning areas. The City of Visalia General Plan is a long-range guide for attaining the City's goals within its ultimate service area and accommodating its population to the year 2020. The General Plan also encompasses specific plans to regulate development in specific geographic areas of the community.

B.1.8 Zoning

The proposed substation site is zoned C-SO (Shopping/Office Commercial). The zoning designation to the immediate west and south of the site is also C-SO. The immediate north and east of the site is designated low density residential (R-M-3).

On February 27, 2006, the City of Visalia Planning Commission approved a tentative tract map to the east of the substation site for 54 single-family lots. The parcel on the southwest corner of Riggin Avenue and North Mooney Boulevard is planned for development as multi-family residential. The Shannon Ranch development includes plans for residences north of the site across the future Ranch Circle Drive.

B.1.9 Project Overview

SCE proposes to construct the Riverway Substation to maintain reliability and meet projected electrical load requirements in the City of Visalia and northern Tulare County (Electrical Needs Area). SCE states that the Proposed Project is required to be operational by June 1, 2008 to ensure that safe and reliable electric service is available to meet customer electrical demands without overloading the existing electric facilities in the Electrical Needs Area. Pending approval, construction would begin in the third quarter of 2007. The Proposed Project would include the following components, which are depicted in Figure B.1-3:

- Construction of a new 66/12-kilovolt (kV) low-profile substation. The substation would be constructed on an approximately two acre site in the City of Visalia, California. The substation site would contain two 66 kV subtransmission source lines, two 28-megavolt-ampere (MVA) 66/12 kV transformers, two 4.8 megavolt ampere reactive (MVAR) 12 kV capacitor banks and six 12 kV distribution lines. The 12 kV switch rack would be designed with an operating bus and a transfer bus. The switch rack would have a provision for a second operating bus as well as ten future 12 kV distribution lines, two 28 MVA transformers, and two 4.8 MVAR capacitors to accommodate potential growth, if required.[2]
- Installation of approximately 1,200 feet of underground 66 kV subtransmission lines starting at the intersection of Riggin Avenue and the extended North Mooney Boulevard and ending at the substation. The subtransmission lines would be located within a portion of Riggin Avenue near the northeast corner of Mooney Boulevard, Mooney Boulevard north of Riggin Avenue, and a portion of the future Ranch Circle Drive right-of-way (ROW).
- Installation of new fiber optic cable and communication equipment to connect the substation to SCE's existing telecommunication system.

[2] Distribution lines do not require formal approval from the CPUC under General Order 131-D. They are included in the project description of this CEQA document for informational purposes. These circuits are not considered part of the project and are not analyzed.

B.1.9.1 Project Objectives

SCE has defined the following objectives for the Proposed Project (SCE, 2006):

- Meet projected electrical demand requirements in the Electrical Needs Area beginning in 2008 and extending beyond 2010 in order to meet the 10-year planning criterion
- Provide enhanced system reliability by locating the substation within the Project Area (as defined in Section B.1.5)
- Provide greater operational flexibility by providing the ability to shift load between distribution lines and substations
- Meet project need while minimizing environmental impacts
- Meet project need in a cost effective manner.

B.1.9.2 Purpose and Need

SCE has stated that the purpose of the Proposed Project would be to build necessary electrical facilities in order to maintain safe and reliable service to customers and to meet forecasted demand in the Electrical Needs Area beginning in 2008. Under the Federal Energy Regulatory Commission (FERC), North American Electric Reliability Council (NERC), Western Electricity Coordinating Council (WECC), and CPUC rules, guidelines, and regulations, electrical transmission systems must have sufficient capacity to maintain safe, reliable, and adequate service to customers. The safety and reliability of the system must be maintained under normal conditions (base case), when all facilities are in service, and also under abnormal conditions (both likely and unlikely contingencies) resulting from equipment or line failures, maintenance outages or outages that cannot be predicted or controlled due to weather, earthquakes, traffic accidents, and other unforeseeable events.

The Electrical Needs Area is currently served by a portion of SCE's Rector System. The Rector System is bounded by SCE's service territory to the south and southeast and is bounded by Pacific Gas and Electric Company's (PG&E) service territory to the north, west, and northeast. The Rector System is comprised of 220/66 kV transformers, 66 kV subtransmission lines, 66/12 kV transformers, and 12 kV distribution facilities. At the Rector Substation, southeast of Visalia, voltage is transformed from 220 kV to 66 kV and distributed to 66 kV substations within the Rector System. The five 66/12 kV substations in the Rector System that serve the Electrical Needs Area include: Chatham, Oak Grove, Visalia, Liberty, and Rector (Electrical Needs Area Substations). These five substations currently serve approximately 51,300 metered customers. The Rector System also includes nine additional 66/12 kV distribution substations, located outside the Electrical Needs Area. Figure B.1-4, SCE Rector System within Electrical Needs Area, illustrates the portion of the Rector System that serves the Electrical Needs Area.

Currently, the amount of electricity that can be delivered to the Electrical Needs Area is limited by the existing substations to 329.8 MVA under normal operating conditions. The temperature-adjusted peak demand in 2004 for these substations was 314.5 MVA. SCE projects the peak demand to increase by 64.6 MVA to approximately 379.1 MVA by 2008 (SCE, 2006). Figure B.1-5 shows substation capacity and peak demand in electricity.

Figure B.1-3. Proposed Substation Site and Subtransmission Route
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Figure B.1-4. SCE Rector System within Electrical Needs Area
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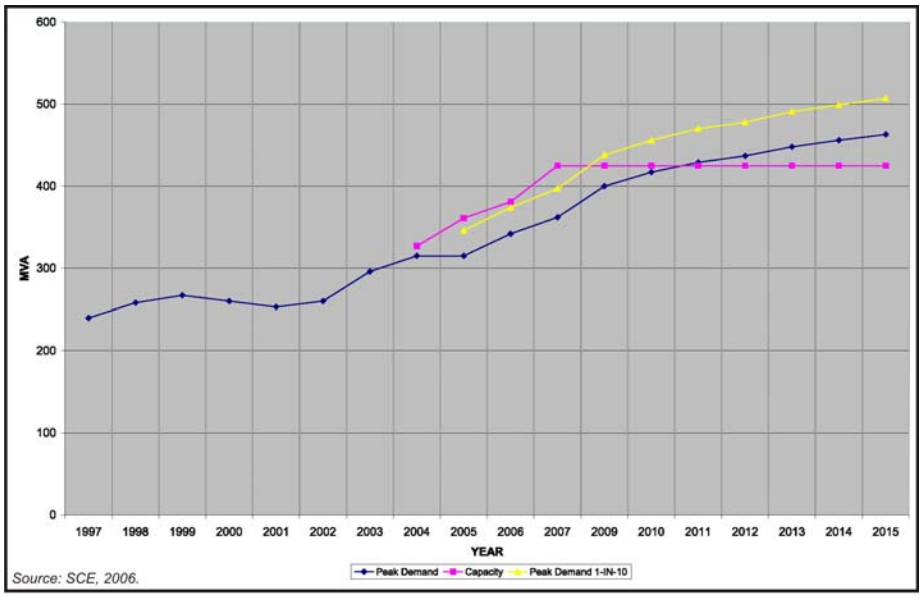

Figure B.1-5. Substation Capacity and Peak Demand in Electrical Needs Area

As the City of Visalia and northern Tulare County have become more densely populated, SCE has built longer distribution lines to accommodate such growth. However, as distribution lines increase in length, the voltage to the end user decreases, thereby resulting in reliability problems. In addition, longer distribution lines create difficulties in shifting electrical load between lines and between substations in response to demand. The inability to shift excess load causes the distribution lines and substations to overload. Although longer distribution lines were once sufficient to serve the lower electrical requirements of the City of Visalia and northern Tulare County in its former, more rural state, as the area becomes more urbanized, the forecasted demand for electricity warrants electric system upgrades. Therefore, SCE proposes this project to ensure the electrical distribution system has sufficient capacity to maintain safe, reliable, and adequate service to customers in the area.

B.1.10 Project Components

B.1.10.1 Riverway Substation

The Project Area has been defined as the region approximately bounded by Demaree Street, Dinuba Boulevard, Houston Avenue, and the Saint Johns River. The proposed substation site is located north of West Riggin Avenue and east of the northern extension of North Mooney Boulevard. The Proposed Project would include the construction of a new 66/12 kV substation with two 28 MVA transformers and six 12 kV distribution lines. The substation would be constructed to accommodate future capacity increases beyond 2010 as required (see Section B.1.10.8 for a discussion of future circuits).

The substation would consist of electrical equipment needed to operate the substation, subtransmission lines into and out of the substation, a perimeter wall surrounding the substation equipment with a visually screened gate to provide access in and out of the substation, an access road to the substation from a public road, and landscaping outside of the perimeter wall. The substation footprint (area contained within the perimeter wall) is approximately 1.7 acres. The total area of the substation including a buffer area (area outside the perimeter wall) is approximately two acres. The substation would incorporate low-profile design features, which limit the height of the electrical equipment to approximately 15 feet. In contrast, standard substation design generally includes substation electrical equipment up to 30 feet in height.

The substation would be an unstaffed, automated 56 MVA, 66/12 kV low-profile substation. The substation would serve two 66 kV subtransmission source lines with two 28 MVA 66/12 kV transformers, two 4.8 MVAR 12 kV capacitor banks, and six 12 kV distribution lines (see Figure B.1-6, Proposed Substation Site Diagram). The 66 kV switch rack would be a low-profile design with an operating and transfer bus configuration with one line breaker and three group disconnects at each bay, except for a bus-tie position with one line breaker and one set of disconnects. The 12 kV switch rack would be a low-profile design with an operating bus and a transfer bus.

The substation would be able to accommodate a future 66 kV 14.4 MVAR capacitor bank for future growth, if required. In addition, the 12 kV switch rack would have a provision for a second operating bus as well as ten future 12 kV distribution lines, two 28 MVA transformers, two 4.8 MVAR 12 kV capacitors to accommodate potential growth, if required. Because electrical facilities can be damaged by animals entering equipment or reaching the tops of the poles, SCE would install insulated coverings and barriers to minimize damage caused by wildlife.

One prefabricated metal mechanical and electrical equipment room (MEER) measuring approximately 12 feet high, 36 feet long, and 20 feet wide would be erected to house control and relay racks, battery and battery chargers, AC and DC distribution switchboards, and telecommunication equipment. The substation would be equipped with a substation automation system. The system would include one human machine interface (HMI) rack and approximately twelve 19-inch racks. All equipment and structures at the substation would be grounded in accordance with current SCE and industry standards.

Electrical equipment housed within the substation would consist of the following:

- **66 kV Switch Rack.** The proposed 66/12 kV, low-profile steel switch rack would consist of seven bays: two positions for lines, two for bank positions, one bus tie and two future vacant positions for a third 66 kV line and a future 66 kV capacitor bank. The two operating and transfer buses would each be 136 feet long and consist of one 1,590 kcmil (thousand circular mils) Aluminum Conductor Steel Reinforced (ACSR) wire per phase. Four switch rack positions would each be equipped with a line breaker and three group disconnect switches. One position would be equipped with a line breaker and only one group disconnect switch. A control cable trench from the switch rack to the MEER would be installed. The switch rack height and base would be 15 feet and 136 feet by 64 feet, respectively.
- **Transformers**. Transformation would consist of two 28 MVA 66/12 kV transformers with isolating switch disconnects on high and low sides, surge arresters and neutral current transformers. The transformer area dimensions would be approximately 78.5 feet by 42 feet.
- **12 kV Switch Rack.** The 12 kV low-profile switch rack would consist of a nine position rack expandable to 20 positions with wrap around arrangement; 486 feet of three and one-half inch Iron Pipe Size, Extra Heavy Aluminum for operating and transfer buses; a power cable trench; and a control cable trench to the MEER. The 12 kV switch rack height and base would be 15 feet and 81 feet by 34 feet, respectively.
- **Capacitor Banks.** Two 12 kV, 4.8 MVAR capacitor banks would be included with low-profile dimensions (15 feet height).
- **Mechanical and Electrical Equipment Room.** A prefabricated MEER would be installed and equipped with air conditioning and all standard equipment. It would contain control and relay panels, battery and battery charger, HMI rack, communication equipment, telephone and local alarm. The steel MEER would likely be light tan/beige, with dark brown trim (SCE, 2007).

Figure B.1-6. Proposed Substation Site Diagram
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B.1.10.2 Subtransmission Lines

There would be two 66 kV source subtransmission lines to the substation. The existing overhead Rector–Oak Grove No. 1 66 kV subtransmission line would be reconfigured to form the Rector-Riverway and Oak Grove–Riverway 66 kV subtransmission lines with a transition underground at the intersection of West Riggin Avenue and North Mooney Boulevard. The new 66 kV subtransmission line sections would travel underground into the proposed substation. The underground sections of the future Oak Grove–Riverway 66 kV and the Rector-Riverway 66 kV subtransmission lines would travel north on the east side of the northern extension of Mooney Boulevard, turn east on the south side of the future Ranch Circle Drive, and turn south into the proposed substation. (See Figure B.1-7, Proposed Project Underground Subtransmission Route.)

One tubular steel pole (TSP) riser structure, approximately 85 feet tall, with a concrete footing would be constructed for transition to the underground route of the new Rector-Riverway and Riverway–Oak Grove 66 kV subtransmission lines (see Figure B.1-8, Pole Proposed for Underground Subtransmission Route). The TSP riser would be steel with a galvanized surface treatment, typically medium gray (SCE, 2007). This TSP riser would intercept the existing Rector–Oak Grove No. 1 66 kV subtransmission line at the northeast corner of Riggin Avenue and Mooney Boulevard.

The underground sections of the two 66 kV subtransmission lines would travel 1,200 feet into the substation from the riser. Along the underground route, two concrete underground vaults would be installed, one north of the TSP riser at the corner of Riggin Avenue and North Mooney Boulevard and the second on the south side of future Ranch Circle Drive in front of the substation. Approximately 2,400 feet of new underground cable would be installed in a concrete encased duct bank consisting of six conduits. Total disturbed soil due to subtransmission underground construction would be approximately 3,425 cubic yards (cy).

The proposed underground subtransmission line would utilize single 2,000 kcmil copper cable with:

- 66 kV polymer insulator assemblies;
- Dead-end assemblies consisting of 34-inch single gray polymer insulators sustained by hardware and attached to each steel cross arm on the TSP riser in a vertical configuration; and
- Two underground, steel-reinforced, concrete “Tub Type” vaults. The internal dimensions would be 8 feet wide, 20 feet long, and 9.5 feet deep.

The two new line sections connecting the substation site with the existing Rector–Oak Grove No. 1 66 kV subtransmission line would be routed along ROW to be acquired by SCE.

B.1.10.3 Telecommunication Improvements

The Proposed Project would require construction of diverse communication paths. The paths would connect the proposed substation to the existing Rector, Oak Grove, and Visalia Substations for monitoring the substation and subtransmission line equipment.

The proposed telecommunications system for the Proposed Project would consist of both existing and new facilities. New fiber optic cable would be installed between the proposed Riverway Substation and Oak Grove Substation and then continue to the Rector and Visalia substations, as is shown on Figure B.1-9. New communication equipment for telecommunication would also need to be installed within the Rector, Oak Grove, and Visalia Substations to facilitate the new interconnections.

Figure B.1-7. Proposed Project Underground Subtransmission Route
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Figure B.1-8. Tubular Steel Pole for Transition to Underground Subtransmission Route
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B.1.10.4 Access Road

The substation would be accessed by a 20-foot-wide asphalt concrete paved driveway connecting to the future Ranch Circle Drive. The substation entrance would have a locked gate for two-way traffic access to the substation. Site access is depicted on Figure B.1-10.

In the event that the future Ranch Circle Drive and North Mooney Boulevard extension are not built in time for construction, a temporary unpaved access road would be built to the proposed site through the adjacent properties. This would require clearing additional walnut trees and other vegetation to provide a minimum 12-foot-wide access road, with an additional two-foot shoulder on each side. To accomplish this, SCE would need to acquire easements through negotiations with the landowner. The access road would most likely follow the Mooney Boulevard alignment up to the future Ranch Circle Drive where the access road would be on the southern edge of the Ranch Circle Drive ROW.

The width of the temporary access road would be approximately half of the dedicated width of the future Ranch Circle Drive. However, the exact location and width of the access road would be dependent upon negotiations. Prior to development of the future Ranch Circle Drive, the access road would not be paved, but SCE proposes to build the temporary road in a manner mutually acceptable to SCE and the property owner.

B.1.10.5 Perimeter Features

To screen the substation from the public and to secure the facility, the substation would be enclosed on all four sides by a wall minimum of eight feet in height and which would be consistent with the style outlined in the Shannon Ranch Master Plan to the extent feasible (SCE, 2007; Quad Knopf, 2001). Access gates would also be a minimum of eight feet high and visually screened. All perimeter fences and gates would be fitted with barbed wire for increased security. The barbed wire would not be visible from outside the perimeter wall.

B.1.10.6 Drainage

Site drainage installations would be consistent with the National Pollutant Discharge Elimination System (NPDES) and the Storm Water Pollution Prevention Plan (SWPPP), as well as local ordinances and best engineering practices. In addition, the substation design would incorporate Spill Prevention Control and Countermeasure (SPCC) Plan design requirements, such as curbs and berms.

During final engineering design, the site drainage would be developed to control surface runoff that would be in compliance with regulations regarding the alteration of existing drainage patterns. This may include, but is not limited to, concrete swales, ditches and culverts, and a retention basin.

If no local storm drain system is available at the time of construction, storm water runoff from the substation would be discharged into an on-site fenced retention basin on the east side of the property. Once the local storm system is functional, the storm water runoff from the substation may or may not be tied into the future local system. Dependent upon future storm water system availability, the retention basin may be utilized as the permanent surface runoff control measure.

Figure B.1-9. Proposed Fiber Optic Cable Installation
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Figure B.1-10. Site Access
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B.1.10.7 Landscaping

SCE proposes to add landscaping in conjunction with development expected to occur around the site. Once a water line is brought into the surrounding area, SCE would apply to the local water company, the California Water Service Company (located in Visalia), for service. SCE proposes to install the landscaping and secure a permanent water supply for the proposed substation only when the water supply becomes available. Currently, there are no residential areas or public roads adjacent to the substation site, however, once the Shannon Ranch Master Plan development is built then residential and commercial receptors would be located adjacent to and north of the substation site. As of February 2007, the extension of North Mooney Boulevard had been graded but not paved.

SCE proposes that once municipal water service has been brought into the area, SCE would landscape in order to filter views from future residential areas and other potential visual receptors located nearby. The surrounding area is anticipated to be developed as the Shannon Ranch commercial/residential development; however, no firm schedule is in place for construction of the road (City of Visalia, 2007). The proposed substation landscape plan, to the extent feasible, would be consistent with the city and community design standards as defined by the established Shannon Ranch Master Plan (Quad Knopf, 2001).

B.1.10.8 Lighting

Under normal operating conditions, the substation would not be illuminated at night. Lighting would be used only when required for maintenance outages or emergency repairs occurring at night. The lighting would consist of high-pressure sodium lights located in the switch racks, around the transformer banks, and in areas of the yard where operating and maintenance activities may take place during evening hours. Maintenance lights would be controlled by a manual switch and would normally be in the off position. The lights would be directed downward and shielded to reduce glare outside the substation.

B.1.10.9 Future Circuits

Future load growth in the Riverway Substation Electrical Needs Area would initially be accommodated by two-28 MVA, 66/12 kV transformers and six 12 kV distribution lines. Four of the six proposed distribution circuits would be built in 2008, with the other two circuits being constructed in 2009.

SCE's standard 66/12 kV substation design and footprint within the 1.7 acres would provide for the future addition of two 28 MVA transformers and ten (10) future distribution lines. A third 28 MVA bank is planned for installation in 2013. Five of the ten additional future distribution line routes are planned to be constructed between 2012 and 2015 (i.e., one in 2012, two in 2013, and two in 2015). The future distribution circuits would originate or terminate at a second operating bus that would be built in the future as part of the 12 kV switch rack. These future distribution circuits would exit the substation in underground conduits to the north in the future Ranch Circle Drive.[3]

[3] The distribution lines do not require formal approval from the CPUC under General Order 131-D. They are included in the project description of this CEQA document for informational purposes. These circuits are not considered part of the project and are not analyzed.

B.1.11 Project Construction Methods

B.1.11.1 Substation Construction

The proposed substation site, including buffer area, is approximately 277 feet by 300 feet, comprising approximately two acres. The substation site is currently used as a walnut orchard and is relatively flat, but has been graded to accommodate irrigation of the existing trees. Existing irrigation piping, if any, would be removed to accommodate construction.

The existing site topography would be altered slightly by grading. The site would be graded at a one percent slope toward the east. Waste would include the walnut trees removed from the substation site to the full depth of their root system. SCE estimates that 750 cubic yards of fill would be required to replace the voids caused by removal of root systems.

In addition to the tree waste, the top six inches of soil (approximately 1,500 cubic yards of waste) would be removed and replaced with an appropriate fill material. The actual quantity of fill that would be imported to the site would be calculated as part of the final engineering and design. It is estimated that approximately 7,000 cubic yards of imported fill would be required if the site is graded to a one percent slope. Following final site grading, a four-inch-thick layer of untreated crushed rock would be placed within the walled substation area, except in designated driveways. All grading would be conducted in compliance with the City of Visalia grading requirements.

After site preparation and grading for the substation, a temporary chain-link fence would be erected around the site perimeter. Construction of the perimeter wall, foundations, and below-ground facilities (e.g., ground-grid, conduit, and other infrastructure) would be completed, followed by installation of the above-ground structures and the electrical equipment. Equipment laydown areas for substation construction would be within the substation footprint.

All materials for the substation would be delivered by truck. The transformers would be delivered by heavy transport vehicles and off-loaded on-site by large cranes with support trucks. If necessary, a traffic control service would be used during transformer delivery. The majority of the truck traffic would use major streets, and when possible, would be scheduled for off-peak traffic hours. Some deliveries, such as cement truck deliveries, would occur during peak hours when footing work is being performed. SCE's anticipated inventory of equipment, personnel, and scheduling for construction of the proposed substation is shown in Table B.1-1 (Substation Construction).

B.1.11.2 Access Road Construction

The substation would be accessed by a 20-foot-wide asphalt concrete paved driveway connecting to the future Ranch Circle Drive. The substation entrance would have a locked gate for two-way traffic access to the substation.

In the event that the future Ranch Circle Drive is not constructed, a temporary unpaved access road would be graded and installed. This would require clearing additional walnut trees and other vegetation to provide a minimum 12-foot-wide access road (preferably with an additional two-foot shoulder on each side). The temporary access road would feature gradients and curvatures for travel by all construction vehicles and equipment, and it would use existing roads near the site to the extent feasible. Additional easements may be required within the future Ranch Circle Drive.

Table B.1-1. Substation Construction

Construction Phase	Duration	No. of Personnel	Equipment*	Estimated Usage/Day (hours)
Survey and Grading (Substation Access Road and Storm Water Basin)	24 days	8	1 980 Loader	2
			1 Grader	2
			1 Vibrator Compactor	2
			1 Water Truck (gasoline)	3
			2 Survey Trucks (gasoline)	4
			1 Soils Test Crew Truck (gasoline)	4
Below Grade/Perimeter Wall Construction	30 days	12	1 Office Trailer (electric or propane)	8
			2 Crew Trucks (gasoline or diesel)	2
			2 Dump Trucks	2
			1 Cement Truck	3
			1 Cement Mixer (electric, diesel, or gasoline)	3
			1 Bobcat	3
			1 Skip Loader	4
			1 Forklift	4
			1 Stake Truck (gasoline or diesel)	2
Mechanical and Electrical Equipment Room (MEER)	10 days	4	1 Carry-All (gasoline)	2
			1 Stake Truck (gasoline or diesel)	2
Maintenance	21 days	4	2 Maintenance Trucks	3
Transformer Testing and Preparation	20 days	15	2 Crew Trucks (gasoline or diesel)	2
			1 Diesel Generator	6
			1 Lift Truck	3
			2 Pick-Up Trucks (gasoline or diesel)	2
			1 Boom Truck	3
			1 Processing Trailer (electric)	6
Electrical Construction	72 days	10	1 Forklift	4
			1 Boom Truck	3
			1 Tool Trailer	3
			3 Crew Trucks (gasoline or diesel)	2
			1 Flat Bed	2
Transformer Installation Crews	1 day	6	1 Crane	4
			1 Forklift	6
			2 Crew Trucks (gasoline or diesel)	2
			1 Low-Boy Hauler/Tractor Truck	6
Paving Crew	14 days	6	1 Paving Roller	6
			1 Asphalt Paver	4
			1 Stake Truck (gasoline or diesel)	4
			2 Crew Trucks (gasoline or diesel)	2
			1 Tractor	3
			1 Dump Truck	3
Test Crew	30 days	2	1 Test Truck	6

* Fuel for equipment is diesel except where noted.
Source: SCE, 2006.

B.1.11.3 66 kV Subtransmission Line Construction

This section describes installation of the underground subtransmission lines.

Digging and Trenching. A 24-inch-wide by 5-foot-deep trench would be required to place the conduits underground. Trenching would be performed with a backhoe and other machinery specifically designed for this purpose. Soils would be tested for the presence of contaminants, and where appropriate, used at the substation site, transported off site for use as clean fill, or disposed of at an appropriate landfill. If the trenching requires the removal of pavement, it would be disposed of at an appropriate facility as construction debris. The trench would be backfilled with two-sack slurry. As with all SCE underground construction, Underground Service Alert would be contacted at least 48 hours prior to excavation in order to minimize impacts to other utilities.

Vault Installation. Vaults would be below grade (i.e., below ground surface) concrete enclosures where the duct banks terminate. The vaults would be constructed specifically for use in roadways and could accommodate vehicle loads without damage. The vaults would house equipment and splices for underground lines. Because there is a practical limit to the length of cable supplied on a reel, one vault would be located near the proposed TSP riser and the other in front of the proposed substation. These underground vaults would allow splicing of the cable ends together.

Duct Bank Installation. Conduits would be positioned in a specific configuration and encased in approximately 3 inches of concrete. This is known as a duct bank. After placement, the duct bank would be covered with 30 inches of two-sack slurry backfill. Typical duct banks used for 66 kV installation are able to accommodate six cables. The concrete encasement would provide protection from accidental third party damage and improved heat conduction.

Backfill Placement. Once the concrete has cured, two-sack slurry would be used to backfill the trench and return the excavation to original grade. If installation is under a paved roadway, the paved area cut for the cable installation would be repaved to match the existing roadway.

Tubular Steel Pole (TSP) Riser Construction. An approximately 85-foot-tall TSP riser structure, the height of which is subject to final engineering, would be installed to transition between the existing overhead lines to underground cables. The overhead conductors would terminate and connect to underground cables at the TSP riser. The aboveground conductors would then be routed down from the pole cross arms through the TSP riser, which would transition the cables underground.

Cable Pulling. After the underground duct banks, vaults, and the TSP riser have been constructed, 2,000 kcmil copper cable would be pulled from the first vault up through the TSP riser. From the first vault, the cable would then be pulled through the conduit to the second vault. The last length of cable would be pulled through the second vault in front of the substation to the proper position inside the substation. Once installed, the cable would be ready to be spliced, terminated, tested, and energized. Each line requires the installation of one cable per phase and two lines can be installed in one duct bank utilizing all six available conduits of the duct bank. Pulling sites are depicted on Figure B.1-11.

Cut-Over. The final step in the process would involve energizing the new cable. To accomplish this, the existing line would be temporarily taken out of service. This activity would be unlikely to result in an extended unplanned service interruption to SCE customers. Once the subtransmission line is out of service, crews could safely connect the existing overhead lines to the new lines. When the cut-over is complete, the subtransmission line would be returned to service, and electricity would flow through the underground cable.

Figure B.1-11. Proposed Pulling Sites for Subtransmission Line Construction
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SCE's anticipated inventory of equipment, personnel, and scheduling for construction of the underground subtransmission line is shown in Table B.1-2 (Underground Subtransmission Line Construction).

Table B.1-2. Underground Subtransmission Line Construction

Construction Phase	Duration	No of Personnel	Equipment*	Estimated Usage/Day (hours)
Footing for Tubular Steel Pole	2 days	7	4 Cement Trucks	4
			1 Pick-Up Truck (gasoline)	3
			1 Tractor with Trailer	3
			1 Dump Truck	5
			1 Backhoe	5
			1 Drilling Rig	6
Setting Tubular Steel Pole	1 day	7	1 Crane (60-Ton)	7
			1 Tractor with Trailer	3
			1 Boom Truck	5
			1 Equipment Truck	3
			1 Bucket Truck	5
			1 Carry-All (gasoline)	3
			1 Pick-Up Truck (gasoline)	4
Construct 66 kV Duct Bank	6 days	5	1 Crane (60-Ton)	1 day
Install 2 Vaults	4 days		1 Backhoe	8
			1 Equipment Truck	4
			1 Dump Truck	8
			1 Pick-Up Truck (gasoline)	3
			6 Cement Trucks	3
Cable Pulling	5 days	7	1 Cable Puller	6
Cable Splicing/Terminating	5 days		1 Crane (60-Ton)	5
			1 Equipment Truck	3
			1 Bucket Truck	6
			1 Tractor with Trailer	4
			1 Pick-Up Truck (gasoline)	3
			1 Carry-All (gasoline)	2

* Fuel for equipment is diesel except where noted.
Source: SCE, 2006.

B.1.11.4 Telecommunication Improvements

The proposed fiber optic installation would consist of new overhead and underground facilities. About 20 miles of new cable would be located within Visalia, north and south of State Route 198 (SR-198). The cable would be installed along Riggin Avenue, Shirk Road, Dinuba Boulevard, Ben Maddox Way, and Tulare Avenue, with the majority overhead except for about three miles of underground along Goshen Avenue. A 48-strand fiber optic cable would be used for the new fiber optic cable.

The overhead cable would be installed by attaching one cross arm to existing subtransmission poles. Existing poles would be used except where the line drops down or rises up from an underground section. The wood cross arms added to each pole would likely be 60 inches long mounted at least six feet below the existing electrical conductors (SCE, 2007). SCE would not install new poles for the telecommunications

lines as part of the Riverway Substation Project. Where the line drops down or rises up from an underground section of the fiber optic line, SCE would use existing wood poles to transition the underground telecommunication line to an overhead position.

The underground portion would be installed in existing underground vaults with the exception of small segments of new undergrounding, which would be needed at the proposed Riverway Substation and at the existing Oak Grove Substation (located at the intersection of Shirk Road and Goshen Avenue). At the Oak Grove Substation, an underground vault and conduits would be required to bring the fiber optic cable from the substation to the existing subtransmission pole closest to the substation. All undergrounding would occur in areas that have previously been disturbed as part of the existing substation footprint or in areas to be disturbed by the proposed substation.

The trench typically requires an excavation of a minimum 36-inch depth (and sometimes deeper depending on local regulations) and a 12- to 18-inch width for underground fiber optic segments, particularly from Riggin Avenue into the proposed substation. Telecommunication systems typically use distribution or subtransmission vaults for terminating/pulling structures.

For the installation of the fiber optic cable in existing and new underground conduit, a high-density polyethylene smooth-wall inner duct would be utilized. The inner duct would facilitate the installation of the fiber optic cable, would provide protection, and would help identify the cable. The inner duct would be installed first inside the conduit. The cable would then be installed inside the inner duct.

Fiber optic cable stringing includes all activities associated with the installation of cables onto the existing wood pole structures. This activity would include the installation of vibration dampeners, and suspension and dead-end hardware assemblies. Stringing sheaves (rollers or travelers) would be attached during the framing process. A standard wire stringing plan would include a sequenced program of events starting with determination of cable pulls and cable pulling equipment setup positions. Advanced planning by supervision would determine pulling locations, times, and safety protocols needed to ensure safe and quick installation of cable.

Typically fiber optic cable pulls occur every 10,000 feet to 20,000 feet on flat and mountainous terrain. Fiber optic cable splices are required at the end and beginning of each cable pull. “Fiber optic cable pulls” are the length of any given continuous cable installation process between two selected points along the existing overhead or underground line. Fiber optic cable pulls are selected, where possible, based on availability of pulling equipment and designated dead-end structures at the ends of each pull, geometry of the line as affected by points of inflection, terrain, and suitability of fiber optic cable stringing and splicing equipment setups. The dimensions of the area needed for stringing setups varies depending upon the terrain; however a typical stringing setup is 40 feet by 60 feet. Where necessary due to suitable space limitations, crews can work from within a substantially smaller area.

The cable would cross the California Department of Transportation facility SR-198. The crossing would be done by police escort and shutting down the State Highway for a short period of time (usually no longer than 15 to 30 minutes). This necessary activity will allow the construction crew to stretch the telecommunications cable across the highway, pull the cable overhead, and secure it at a height that allows traffic to flow again without interruption. SCE’s anticipated personnel, equipment, and schedule for construction of the telecommunication system are listed in Table B.1-3, Telecommunication Construction.

Table B.1-3. Telecommunication Construction

Construction Phase	Duration	No. of Personnel	Equipment*	Estimated Usage/Day (hours)
Communications Installation Crew	45 days	5	2 Vans (gasoline or diesel)	1
			1 Bucket Truck	6
			1 Reel Truck	6
			1 Crew Truck	6

* Fuel for equipment is diesel except where noted.
Source: SCE, 2006.

B.1.11.5 Cleanup

Cleanup would involve final grading and contouring, as well as cleaning up all disturbed areas, including temporary workspaces and the access road. SCE would conduct a final inspection to ensure that cleanup activities have been completed as required.

B.1.11.6 Construction Workforce and Schedule

The construction duration for the substation, subtransmission lines, and telecommunication upgrades is estimated to be up to 12 months. Construction would require up to approximately 25 crew members during peak activity. Construction would be performed by either SCE construction crews or contractors, depending on the availability of SCE construction personnel at the time of construction. If SCE construction crews are used they would be based at SCE's Alhambra facility in Los Angeles County, about 195 miles south of the site, and they would require temporary, short-term housing. Contractor construction personnel would be from within Tulare County or adjacent areas. Anticipated roles for personnel are summarized in Table B.1-1 (Substation Construction); Table B.1-2 (Underground Subtransmission Line Construction); and Table B.1-3, (Telecommunication Construction). SCE expects to conduct construction activities in a manner consistent with the City of Visalia noise ordinances.

Pending project approval, construction would begin in the third quarter of 2007. SCE's projected completion date for the substation and subtransmission line would be April 1, 2008. Approximately two months would be required to energize and test subtransmission line components once construction is completed. Therefore, SCE's expected operating date for the Proposed Project is June 1, 2008.

B.1.12 Operations and Maintenance

B.1.12.1 Substation Operations, Maintenance, and Inspection

Under normal circumstances, the substation would be unstaffed and the electrical equipment within the substation would be remotely monitored and controlled from Rector Substation by a power management system. Due to the substation being remotely operated, SCE personnel would generally visit for electrical switching and routine maintenance. Routine maintenance would include equipment testing, equipment monitoring and repair, as well as emergency and routine procedures for service continuity and preventive maintenance. SCE personnel would generally visit the substation two to three times per week or as needed under emergency conditions. Permanent parking for facility inspections, operations, and mainte-

nance would be entirely within the substation site or on the access road at the entrance to the substation site. SCE trims trees affecting overhead electrical equipment in accordance with the CPUC's General Order 95.

B.1.12.2 Subtransmission Lines Operations, Maintenance, and Inspection

SCE would routinely inspect the subtransmission vaults and other accessible components. The inspections may lead to routine and preventive maintenance. There may also be emergency repair and maintenance for service continuity. No additional SCE personnel, beyond normal existing staffing levels, would be required to operate or maintain the subtransmission lines.

B.1.12.3 Telecommunication System Operations, Maintenance, and Inspection

The telecommunications system would require periodic routine maintenance as well as emergency procedures for service continuity. Routine maintenance would include equipment testing, equipment monitoring, and repair. No additional SCE personnel, beyond normal existing staffing levels, would be required to operate or maintain the telecommunication system for the proposed substation.

B.1.13 Applicant Proposed Measures

SCE proposes to implement measures to ensure the Proposed Project would occur with minimal environmental impacts in a manner consistent with applicable rules and regulations. SCE proposes to implement these measures during the design, construction, and operation of the Proposed Project in order to avoid or minimize potential environmental impacts.

Applicant Proposed Measures (APMs) listed in Table B.1-4 are considered part of the Proposed Project and are considered in the evaluation of environmental impacts (see Section B.3, Environmental Analysis and Mitigation). CPUC approval would be based upon SCE adhering to the Proposed Project as described in this document, including this project description and the APMs, as well as any adopted mitigation measures identified by this Initial Study.

Table B.1-4 details each APM by environmental issue area. In some cases, mitigation measures presented in Section B.3 either expand upon or add detail to the APMs presented in Table B.1-4 if necessary, to ensure that potential impacts would be reduced to less than significant levels.

Table B.1-4. Applicant Proposed Measures (APMs)

APM Number	Issue Area
	Air Quality
APM Air-1	Proposed Project construction activities would include implementation of emission control measures as listed below: • All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover. • All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant. • All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking. • With the demolition of buildings up to six stories in height, all exterior surfaces of the building shall be wetted during demolition.

Table B.1-4. Applicant Proposed Measures (APMs)

	• When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained. • All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions.) (Use of blower devices is expressly forbidden.) • Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/ suppressant. • Within urban areas, trackout shall be immediately removed when it extends 50 or more feet from the site and at the end of each workday. • Any site with 150 or more vehicle trips per day shall prevent carryout and trackout.
	Biological Resources
APM Bio-1	San Joaquin Kit Foxes. If evidence of the San Joaquin kit foxes are found, SCE Proposed Measures would be implemented as outlined below: • To prevent inadvertent entrapment of kit foxes or other animals during the construction phase of the project, all excavated, steep-walled holes or trenches more than 2 feet deep would be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they would be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the procedures are listed below. • Kit foxes are attracted to den-like structures such as pipes and may enter stored pipe becoming trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4 inches or greater that are stored at a construction site for one or more overnight periods would be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe would not be moved until the Service has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity, until the fox has escaped. • All food-related trash items such as wrappers, cans, bottles, and food scraps would be disposed of in closed containers and removed at least once a week from the project site. • To prevent harassment, mortality of kit foxes or destruction of dens by dogs or cats, no pets would be permitted on the project site. • Use of rodenticides and herbicides in project areas would be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds would observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and federal legislation, as well as additional project-related restrictions deemed necessary by the USFWS. If rodent control must be conducted, zinc phosphide would be used because of proven lower risk to kit fox. • A representative shall be appointed by the project proponent who would be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped individual. The representative would be identified during the employee education program. The representative's name and telephone number shall be provided to the USFWS. • An employee education program would be conducted for any project that has expected impacts to kit foxes. The program would consist of a brief presentation by persons knowledgeable in kit fox biology and legislative protection to explain endangered species concerns to contractors, their employees, and military and agency personnel involved in the Project. The program would include the following: a description of the San Joaquin kit fox and its habitat need; a report of the occurrence of kit fox in the Project Area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during Project construction and implementation. A fact sheet conveying this information would be prepared for distribution to the above-mentioned people and anyone else who may enter the project site. • Upon completion of the project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc. would be re-contoured if necessary, and revegetated to promote restoration of the area to pre-project conditions. An area subject to "temporary" disturbance means any area that is potential to be revegetated. Appropriate methods and plant species used to revegetate such areas would be determined on a site-specific basis in consultation with the USFWS, California Department of Fish and Game, and revegetation experts.

Table B.1-4. Applicant Proposed Measures (APMs)

	• In case of trapped animals, escape ramps or structures would be installed immediately to allow the animal(s) to escape, or the USFWS would be contacted for advice. • Any contractor, employee, or military or agency personnel who inadvertently kills or injures an SJKF shall immediately report the incident to their representative. This representative shall contact the CDFG immediately in the case of a dead, injured or entrapped kit fox. The CDFG contact for immediate assistance is State Dispatch at (916) 445-0045. They would contact the local warden or biologist. • The Sacramento Fish and Wildlife Office and CDFG would be notified in writing within three working days of the accidental death or injury to a SJKF during project-related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The USFWS contact is the Chief of the Division of Endangered Species, at 2800 Cottage Way, Suite W2605, Sacramento, CA 95825-1846. The CDFG contact is Mr. Ron Schorloff at 1416 9th Street, Sacramento, CA 95814, (916) 654-4262.
APM Bio-2	Migratory Birds. Tree removal for substation construction activities would not take place during nesting season (March – May) unless pre-construction surveys are conducted, and a qualified biologist verifies that no nests are present. If nests are located, the nest area will be avoided if feasible (with an appropriate buffer as determined by a qualified biologist. If avoidance is not feasible, the qualified biologist will confer with USFWS and CDFG on nest/chick relocation measures.
APM Bio-3	Minimization of Ground Disturbance. Clearing of vegetation would be confined to the minimal area needed to conduct the construction activities.
APM Bio-4	Spill Containment/Management. Construction personnel would ensure that contamination of habitat does not occur and would have a plan to promptly address any accidental spills. The contractor would have an emergency spill containment kit to contain and remove spilled fuels, hydraulic fluids, etc. Likewise, equipment refueling or storage of these materials would not occur within 100 feet of streams, lakes or other waterways. If a 100-foot buffer is not feasible for a given refueling activity, secondary containment would be employed during the fuel transfer and the transfer would be continuously monitored to prevent accidental spills. All contaminated soils and materials would be excavated and removed from the site and disposed of appropriately to prevent sensitive animal species from becoming exposed or killed by the effects of crude oil or other chemicals used during construction.
APM Bio-5	Trash Removal. To reduce the potential for attracting wildlife species to the area, all trash would be properly contained and removed from the work site and disposed of regularly.
APM Bio-6	Raptor-Safe Design. All subtransmission poles would be designed raptor-safe in accordance with the Suggested Practices for Raptor Protection on Power Lines. (Avian Power Line Interaction Committee, 1996).
	Cultural Resources
APM Cult-1	If previously unidentified archaeological resources are unearthed during construction activities, construction would be halted in that area and directed away from the discovery until a qualified archaeologist assesses the significance of the resource. The archaeologist would recommend appropriate measures to record, preserve or recover the resources.
APM Cult-2	If human remains are encountered during construction or any other phase of development, work in the area of the discovery must be halted in that area and directed away from the discovery. No further disturbance would occur until the county coroner makes the necessary findings as to origin pursuant to Public Resources Code 5097.98-99, Health and Safety Code 7050.5. If the remains are determined to be Native American, then the Native American Heritage Commission (NAHC) would be notified within 24 hours as required by Public Resources Code 5097. The NAHC would notify the designated Most Likely Descendants who would provide recommendations for the treatment of the remains within 24 hours. The NAHC mediates any disputes regarding treatment of remains.
	Traffic and Transportation
APM Traffic-1	To the extent feasible, truck traffic would be scheduled for off-peak hours to reduce impacts during periods of peak traffic.
APM Traffic-2	To the extent feasible, truck traffic would be staggered throughout the 4-week grading and site preparation construction phase.
APM Traffic-3	Truck traffic would use designated truck routes to access the substation site, the majority of which are currently designated Level of Service B.
APM Traffic-4	If lane closures are required, SCE would comply with best management practices established by the Work Area Protection and Traffic Control Manual (California Joint Utility Traffic Control Committee 1996).

Note: Applicant Proposed Measures appear in the Proponent's Environmental Assessment (A.06-06-004, Exhibit H).

B.1.14 EMF Summary

B.1.14.1 Electric and Magnetic Fields

Recognizing that there is a great deal of public interest and concern regarding potential health effects from exposure to electric and magnetic fields (EMF) from power lines, this document provides information regarding EMF associated with electric utility facilities and the potential effects of the Proposed Project related to public health and safety. Potential health effects from exposure to electric fields from power lines (produced by the existence of an electric charge, such as an electron, ion, or proton, in the volume of space or medium that surrounds it) are typically not of concern since electric fields are effectively shielded by materials such as trees, walls, etc., therefore, the majority of the following information related to EMF focuses primarily on exposure to magnetic fields (invisible fields created by moving charges) from power lines. However, this Initial Study does not consider magnetic fields in the context of CEQA and determination of environmental impact. This is because (a) there is no agreement among scientists that EMF does create a potential health risk, and (b) there are no defined or adopted CEQA standards for defining health risk from EMF. As a result, EMF information is presented for the benefit of the public and decisionmakers.

After several decades of study regarding potential public health risks from exposure to power line EMF, research results remains inconclusive. Several national and international panels have conducted reviews of data from multiple studies and state that there is not sufficient evidence to conclude that EMF causes cancer. Most recently the International Agency for Research on Cancer (IARC) and the California Department of Health Services (DHS) both classified EMF as a *possible* carcinogen.

Currently, there are no applicable regulations related to EMF levels from power lines or substations. However, following a decision from 1993 (D.93-11-013) that was reaffirmed on January 27, 2006 (D.06-01-042), the CPUC requires utilities to incorporate "low-cost" or "no-cost" measures to mitigate EMF from new or upgraded electrical utility facilities up to approximately 4 percent of total project cost. To comply, SCE has incorporated such measures to reduce magnetic field levels in the vicinity of the proposed substation and subtransmission lines.

B.1.14.2 EMF and the Riverway Substation Project

In accordance with SCE's "EMF Design Guidelines for New Electrical Facilities: Transmission Substation and Distribution," (A.06-06-004, Appendix F) filed with the CPUC in response to CPUC Decision 93-11-013, SCE would implement the following measure(s) for the Riverway Substation Project to reduce the proposed substation's magnetic field levels:

- Phasing of the proposed 66 kV subtransmission lines for magnetic field cancellation; and
- Utilizing underground construction for the proposed 66 kV subtransmission lines.

B.1.15 Other Public Agencies Whose Approval is Required

The CPUC is the lead agency for CEQA review of this project. In accordance with CPUC General Order No. 131-D, SCE prepared and submitted a Proponent's Environmental Assessment as part of its application for a Permit to Construct (PTC). The CPUC has exclusive authority to approve or deny SCE's application; however, various permits from other agencies may also need to be obtained by SCE for the Proposed Project. If the CPUC issues a PTC, it would provide overall project approval and certify compliance of the project with CEQA. In addition to the PTC, Table B.1-5 summarizes the permits from other federal, State, and local agencies that may be needed for the project.

Table B.1-5. Permits that May Be Required for the Riverway Substation Project

Agency	Jurisdiction	Requirements
	Federal/State Agencies	
California Department of Transportation	Highways and State-owned roadways	Transportation Permit for movement of vehicles that may qualify as an oversized or excessive load (if required); and Encroachment Permit for encroachment onto State right-of-way (SR-198) by work or traffic control
Regional Water Quality Control Board (RWQCB) – Central Valley Region	General Construction Storm Water Pollution Prevention Plan (SWPPP)	Submittal of Notice of Intent (NOI) to Regional Board and preparation of SWPPP
RWQCB – Central Valley Region	Spill Prevention Control and Countermeasure (SPCC) for mineral oil in transformers	Calculation of containment requirements and system design
	Local/Regional Agencies	
Tulare County Fire Department – Certified Unified Program Agency (CUPA)	Hazardous Materials Business Plan	Location, types, and volumes (inventory) of hazardous materials at the substation
City of Visalia	Building and Grading Permits and Safety Requirements	Ministerial approval for construction of new facilities
City of Visalia	Roadway Encroachment and/or Transportation Permit	Ministerial approval for possible closure of roads for transportation of heavy or oversized equipment and construction of facilities within public roadway right-of-way