4. Impact Analysis Approach

This section explains how potential impacts associated with the proposed Project are assessed with regards to Hydrology and Water Quality. Section 4.1 presents the significance criteria on which impact determinations are based. Section 4.2 discusses Applicant Proposed Measures (APMs) that are presented in the Proponent's Environmental Assessment (PEA). Section 4.3 briefly describes the methodology for determining the type and degree of impact that would be produced as a result of the proposed Project or alternatives. All impacts identified for the proposed Project and alternatives are presented in Sections 5 through 11.

4.1 Criteria for Determining Impact Significance

To satisfy CEQA requirements, conclusions are made regarding the significance of each identified impact that would result from the proposed Project and alternatives. Appropriate criteria have been identified and utilized to make these significance conclusions. The following significance criteria for Hydrology and Water Quality were derived from previous environmental impact assessments and from the CEQA Guidelines (Appendix G, Environmental Checklist Form, Section IX). Impacts of the proposed Project or alternatives would be considered significant and would require mitigation if:

- Criterion HYD1: Violate any water quality standards or waste discharge requirements, create any substantial new sources of polluted runoff, or otherwise degrade water quality.
- Criterion HYD2: Substantially deplete groundwater supplies or interfere with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).
- Criterion HYD3: Place within a watercourse or flood hazard area structures which would impede or redirect flood flows, or otherwise substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion, siltation, or other flood-related damage on- or offsite.
- Criterion HYD4: Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite, or otherwise create or contribute to runoff water which would exceed the capacity of existing or planned stormwater drainage systems.
- Criterion HYD5: Result in or be subject to damage from inundation by mudflow.

Significance conclusions for individual impacts are not required for compliance with NEPA. Therefore, conclusions presented in the following analysis regarding the significance of identified impacts are provided for the purposes of CEQA only.

4.2 Applicant-Proposed Measures (APMs)

APMs were identified by SCE in the PEA. Table 4.2-1 presents the APMs that are relevant to the issue area of Hydrology and Water Quality. APMs are a commitment by the Applicant (SCE) and are considered part of the proposed Project. Therefore, the following discussions of impact analysis assume that all APMs will be implemented as defined in the table. Additional mitigation measures are recommended in this section if it is determined that APMs do not fully mitigate the impacts for which they are presented.

Table 4.2-1. Applicant-Proposed Measures – Hydrology and Water Quality	
APM HYD-1	Construction SWPPP. A Construction SWPPP would be developed for the Project. Notices of Intent (NOIs) would be filed with the SWRCB and/or the RWQCBs, and a Waste Discharge Identification Number (WDID) would be obtained prior to construction. The SWPPP would be stored at the construction site for reference or inspection review. In addition, grading permit applications would be submitted, as applicable, to local jurisdictions. Implementation of the SWPPP would help stabilize graded areas and waterways, and reduce erosion and sedimentation. The plan would designate BMPs that would be adhered to during construction activities. Erosion minimizing efforts such as straw wattles, water bars, covers, silt fences, and sensitive area access restrictions (for example, flagging) would be installed before clearing and grading begins. Mulching, seeding, or other suitable stabilization measures would be used to protect exposed areas during construction activities. During construction activities, measures would be in place to ensure that contaminates are not discharged from the construction sites. The SWPPP would define areas where hazardous materials would be stored, where trash would be placed, where rolling equipment would be parked, fueled and serviced, and where construction materials such as reinforcing bars and structural steel members would be stored. Erosion control during grading of the construction sites and during subsequent construction would be in place and monitored as specified by the SWPPP. A silting basin(s) would be established, as necessary, to capture silt and other materials, which might otherwise be carried from the site by rainwater surface runoff. In addition to a Construction SWPPP, all additionally required documents and procedures (as required in the anticipated April 2009 CGP) will be developed. These procedures may include effluent monitoring, receiving water monitoring, additional staff training, additional documentation, online reporting of all documentation and monitoring results, and project risk analysis.
APM HYD-2	Environmental Training Program. An environmental training program would be established to communicate environmental concerns and appropriate work practices, including spill prevention and response measures, and SWPPP measures, to all field personnel. A monitoring program would be implemented to ensure that the plans are followed throughout the period of construction.
APM HYD-3	Accidental Spill Control. The Construction SWPPP identified above would include procedures for quick and safe cleanup of accidental spills. The Construction SWPPP would prescribe hazardous materials handling procedures for reducing the potential for a spill during construction, and would include an emergency response program to ensure quick and safe cleanup of accidental spills. The SWPPP would identify areas where refueling and vehicle maintenance activities and storage of hazardous materials, if any, would be permitted.
APM HYD-4	Non-storm Water and Waste Management Pollution Controls. Oil-absorbent materials, tarps, and storage drums would be used to contain and control any minor releases of transformer oil. In the event that excess water and liquid concrete escapes from foundations during pouring, it would be directed to bermed areas adjacent to the borings where the water would infiltrate or evaporate and the concrete would remain and begin to set. Once the excess concrete has been allowed to set up (but before it is dry), it would be removed and transported to an approved landfill for disposal.
APM HYD-5	Hazardous Material Identification. A Phase I Environmental Site Assessment (ESA) would be performed at each new or expanded substation location and along newly acquired transmission line R-O-Ws. Depending on the results of the Phase I ESA, soil sampling would be conducted and remedial activities would be implemented, if applicable. If hazardous materials were encountered during any construction activities, work would be stopped until the material was properly characterized and appropriate measures were taken to protect human health and the environment. If excavation of hazardous materials is required, they would be handled, transported, and disposed of in accordance with federal, state, and local regulations.
APM HYD-6	Drilling and Construction Site Dewatering Management. Any dewatering operations associated with drilling and LST/TSP footing installation would follow applicable state and local regulatory requirements. If groundwater were encountered while excavating or constructing the transmission line or substations, dewatering operations would be performed. These operations would include, as applicable, the use of sediment traps and sediment basins in accordance with BMP NS-2 (Dewatering Operations) from the California Stormwater Quality Association's (CASQA) California Stormwater BMP Handbook – Construction (CASQA, 2003).
APM HYD-7	Flood and Erosion Structure Damage Protection. Transmission towers or other structures would not be placed within waterway protection corridors (floodways) defined by city and county codes. Aboveground project features such as transmission line towers and substation facilities will be designed and engineered to withstand potential flooding and erosion hazards. Although some project features may need to be placed within 100-year floodplain boundaries, they will be designed per applicable floodplain development guidelines. Measures would include specially designed footings to withstand flooding due either to a 100-yr flood event or a failure of a nearby upstream dam or reservoir. The main Project facilities (i.e., substations) will be located outside of known watercourses.

Table 4.2-1. Applicant-Proposed Measures – Hydrology and Water Quality	
APM HYD-8	Operation Storm Water Management Plan. The post-construction (Operation) Storm Water Management Plan (SWMP) for Vincent Substation would be updated. The SWMP identifies potential pollutants based on the activities that take place at the site, and discusses the appropriate Best Management Practices that should be used to prevent pollutants from entering the storm water and non-storm water runoff from the site. The SWMP also includes requirements for periodic site training for employees and inspections by onsite personnel.
APM GEO-2	Perform Geotechnical Studies. Prior to final design of substation facilities and T/L tower foundations, a geotechnical study would be performed to identify site-specific geologic conditions and potential geologic hazards in enough detail to support good engineering practice. The geotechnical study would be performed by professional civil or geotechnical engineers and engineering geologists licensed in the State of California and would provide design and construction recommendations, as appropriate, to reduce potential impacts from geologic hazards or soil conditions.
APM HAZ-2	Hazardous Materials and Waste Handling Management. Hazardous materials used and stored onsite for the proposed construction activities – as well as hazardous wastes generated onsite as a result of the proposed construction activities – would be managed according to the specifications outlined below. • Hazardous Materials and Hazardous Waste Handling: A project-specific hazardous materials management and hazardous waste management program would be developed prior to initiation of the project. The program would outline proper hazardous materials use, storage and disposal requirements as well as hazardous waste management procedures. The program would identify types of hazardous materials to be used during the project and the types of wastes that would be generated. All project personnel would be provided with project-specific training. This program would be developed to ensure that all hazardous materials and wastes were handled in a safe and environmentally sound manner. Hazardous wastes would be handled and disposed of according to applicable rules and regulations. Employees handling wastes would receive hazardous materials training and shall be trained in hazardous waste procedures, spill contingencies, waste minimization procedures and treatment, storage and disposal facility (TSDF) training in accordance with OSHA Hazard Communication Standard and 22 CCR. SCE would use landfill facilities that are authorized to accept treated wood pole waste in accordance with HSC 25143.1.4(b). • Construction Stormwater Pollution Prevention Plan (SWPPP): A project-specific construction SWPPP would be prepared and implemented prior to the start of construction of the transmission line and substations. The SWPPP would utilize Best Management Practices (BMPs) to address the storage and handling of hazardous materials and sediment runoff during construction activities (California Stormwater Quality Association, 2004). • Transport of Hazardous Materials: Hazardous materials that would be transported by truck include fuel (diesel fuel and gasoline) and oil and lubricants for equipment. Containers used to stored hazardous materials would be properly labeled and kept in good condition. Written procedures for the transport of hazardous materials used would be established in accordance with U.S. Department of Transportation and Caltrans regulations. A qualified transporter would be selected to comply with U.S. Department of Transportation and Caltrans regulations. • Fueling and Maintenance of Construction Equipment: Written procedures for fueling and maintenance of construction equipment would be prepared prior to construction. Vehicles and equipment would be refueled onsite or by tanker trucks. Procedures would include the use of drop cloths made of plastic, drip pans and trays to be placed under refilling areas to ensure that chemicals do not come into contact with the ground. Refueling stations would be located in designated areas where absorbent pad and trays would be available. The fuel tanks would also contain a lined area to ensure that accidental spillage does not occur. 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 such as paints, solvents, and penetrants would be kept in an approved locker or storage cabinet. • Fueling and Maintenance of Helicopters: Written procedures for fueling and maintenance of helicopters would be prepared prior to construction. Helicopters would be refueled at helicopter staging areas or local airports. Procedures would include the use of drop cloths made of plastic, drip pans and trays to be placed under refilling areas to ensure that chemicals do not come into contact with the ground. Refueling areas would be located in designated areas where absorbent pad and trays are available. • Emergency Release Response Procedures: An Emergency Response Plan detailing responses to releases of hazardous materials would be developed prior to construction activities. It would prescribe hazardous materials handling procedures for reducing the potential for a spill during construction, and would include an emergency response program to ensure quick and safe cleanup of accidental spills. All hazardous materials spills or threatened release, including petroleum products such as gasoline, diesel, and hydraulic fluid, regardless of the quantity spilled would be immediately reported if the spill has entered a navigable water, stream, lake, wetland, or storm drain, if the spill impacted any sensitive area including conservation areas and wildlife preserved, or if the spill caused injury to a person or threatens injury to public health. All construction personnel, including environmental monitors, would be aware of state and

Table 4.2-1. Applicant-Proposed Measures – Hydrology and Water Quality	
	federal emergency response reporting guidelines.
APM HAZ-5	Spill Prevention, Countermeasure, and Control Plan and Hazardous Materials Business Plan. • Spill Prevention, Countermeasure, and Control Plan (SPCC Plan). In accordance with Title 40 of the CFR, Part 112, SCE would prepare a SPCC for proposed and/or expanded substations. The plans would include engineered and operational methods for preventing, containing, and controlling potential releases, and provisions for quick and safe cleanup. • Hazardous Materials Business Plans (HMBPs). Prior to operation of new or expanded substations, SCE would prepare or update and submit, in accordance with Chapter 6.95 of the CHSD, and Title 22 CCR, an HMBP. The required documentation would be submitted to the CUPA. The HMBPs would include hazardous materials and hazardous waste management procedures and emergency response procedures including emergency spill cleanup supplies and equipment.

4.3 Impact Assessment Methodology

This analysis first established baseline conditions for the affected environment of Hydrology and Water Quality, presented above in Section 2 (Affected Environment), which included a description of climate, topography, surface water resources, groundwater basins, floodplains, water quality, and land use. These baseline conditions were evaluated based on their potential to be affected by construction activities as well as operation and maintenance activities related to the proposed Project and alternatives. Construction, operation, and maintenance activities were identified based on analysis provided in SCE's PEA. Results from the *Riparian Conservation Area Report* (Aspen Environmental Group, 2008) and the *GIS-Based Soil Erosion and Sedimentation Analysis Report* (Appendix A of this Specialist Report), were used to further identify the effects of Project activities on the affected environment. Impacts to Hydrology and Water Quality were then identified based on the predicted interaction between construction, operation, and maintenance activities with the affected environment.