D.7 HAZARDS AND HAZARDOUS MATERIALS

This section addresses the environmental setting and impacts related to the construction and operation of the Proposed Project and alternatives involving the issues of environmental contamination and hazardous materials (Sections D.7.1 through D.7.6) and also addresses concerns about electric and magnetic fields and other electric field issues (Sections D.7.7 and D.7.8). Section D.7.9 presents the mitigation monitoring program for all topics covered in this section.

D.7.1 Environmental Setting for the Proposed Project

The Proposed Project is located in northwestern Riverside County and southwestern San Bernardino County. Elements of the Proposed Project are located in the incorporated cities of Redlands, Calimesa, Beaumont, Banning, and Yucaipa, as well as unincorporated Riverside County and San Bernardino County. Most of the Project route traverses through, and is surrounded by, undeveloped land or residential development, although some industrial development has occurred near portions of the alignment in the city of Banning, near the Banning Substation. The Banning Airport is located approximately 0.75 mile east of the proposed 115 kV subtransmission line route where it connects to Banning Substation.

Hazardous Materials

A review of environmental databases was provided by Environmental Data Resources (EDR), Inc. The database searches covered a one-mile radius centered on the proposed El Casco Substation site. The federal and State databases listed below were reviewed:

- **Federal.** National Priority List (NPL); Proposed NPL; Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS); CERCLIS No Further Remedial Action Planned; Corrective Action Report; Resource Conservation and Recovery Information System (RCRIS); Emergency Response Notification System; US Brownfields; Toxic Chemical Release Inventory System; Toxic Substances Control Act; and others.
- **State.** Annual Workplan Sites; Calsites; Toxic Pits Cleanup Act Sites; Solid Waste Information System; Waste Management Unit Database; Bond Expenditure Plan; Voluntary Cleanup Program Properties; Underground Storage Tanks on Indian Land; Facility Inventory Database; Hazardous Substance Storage Container Database; Aboveground Petroleum Storage Tank Facilities; Cleaner Facilities; Waste Discharge System; School Property Evaluation Program; Spills, Leaks, Investigation & Cleanup Cost Recovery Listing; Hazardous Waste Information System; List of Industrial Site Cleanups in Orange County; and others.

Construction of the substation and new tower footings would involve excavation into soil. If new excavations occurred in areas containing hazardous materials, workers could be at risk as they move contaminated soil. Contaminant plumes flow down-gradient (downhill). The database search report identified three sites with potentially hazardous substances within a one mile radius. All three of these sites are located at lower elevations than the proposed substation site and are at least 0.25 mile away. Two of the sites represent cleanups of petroleum-impacted soils and the third noted underground storage tanks (SCE, 2007a). Since the Proposed Project site is up-gradient or cross-gradient from these sites, any contamination emanating from these sites would flow away from the Project area.

A radius report was not prepared for the 115 kV subtransmission line alignment because no new land agreements (such as a lease or purchase agreement) have occurred on the right-of-way (ROW). Additionally, the alignment has been an SCE electric facility for over 60 years. Most of the subtransmission line alignment is surrounded by undeveloped land or residential development, although some industrial development has occurred near portions of the alignment in the city of Banning, near the

Banning Substation. An EDR report was previously prepared for the Banning Substation. Four sites within 0.25 mile of the substation site were identified on the Leaking Underground Storage Tank (LUST) list; however, all four sites involved releases to soil only and are currently closed (EDR 2006). Therefore, the possibility that contamination associated with these sites could have migrated to the Project alignment is low. The Zanja Substation and Mill Creek Communication sites are surrounded by vacant, undeveloped land that is unlikely to have been exposed to contamination as a result of routine historical use.

Wildfires

Wildfires are a significant hazard in much of California. Much of Riverside County is rated as a potential wildland fire area by the State of California Department of Forestry and Fire Protection and by the Safety Element of Riverside County's General Plan (Riverside County, 2003). A substantial portion of the County is undeveloped and consists of rugged topography with highly flammable indigenous vegetation. In particular, the hillside terrain of Riverside County has a substantial fire risk. Fire potential for the County is typically greatest in the months of August, September, and October, when dry vegetation coexists with hot, dry Santa Ana winds (Riverside County, 2003). However, fires with conflagration potential can occur at any time. The Pass Area section of Riverside County's General Plan shows that a notable portion of the Proposed Project lies within the high fire probability zone, including sections of the proposed subtransmission line route and the El Casco Substation site (Riverside County, 2003). High fire risk along the 115 kV subtransmission line route is noted between mileposts 0 and 5.62 and between mileposts 9.91 and 11.93. The rest of the Project area within Riverside County has a low probability rating. Figure D.7-1 denotes both the low probability zone and the high probability zone, which has additional building requirements due to identified fire hazards.

Banning Substation is located within an urbanized area which is designate as having low fire probability (SCE, 2007a). The Mill Creek Communications Site is in an area considered at high risk for wildfires (SCE, 2007a). Zanja Substation, which is located in unincorporated San Bernardino County, is located in an area designated as Fire Safety Area 3 (FS3) by the San Bernardino County Development Code (San Bernardino County, 2007b). FS3 areas are primarily within the wildland-urban interface of this region. Present and future development within FS3 is exposed to the impacts of wildland fires and other natural hazards primarily due to its proximity to FS1 (areas within mountains and valley foothills with moderate to heavy fuel loads). These areas are subject to Santa Ana wind conditions that have the potential to dramatically spread wildland fires during extreme fire behavior conditions. The proposed fiber optic line would pass through areas of high fire risk in both San Bernardino County and Riverside County (SCE, 2007a).

D.7.2 Applicable Regulations, Plans, and Standards

D.7.2.1 Federal

The Federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA) established a program administered by the U.S. Environmental Protection Agency (EPA) for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the "cradle to grave" system of regulating hazardous wastes. The use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by HSWA.

CERCLA, commonly known as Superfund, was enacted by Congress on December 11, 1980. This law provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established requirements

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concerning closed and abandoned hazardous waste sites; provided for liability of persons responsible for releases of hazardous waste at these sites; and established a trust fund to provide for cleanup when no responsible party could be identified. CERCLA also enabled the revision of the National Contingency Plan (NCP). The NCP provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and contaminants. The NCP also established the National Priorities List (NPL). CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986.

D.8.2.2 State

Hazardous Materials

The California Hazardous Waste Control Law (HWCL) is administered by the California Environmental Protection Agency (CALEPA) to regulate hazardous wastes. While the HWCL is generally more stringent than RCRA, until the EPA approves the California program, both the State and federal laws apply in California. The HWCL lists 791 chemicals and about 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal, and transportation; and identifies some wastes that cannot be disposed of in landfills.

Hazardous substances are defined by State and federal regulations to protect public health and the environment. Hazardous materials have certain chemical, physical, or infectious properties that cause them to be considered hazardous. The California Code of Regulations (CCR), Title 22, Chapter 11, Article 2, Section 66261 provides the following definition:

> A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed.

According to Title 22 (Chapter 11 Article 3, CCR), substances having a characteristic of toxicity, ignitability, corrosivity, or reactivity are considered hazardous. Hazardous wastes are hazardous substances that no longer have a practical use, such as material that has been abandoned, discarded, spilled, contaminated, or is being stored prior to proper disposal.

Toxic substances may cause short-term or long-lasting health effects, ranging from temporary effects to permanent disability or death. For example, toxic substances can cause eye or skin irritation, disorientation, headache, nausea, allergic reactions, acute poisoning, chronic illness, or other adverse health effects if human exposure exceeds certain levels (the level depends on the substance involved). Carcinogens (substances known to cause cancer) are a special class of toxic substances. Examples of toxic substances include most heavy metals, pesticides, and benzene (a carcinogenic component of gasoline). Ignitable substances are hazardous because of their flammable properties. Gasoline, hexane, and natural gas are examples of ignitable substances. Corrosive substances are chemically active and can damage other materials or cause severe burns upon contact. Examples include strong acids and bases such as sulfuric (battery) acid or lye. Reactive substances may cause explosions or generate gases or fumes. Explosives, pressurized canisters, and pure sodium metal (which reacts violently with water) are examples of reactive materials.

Other types of hazardous materials include radioactive and biohazardous materials. Radioactive materials and wastes contain radioisotopes, which are atoms with unstable nuclei that emit ionizing radiation to increase their stability. Radioactive waste mixed with chemical hazardous wastes is referred to as "mixed wastes." Biohazardous materials and wastes include anything derived from living organisms. They may be contaminated with disease-causing agents, such as bacteria or viruses.

Soil that is excavated from a site containing hazardous materials would be a hazardous waste if it exceeded specific CCR Title 22 criteria. Remediation (cleanup and safe removal/disposal) of hazardous wastes found at a site is required if excavation of the materials is performed; it may also be required if certain other activities are proposed. Even if soil or groundwater at a contaminated site does not have the characteristics required to be defined as hazardous wastes, remediation of the site may be required by regulatory agencies subject to jurisdictional authority. Cleanup requirements are determined on a case-by-case basis by the agency taking lead jurisdiction.

The California Occupational Safety and Health Administration (Cal/OSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR Sections 337 340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings.

Wildfires

Public Resources Code, Section 4292: Power Line Hazard Reduction Minimum Clearances. In mountainous land, forest-covered land, brush-covered land, or grass-covered land within State Responsibility Areas, any person that owns, controls, operates, or maintains any electrical transmission line shall maintain a firebreak which consists of a clearing of not less than 10 feet in each direction from the outer circumference of pole or tower.

Code of Regulations Title 14, Section 1254, Minimum Clearance Provisions. Firebreak clearances required by RC 4292 are applicable within an imaginary cylindrical space surrounding each pole or tower. The radius of 10 feet is measured horizontally.

D.8.2.3 Regional and Local

Hazardous Materials

The Safety Element of the Riverside County General Plan includes policies regarding hazardous materials that would apply to the Proposed Project. Safety policy S6.1 requires the county to enforce the policies and implement the programs identified in the County of Riverside Hazardous Waste Management Plan, which includes complying with federal and State laws pertaining to the management of hazardous wastes and materials (Riverside County, 2003).

The Safety Element of the San Bernardino County General Plan provides policies to achieve its stated goal to "minimize the generation of hazardous waste in the county and reduce the risk posed by storage, handling, transportation, and disposal of hazardous wastes." Policy S2.1 encourages and promotes practices that will: (1) reduce the use of hazardous materials and the generation of hazardous wastes at their source; (2) recycle the remaining hazardous wastes for reuse; and (3) treat those wastes that cannot be reduced at the source or recycled. Only residuals from waste recycling and treatment will be land disposed (San Bernardino County, 2007a).

Wildfires

The Safety Element of the Riverside County General Plan provides fire safety policies that would apply to the Proposed Project. These policies are intended to eliminate earthquake-induced fire as a threat and to develop an integrated approach to minimizing the threat of wildland fires, and include the following requirements:

- All proposed construction shall meet minimum standards for fire safety as defined in the County Building or Fire Codes.
- Proposed development in Hazardous Fire areas shall use single loaded roads to enhance fuel modification areas, unless otherwise determined by the County Fire Chief (Riverside County, 2003).

Article 86 of the Riverside County Uniform Fire Code requires a Fire Protection Plan approved by the Fire Chief shall be prepared for all new development within areas designated as Hazardous Fire Area (Riverside County, 2004).

The Safety Element of the San Bernardino County General Plan provides policies to achieve its goal to "protect residents and visitors from injury and loss of life and protect property from fires" (San Bernardino County, 2007a). Programs and policies set forth under this goal include: implementing fire-prevention measures (such as fuels reduction) to prevent damage to biological habitats such as chaparral in high fire hazard areas; and minimizing the fire hazard posed by expanding development in wildland/ urban intermix areas (San Bernardino County, 2007a).

D.7.3 Environmental Impacts and Mitigation Measures for the Proposed Project

D.7.3.1 Significance Criteria

An impact would be considered significant and require additional mitigation if Project construction or operation would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.
- For a project located within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area.
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

D.7.3.2 Applicant-Proposed Measures

SCE has committed to implementing the Applicant-Proposed Measure (APM) presented in Table B.5-1 and below in D.7-1 to reduce hazards impacts associated with operations and construction. This APM is incorporated into additional more specific mitigation measures that are recommended to ensure that all impacts would be reduced to the extent feasible (see Section D.7.9).

Table D.7-1. Applicant Proposed Measures – Hazards

APM	Description
APM HAZ-1	SCE would develop a fire management plan for the construction and operation phases for both the substation and the sections of the subtransmission line routes classified with a high risk for wildfires.

Source: SCE, 2007a

D.7.3.3 Proposed Project Impact Analysis

Impact HAZ-1: The project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (Class II).

Operation of the Proposed Project would consist of conducting electricity through a new subtransmission line and would not involve routine transport, use, or disposal of hazardous or flammable materials. Hazardous or flammable materials used during construction of the Proposed Project would consist primarily of vehicle fuel and oil for construction equipment. A release or spill of these materials during construction could create a hazard to the public or the environment through contamination of soil or groundwater, toxic emissions, or increased risk of fire ignition. To minimize the potential for spills or releases of hazardous and flammable materials used during construction, SCE and its contractors would implement Best Management Practices (BMPs) that include preparation of a Spill Prevention, Control, and Countermeasures Plan (SPCC); a Stormwater Pollution Prevention Plan (SWPPP); and a Fire Management Plan (APM-HAZ-1). To further reduce impacts to a less-than-significant level, implementation of the following mitigation measures are recommended: Mitigation Measures HAZ-1a (Environmental Training and Monitoring Program), HAZ-1b (Proper Disposal of Construction Waste), and HAZ-1c (Emergency Spill Supplies and Equipment). These measures, which will also be required as part of the SWPPP required for the Proposed Project, would be implemented to reduce impacts from the transport, use, or disposal of hazardous materials to a less-than-significant level (Class II).

Mitigation Measures for Impact HAZ-1

HAZ-1a Environmental Training and Monitoring Program. An environmental training program shall be established to communicate environmental concerns and appropriate work practices, including spill prevention, emergency response measures, and proper Best Management Practice implementation to all construction and maintenance personnel. The training program will emphasize site-specific physical conditions to improve hazard prevention (e.g., identification of potentially hazardous substances) and will include a review of all site-specific plans, including but not limited to, the Proposed Project's Stormwater Pollution Prevention Plan (SWPPP); and Spill Prevention, Control, and Countermeasures Plan (SPCC).

A monitoring program shall also be implemented to ensure that the plans are followed throughout the period of construction. Best Management Practices, as identified in the Proposed Project SWPPP, shall also be implemented during the construction of the Proposed Project to minimize the risk of an accidental release and provide the necessary information for emergency response.

HAZ-1b **Proper Disposal of Construction Waste.** All construction and demolition waste, including trash and litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials, shall be removed to a hazardous waste facility permitted or otherwise authorized to treat, store, or dispose of such materials.

HAZ-1c **Emergency Spill Supplies and Equipment.** Hazardous material spill kits shall be maintained on site for small spills. This shall include oil-absorbent material, tarps, and storage drums to be used to contain and control any minor releases. Emergency spill supplies and equipment will be kept adjacent to all areas of work and in staging areas, and will be clearly marked. Detailed information for responding to accidental spills and for handling any resulting hazardous materials will be provided in the Proposed Project's Spill Prevention, Control, and Countermeasures Plan.

Impact HAZ-2: The project would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment (Class II).

Operation of the Proposed Project would not involve the use or storage of substantial amounts of hazardous materials and therefore the likelihood of a potential release of hazardous materials is considered extremely low. Furthermore, the SPCC required under mitigation measure HAZ-1a would reduce the impact of a potential spill at one of the Project substations to less than significant (Class II).

Construction of the Proposed Project would involve the use of several hazardous materials that could accidentally be released during construction activities. The types of materials that could be released include diesel, gasoline, lubrication oil, hydraulic fluid, antifreeze, transmission fluid, and lubricating grease from vehicles or other motorized equipment. In addition, a release of liquid concrete during construction of the pole foundations is also possible.

If soil contamination were present within a construction area, the contaminated soils disturbed or excavated during construction activities could pose a potential health risk to construction workers and/or the public through airborne or physical exposure to contaminants. Contaminated soils must be handled and disposed of in accordance with local, State, and federal regulations. If soil contamination is discovered to be present in any construction areas, all excavation would proceed according to worker safety requirements of the federal and California Occupational Safety and Health Administrations (OSHA). If there is any site contamination that would require action, OSHA rules would require a site-specific Health and Safety Plan (HASP) to be prepared and implemented by SCE and its contractors to minimize exposure of construction workers to potential site contamination and to dispose of construction-generated waste soil in accordance with local, State, and federal regulations. Additionally, the BMPs included in Mitigation Measures HAZ-1a (Environmental Training and Monitoring Program), HAZ-1b (Proper Disposal of Construction Waste), and HAZ-1c (Emergency Spill Supplies and Equipment) ensure impacts associated with an accidental release of hazardous materials during construction and operation of the Proposed Project would be less than significant (Class II).

Mitigation Measures for Impact HAZ-2

HAZ-1a Environmental Training and Monitoring Program.

HAZ-1b Proper Disposal of Construction Waste.

HAZ-1c Emergency Spill Supplies and Equipment.

Impact HAZ-3: The project would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (Class II).

Banning High School is located 0.25 mile from the proposed subtransmission line route. As discussed above for Impact HAZ-1, operation of the Proposed Project would not involve routine use or storage of hazardous or flammable materials. Hazardous or flammable materials used during construction of the Proposed Project would consist primarily of vehicle fuel and oil for construction equipment. A release or spill of these materials during construction could create a hazard to the school through toxic emissions or increased risk of fire ignition. However, implementation of construction BMPs such as the preparation of a SPCC Plan would serve to avoid potential hazardous spills at the Proposed Project site. In addition, Mitigation Measures HAZ-1a (Environmental Training and Monitoring Program), HAZ-1b (Proper Disposal of Construction Waste), and HAZ-1c (Emergency Spill Supplies and Equipment) would ensure impacts related to emitting or handling hazardous materials within one-quarter mile of an existing school would be less than significant (Class II).

Mitigation Measure for Impact HAZ-3

HAZ-1a Environmental Training and Monitoring Program.

HAZ-1b Proper Disposal of Construction Waste.

HAZ-1c Emergency Spill Supplies and Equipment.

Impact HAZ-4: The project would be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment (Class III).

A review of environmental databases for the El Casco Substation site identified three hazardous materials sites within a one mile radius. All three of these sites are located at lower elevations than the proposed substation site and are at least 0.25 mile away. Two of the sites represent cleanups of soils that had been contaminated by petroleum products. The third site was listed for containing underground storage tanks (SCE, 2007a). Since the Proposed Project site is up-gradient or cross-gradient from these sites, any movement of potential soil or groundwater contamination would flow in a direction away from the Project area. The substation site was not identified on any environmental databases as a hazardous materials site.

The subtransmission line alignment would be constructed in an existing electrical utility corridor. The existing alignment has been an SCE electric facility for over 60 years. Most of this alignment is surrounded by undeveloped land or residential development (mostly recent development), although some industrial development has occurred near portions of the alignment in the city of Banning, near Banning Substation. A review of environmental databases that was prepared for the Banning Substation identified

four sites within 0.25 mile of the substation site. All four sites are listed on the Leaking Underground Storage Tank (LUST) list; however, all four sites involved releases to soil only and are currently closed (EDR 2006). Therefore, the possibility that contamination associated with these sites could have migrated to the Project alignment to create a hazard to the public or environment is low and impacts would be less than significant (Class III). No mitigation would be required.

Impact HAZ-5: For a project located within two miles of a public airport, would the project result in a safety hazard for people residing or working in the Project area (No Impact).

Banning Municipal Airport is located approximately one mile east of Banning Substation. Some of the steel poles that would be placed along this portion of the subtransmission route would be taller than the existing wood poles, which range in height from 61 feet to 79 feet above ground level (SCE, 2007b). The height of the poles to be installed in this area ranges from 66 feet to 79 feet above ground level (SCE, 2007b). According to Federal Aviation Regulations, Part 77, Section 77.23 (a)(2), an existing or future object would be an obstruction to air navigation if it is of greater height than 200 feet above ground level within three nautical miles of an airport. Therefore, since no features of the Proposed Project would be greater than 79 feet in height from the ground surface in this area, the Proposed Project would have no impact on aviation activities at the Banning Municipal Airport.

San Bernardino International Airport and Redlands Municipal airport are located one mile and one half mile, respectively, from the northwestern portion (along East San Bernardino Avenue) of the proposed fiber optic system. Construction of the fiber optic circuits would involve installing fiber optic cables on existing transmission poles that are less than 200 feet above ground level. Therefore, the Proposed Project would have no impact on aviation activities at the San Bernardino International Airport or the Redlands Municipal Airport.

Impact HAZ-6: The project would result in a safety hazard related to a private airstrip for people residing or working in the Project area (No Impact).

There are no private airstrips located within at least three miles of the Proposed Project route. Therefore, construction and operation of the Proposed Project would have no impacts with regard to safety hazards and private airstrips.

Impact HAZ-7: The project would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (Class II)

The proposed subtransmission line would cross several roadways, including: State Route 60 (SR 60), SR 79, San Timoteo Canyon Road, South Highland Springs Avenue, and several local roads. Construction activities associated with stringing the power line over these roads would result in temporary (approximately 10-minute) road closures. The temporary closures may impede traffic flow for short durations. Closures would be conducted under the permit requirements set forth by the Cities of Beaumont and Banning. Traffic interruptions due to construction activities would be coordinated with the appropriate jurisdictional agency, as defined in Mitigation Measure T-3 (Ensure Emergency Response Access). With implementation of Mitigation Measure T-3, impacts would be reduced to a less-than-significant level (Class II).

Mitigation Measure for Impact HAZ-7

T-3 **Ensure Emergency Response Access.** (See full description under discussion of Impact T-3 in Section D.11, Transportation and Traffic).

Impact HAZ-8: The project would expose people or structures to a significant risk of loss, injury or death involving wildland fires (Class II).

A notable portion of the Proposed Project lies within the high fire probability zone. High fire risk along the subtransmission line route is located at the El Casco Substation and Zanja Substation sites and between mileposts 0 and 5.62 and between mileposts 9.91 and 11.93 (SCE, 2007a) of the subtransmission line route. The rest of the Project area has a low probability rating. The proposed fiber optic line would pass through areas of high fire risk in both San Bernardino County and Riverside County (SCE, 2007a).Fire potential in the Project area is typically greatest in the months of August, September, and October, when dry vegetation coexists with hot, dry Santa Ana winds (Riverside County, 2003). However, fires with conflagration potential can occur at any time. Construction of the Proposed Project is scheduled to begin in approximately June 2008 and end in June 2010; therefore, construction would occur twice during periods of anticipated Santa Ana winds.

Welding during construction could potentially result in the combustion of vegetation located close to the welding site. The use of internal combustion motors, lighted matches, cigarettes, cigars, or other burning objects is a fire hazard, especially within the vicinity of combustible material.

During operation of the Proposed Project, power lines may pose a fire hazard if a conducting object, such as a tree limb, comes in close proximity to a line or if a live-phase conductor falls to the ground. Conductors can be fire hazards if they fall to the ground and create an electrical arc that ignites combustible material. The use of internal combustion engines (e.g., automobiles, chain saws, string trimmers) for maintenance activities also poses a potential fire hazard. Impacts resulting from the potential ignition of fires would be significant.

Approximately eight miles of the Proposed Project route is located within the high fire probability zone. If a fire were to occur along the Proposed Project route, flammable structures, such as wooden transmission poles, would reasonably be expected to ignite under exposure to flames and high temperatures. Depending on several factors such as fire intensity, prevailing winds, and expedience and effectiveness of fire suppression activities, a wildland fire would reasonably be expected to cause a wooden pole to fall, which would consequently result in downed electrical lines supported by the pole. However, the Proposed Project would result in replacing the existing wood poles with steel poles. Therefore, implementation of the Proposed Project would reduce the potential for structure failure as a result of a fire since steel is considerably more resistant to fire than wood.

The Fire Management Plan required by APM HAZ-1 for the construction and operation phases for both the substation and the sections of the subtransmission line routes classified with a high risk for wildfires would reduce the likelihood of the ignition and spread of a fire. However, to further reduce impacts to a less-than-significant level (Class II), implementation of the following mitigation measures is recommended: HAZ-8a (Prepare and Implement Fire Management Plan), HAZ-8b (County Fire Department Review of Construction Methods), HAZ-8c (Practice Safe Welding Procedures), and HAZ-8d (Fire Preventive Construction Equipment Requirements).

Mitigation Measures for Impact HAZ-8

HAZ-8a **Prepare and Implement Fire Management Plan.** SCE shall develop and implement a comprehensive Fire Management Plan to reduce the risk of igniting a fire during construction and operation as well as controlling the spread of a fire should one occur. The plan shall include, but not be limited to:

- Ensuring that reasonable safeguards and BMPs have been implemented and all supervision, labor, tools, equipment, and material necessary to prevent starting any fire, control spread of fires if started, and provide assistance for extinguishing fires started as a result of transmission line construction activities are provided.
- Using every reasonable precaution against starting fires where the work is performed, in whole or in part, in an area covered with flammable dry grass, brush, and/or trees.
- Providing temporary safeguards, walks, rails, guards, construction fences, and such, as required by any ordinances, as directed by the Construction Representative, or as necessary to protect workers, SCE employees, and the public.
- Providing portable fire fighting equipment, shovels, axes, and other necessary fire fighting equipment at all sites where work is in progress, and with all crews in transit.
- Prohibiting smoking on the jobsite, and if necessary assigning a Fire Patrolperson whose responsibility would be solely to monitor the contractor's fire-prevention activities.

HAZ-8b **County Fire Department Review of Construction Methods.** SCE shall coordinate with the Riverside and San Bernardino County Fire Departments to review the specific construction methods and equipment, and to identify any additional requirements that will minimize the potential for wildfires, such as the following:

- Any motor, engine, welding equipment, cutting torch, grinding device or equipment from which a spark, fire, or flame may originate shall not be used without first (a) clearing away all flammable material for a distance of 10 feet, and (b) having on hand a round-point shovel with an overall length of not less than 46 inches and a fire extinguisher or water-filled backpack pump fully equipped and ready to use. This does not apply to power saws and other portable tools powered by a gasoline-fueled internal combustion engine.
- Any portable gasoline-powered tool (chainsaws, etc.) shall not be used within 25 feet of any flammable materials without providing one round-point shovel with an overall length of not less than 46 inches or a fire extinguisher having a minimum rating of 2-BC. The fire tools must be unobstructed and within 25 feet of the tool operation at all times. Motor vehicles shall not be parked or operated outside of cleared work areas except for the specific purpose of clearing vegetation.

HAZ-8c **Practice Safe Welding Procedures**. SCE shall select a welding site that is free of native combustible material and/or clear the site of such material to minimize the fire hazard. All welding on supporting structures shall be performed during fabrication of the poles at the fabricator's yard.

HAZ-8d **Fire Preventive Construction Equipment Requirements**. Construction equipment shall meet the following requirements:

- The exhausts of all equipment powered by gasoline, diesel, or other hydrocarbon fuel shall be equipped with effective spark arrestors;
- The spark arrestor shall be designed to prevent the escape from the exhaust of carbon or other flammable particles over 0.0232 inches. Motor trucks, truck tractors, buses, and passenger vehicles (except motorcycles) shall not be subject to this provision if their exhaust systems are equipped with mufflers; and
- All welding rigs shall be equipped with a minimum of one 20-pound or two 10-pound fire extinguishers, and a minimum of five gallons of water in a fire-fighting apparatus.

D.7.4 CPUC's Northerly Route Alternative Option 3

CPUC's Northerly Route Alternative Option 3 (also referred to as Route Alternative Option 3) is located within the same general region as the Proposed Project and passes through and adjacent to the same and similar types of land uses that are described above for the Proposed Project in Section D.7.1. The subtransmission portion of this alternative includes construction of the El Casco-Maraschino line and the El Casco-Banning line (which includes the El Casco-Zanja line), as well as energizing the existing Banning-Maraschino line. The El Casco-Maraschino line follows the same route from El Casco Substation to Maraschino Substation as the western portion of the Proposed Project route, which is described above in Section D.7.1. Therefore, discussion of the environmental setting for this alternative will focus primarily on the El Casco-Banning portion of the alternative route except where otherwise noted.

D.7.4.1 CPUC's Northerly Route Alternative Option 3 – Environmental Setting

Most of the El Casco-Maraschino route traverses undeveloped land and limited residential and commercial/industrial development. Nearly all of the El Casco-Banning route passes through and adjacent to residential and commercial land uses, although some industrial development is located near portions of the alignment in the city of Banning, near the Banning Substation. The Banning Municipal Airport is located approximately 0.25 mile southeast of the easternmost portion of the El Casco-Banning subtransmission line route. Banning High School is located approximately 0.4 mile southwest of Banning Substation and approximately 0.25 mile north of the Banning-Maraschino line that would be energized under this alternative. There are two schools within 0.25 mile of the El Casco-Banning line: San Gorgonio Middle School and Mountain View Middle School.

Methane Areas

The County of Riverside has designated Preliminary Methane Investigation Areas based on previous land uses. These areas, which were previously used for stockyards, chicken ranching, etc., may have an onsite methane problem. The potential methane hazard must be assessed before any structures are constructed; and structures for human occupation are of primary concern (SCE, 2007a). Part of the Route Alternative Option 3 falls within the Methane Area between mileposts 3.17 and 5.91. Figure D.7-2 shows the designated Methane Area with respect to the Project area.

Wildfires

The Pass Area section of Riverside County's General Plan shows that three portions of this alternative route lie within the high fire probability zone, in addition to the El Casco Substation site (SCE, 2007a). High fire risk along the El Casco-Banning route is noted between mileposts 0 and 3.17 and between

Click here for Figure D.7-2

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mileposts 9.2 and 11 (approximately). High fire risk along the El Casco-Maraschino route is noted between mileposts 0 and 5.5 (approximately). The rest of the Project area within Riverside County has a low probability rating. Figure D.7-1 shows both the low probability zone and the high probability zone relative to the Route Alternative Option 3, which has additional building requirements due to identified fire hazards.

D.7.4.2 CPUC's Northerly Route Alternative Option 3 – Environmental Impacts and Mitigation Measures

The Hazards impacts of Route Alternative Option 3 are discussed below under subheadings corresponding to each of the significance criteria presented above in Section D.7.3.1. The analysis describes the impacts of Route Alternative Option 3 related to hazards and for each criterion, determines whether implementation of this alternative would result in significant impacts.

Impact HAZ-1: The project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (Class II).

Similar to the Proposed Project, operation of the Route Alternative Option 3 would not involve routine transport, use, or disposal of hazardous or flammable materials. Hazardous or flammable materials used during construction of this alternative would consist primarily of vehicle fuel and oil for construction equipment. A release or spill of these materials during construction could create a hazard to the public or the environment through contamination of soil or groundwater, toxic emissions, or increased risk of fire ignition. To minimize the potential for spills or releases of hazardous and flammable materials used during construction, SCE and its contractors would implement BMPs that include preparation of a Spill Prevention, Control, and Countermeasures Plan (SPCC); a Stormwater Pollution Prevention Plan (SWPPP); and a Fire Management Plan (APM-HAZ-1). To further reduce impacts to a less-than-significant level, implementation of the following mitigation measures are recommended: Mitigation Measures HAZ-1a (Environmental Training and Monitoring Program), HAZ-1b (Proper Disposal of Construction Waste), and HAZ-1c (Emergency Spill Supplies and Equipment). These measures, which would also be required as part of the SWPPP required for the Proposed Project, would be implemented to reduce impacts from the transport, use, or disposal of hazardous materials to a less-than-significant level (Class II).

Mitigation Measures for Impact HAZ-1

HAZ-1a Environmental Training and Monitoring Program.

HAZ-1b Proper Disposal of Construction Waste.

HAZ-1c Emergency Spill Supplies and Equipment.

Impact HAZ-2: The project would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment (Class II).

Operation of this alternative would not involve the use or storage of substantial amounts of hazardous materials and therefore the likelihood of a potential release of hazardous materials is considered extremely

low. Furthermore, the SPCC required under mitigation measure HAZ-1a would reduce the impact of a potential spill at one of the Project substations to less than significant (Class II).

Construction of this alternative would involve the use of several hazardous materials that could accidentally be released during construction activities. The types of materials that could be released include diesel, gasoline, lubrication oil, hydraulic fluid, antifreeze, transmission fluid, and lubricating grease from vehicles or other motorized equipment. In addition, a release of liquid concrete during construction of the pole foundations is also possible. Additionally, since a portion of the El Casco-Banning line would traverse a designated Methane Area, it is also possible that methane could be released as a result of excavation and grading activities, which would result in a significant impact. Implementation of Mitigation Measure HAZ-2 (Perform Methane Investigation) would ensure that impacts related to a potential methane release would be less than significant.

If other soil contamination were present within a construction area, the contaminated soils disturbed or excavated during construction activities could pose a potential health risk to construction workers and/or the public through airborne or physical exposure to contaminants. Contaminated soils must be handled and disposed of in accordance with local, State, and federal regulations. If soil contamination is discovered to be present in any construction areas, all excavation would proceed according to worker safety requirements of the federal and California Occupational Safety and Health Administrations (OSHA). If there is any site contamination that would require action, OSHA rules would require a site-specific Health and Safety Plan (HASP) to be prepared and implemented by SCE and its contractors to minimize exposure of construction workers to potential site contamination and to dispose of construction-generated waste soil in accordance with local, State, and federal regulations. Additionally, the BMPs included in Mitigation Measures HAZ-1a (Environmental Training and Monitoring Program), HAZ-1b (Proper Disposal of Construction Waste), and HAZ-1c (Emergency Spill Supplies and Equipment) ensure impacts associated with an accidental release of hazardous materials during construction and operation of the Proposed Project would be less than significant (Class II).

Mitigation Measures for Impact HAZ-2

HAZ-1a Environmental Training and Monitoring Program.

HAZ-1b Proper Disposal of Construction Waste.

HAZ-1c Emergency Spill Supplies and Equipment.

HAZ-2 Perform Methane Investigation. SCE shall conduct a subsurface investigation by a qualified contractor to assess the potential for methane to be encountered along the proposed subtransmission line route. Where methane is found or suspected to exist along the Project alignment, design of appropriate BMPs should be conducted by or under the direction of a qualified geologist or engineer.

Impact HAZ-3: The project would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (Class II).

Banning High School is located approximately 0.25 mile from the proposed Banning-Maraschino line, which is currently not energized but would be energized under this alternative. There are two schools within 0.25 mile of the El Casco-Banning line, San Gorgonio Middle School and Mountain View Middle School.

As discussed above for Impact HAZ-1, operation of the Proposed Project would not involve routine use or storage of hazardous or flammable materials. Hazardous or flammable materials used during construction of this alternative would consist primarily of vehicle fuel and oil for construction equipment. A release or spill of these materials during construction could create a hazard to San Gorgonio Middle School and Mountain View Middle School through toxic emissions or increased risk of fire ignition. However, implementation of construction BMPs such as the preparation of a SPCC Plan would serve to avoid potential hazardous spills along this alternative route. In addition, Mitigation Measures HAZ-1a (Environmental Training and Monitoring Program), HAZ-1b (Proper Disposal of Construction Waste), and HAZ-1c (Emergency Spill Supplies and Equipment) would ensure impacts related to emitting or handling hazardous materials within one-quarter mile of an existing school would be less than significant (Class II).

Mitigation Measure for Impact HAZ-3

HAZ-1a Environmental Training and Monitoring Program.

HAZ-1b Proper Disposal of Construction Waste.

HAZ-1c Emergency Spill Supplies and Equipment.

Impact HAZ-4: The project would be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment (Class III).

As discussed above for the Proposed Project, a review of environmental databases for the El Casco Substation site identified three hazardous materials sites within a one mile radius. All three of these sites are located at lower elevations than the proposed substation site and are at least 0.25 mile away. Two of the sites represent cleanups of soils that had been contaminated by petroleum products. The third site was listed for containing underground storage tanks (SCE, 2007a). Since the El Casco Substation site is up-gradient or cross-gradient from these sites, any movement of potential soil or groundwater contamination would flow in a direction away from the Project area. The substation site was not identified on any environmental databases as a hazardous materials site.

The El Casco-Maraschino subtransmission line alignment would be constructed in an existing electrical utility corridor. The existing alignment has been an SCE electric facility for over 60 years. Most of this alignment is surrounded by undeveloped land or residential development (mostly recent development). Most of the El Casco-Banning subtransmission line would also be constructed in an existing electrical utility corridor, much of which his surrounded by undeveloped or recently developed land. However the eastern portion of the route located in the City of Banning, approximately from milepost 12.5 to Banning Substation, is located near more urbanized areas that have been developed with commercial and industrial uses. A review of environmental databases that was prepared for the Banning Substation identified four sites within 0.25 mile of the substation site. All four sites are listed on the Leaking Underground Storage Tank (LUST) list; however, all four sites involved releases to soil only and are currently closed (EDR 2006). Therefore, the possibility that contamination associated with these sites could have migrated to the Project alignment to create a hazard to the public or environment is low and impacts would be less than significant (Class III). No mitigation would be required.

Impact HAZ-5: For a project located within two miles of a public airport, would the project result in a safety hazard for people residing or working in the Project area (No Impact).

Banning Municipal Airport is located approximately 0.25 mile southeast of the easternmost portion of the El Casco-Banning line. Similar to the Proposed Project, some of the steel poles that would be placed along this portion of the subtransmission route would be taller than the existing wood poles, which range in height from 61 feet to 79 feet above ground level (SCE, 2007b). The height of the poles to be installed in this area ranges from 66 feet to 79 feet above ground level (SCE, 2007b). According to Federal Aviation Regulations, Part 77, Section 77.23 (a)(2), an existing or future object would be an obstruction to air navigation if it is of greater height than 200 feet above ground level within three nautical miles of an airport. Therefore, since no features of this alternative alignment would be greater than 79 feet in height from the ground surface in this area, the Route Alternative Option 3 would have no impact on aviation activities at the Banning Municipal Airport.

San Bernardino International Airport and Redlands Municipal airport are located one mile and one half mile, respectively, from the northwestern portion (along East San Bernardino Avenue) of the proposed fiber optic system. Construction of the fiber optic circuits would involve installing fiber optic cables on existing transmission poles that are less than 200 feet above ground level. Therefore, the Route Alternative Option 3 would have no impact on aviation activities at the San Bernardino International Airport or the Redlands Municipal Airport.

Impact HAZ-6: The project would result in a safety hazard related to a private airstrip for people residing or working in the Project area (No Impact).

There are no private airstrips located within at least three miles of the Route Alternative Option 3 route. Therefore, construction and operation of this alternative would have no impacts with regard to safety hazards and private airstrips.

Impact HAZ-7: The project would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (Class II)

The proposed subtransmission line would cross several roadways, including: Interstate 10 (I-10), State Route 60 (SR-60), SR-79, San Timoteo Canyon Road, South Highland Springs Avenue, and several local roads. Construction activities associated with stringing the power line over these roads would result in temporary (approximately 10-minute) road closures. The temporary closures may impede traffic flow for short durations. Closures would be conducted under the permit requirements set forth by the Cities of Beaumont and Banning. Traffic interruptions due to construction activities would be coordinated with the appropriate jurisdictional agency, as defined in Mitigation Measure T-3 (Ensure Emergency Response Access). With implementation of Mitigation Measure T-3, impacts would be reduced to a less-than-significant level (Class II).

Mitigation Measure for Impact HAZ-7

T-3 **Ensure Emergency Response Access.** (See full description under discussion of Impact T-3 in Section D.11, Transportation and Traffic).

Impact HAZ-8: The project would expose people or structures to a significant risk of loss, injury or death involving wildland fires (Class II).

High fire risk is noted at the El Casco Substation and Zanja Substation sites and along the El Casco-Banning route between mileposts 0 and 3.17 and between mileposts 9.2 and 11 (approximately). High fire risk along the El Casco-Maraschino route is noted between mileposts 0 and 5.5 (approximately). The rest of the Project area within Riverside County has a low probability rating. Figure D.7-1 shows both the low probability zone and the high probability zone relative to the Route Alternative Option 3, which has additional building requirements due to identified fire hazards. Fire potential in the Project area is typically greatest in the months of August, September, and October, when dry vegetation coexists with hot, dry Santa Ana winds (Riverside County, 2003). However, fires with conflagration potential can occur at any time. Construction of the Route Alternative Option 3 would begin in June 2008 and end in June 2010; therefore, construction would occur during two periods of anticipated Santa Ana winds.

Welding during construction could potentially result in the combustion of vegetation located close to the welding site. The use of internal combustion motors, lighted matches, cigarettes, cigars, or other burning objects is a fire hazard, especially within the vicinity of combustible material.

As discussed above for the Proposed Project, implementation of this alternative would result in an overall decrease in the potential for downed power lines as a result of a wildland fire since steel poles would be used to replace existing wood poles.

During operation of the Route Alternative 3, power lines may pose a fire hazard if a conducting object, such as a tree limb, comes in close proximity to a line or if a live-phase conductor falls to the ground. Conductors can be fire hazards if they fall to the ground and create an electrical arc that ignites combustible material. The use of internal combustion engines (e.g., automobiles, chain saws, string trimmers) for maintenance activities also poses a potential fire hazard. Impacts resulting from the potential ignition of fires would be significant. The Fire Management Plan required by APM HAZ-1 for the construction and operation phases for both the substation and the sections of the subtransmission line routes classified with a high risk for wildfires would reduce the likelihood of the ignition and spread of a fire. However, to further reduce impacts to a less-than-significant level (Class II), implementation of the following mitigation measures is recommended: HAZ-8a (Prepare and Implement Fire Management Plan), HAZ-8b (County Fire Department Review of Construction Methods), HAZ-8c (Practice Safe Welding Procedures), and HAZ-8d (Fire Preventive Construction Equipment Requirements).

Mitigation Measures for Impact HAZ-8

HAZ-8a Prepare and Implement Fire Management Plan.

HAZ-8b County Fire Department Review of Construction Methods.

HAZ-8c Practice Safe Welding Procedures.

HAZ-8d Fire Preventive Construction Equipment Requirements.

D.7.5 Partial Underground Alternative

The Partial Underground Alternative is identical to the Proposed Project except under this alternative, a one-mile segment of the transmission line, from approximately MP 9.0 to MP 10.0, would be installed underground.

D.7.5.1 Partial Underground Alternative – Environmental Setting

The Partial Underground Alternative follows the exact same route as the Proposed Project and therefore traverses the same types of land uses and fire hazard areas as described in Section D.7.1. The only difference between this alternative and the Proposed Project is that a one-mile segment would be installed underground which would increase the duration of construction activities by 10 months, compared to the Proposed Project.

D.7.5.2 Partial Underground Alternative – Environmental Impacts and Mitigation Measures

Impact HAZ-1: The project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (Class II).

Similar to the Proposed Project, operation of the Partial Underground Alternative would not involve routine transport, use, or disposal of hazardous or flammable materials. Hazardous or flammable materials used during construction of this alternative would consist primarily of vehicle fuel and oil for construction equipment. A release or spill of these materials during construction could create a hazard to the public or the environment through contamination of soil or groundwater, toxic emissions, or increased risk of fire ignition. To minimize the potential for spills or releases of hazardous and flammable materials used during construction, SCE and its contractors would implement BMPs that include preparation of a Spill Prevention, Control, and Countermeasures Plan (SPCC); a Stormwater Pollution Prevention Plan (SWPPP); and a Fire Management Plan (APM-HAZ-1). To further reduce impacts to a less-than-significant level, implementation of the following mitigation measures are recommended: Mitigation Measures HAZ-1a (Environmental Training and Monitoring Program), HAZ-1b (Proper Disposal of Construction Waste), and HAZ-1c (Emergency Spill Supplies and Equipment). These measures, which would also be required as part of the SWPPP required for the Proposed Project, would be implemented to reduce impacts from the transport, use, or disposal of hazardous materials to a less-than-significant level (Class II).

Mitigation Measures for Impact HAZ-1

HAZ-1a Environmental Training and Monitoring Program.

HAZ-1b Proper Disposal of Construction Waste.

HAZ-1c Emergency Spill Supplies and Equipment.

Impact HAZ-2: The project would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment (Class II).

Operation of this alternative would not involve the use or storage of substantial amounts of hazardous materials and therefore the likelihood of a potential release of hazardous materials is considered extremely low. Furthermore, the SPCC required under mitigation measure HAZ-1a would reduce the impact of a potential spill at one of the Project substations to less than significant (Class II).

As discussed above for the Proposed Project, construction of this alternative would involve the use of several hazardous materials that could accidentally be released during construction activities. If soil contamination were present within a construction area, the contaminated soils disturbed or excavated during construction activities could pose a potential health risk to construction workers and/or the public through airborne or physical exposure to contaminants. If there is any site contamination that would require action, OSHA rules would require a site-specific Health and Safety Plan (HASP) to be prepared and implemented by SCE and its contractors to minimize exposure of construction workers to potential site contamination and to dispose of construction-generated waste soil in accordance with local, State, and federal regulations. Additionally, the BMPs included in Mitigation Measures HAZ-1a (Environmental Training and Monitoring Program), HAZ-1b (Proper Disposal of Construction Waste), and HAZ-1c (Emergency Spill Supplies and Equipment) ensure impacts associated with an accidental release of hazardous materials during construction and operation of the Proposed Project would be less than significant (Class II).

Mitigation Measures for Impact HAZ-2

HAZ-1a Environmental Training and Monitoring Program.

HAZ-1b Proper Disposal of Construction Waste.

HAZ-1c Emergency Spill Supplies and Equipment.

Impact HAZ-3: The project would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (Class II).

Banning High School is located 0.25 mile from the proposed subtransmission line route. As discussed above for Impact HAZ-1, operation of this alternative would not involve routine use or storage of hazardous or flammable materials. Hazardous or flammable materials used during construction of this alternative would consist primarily of vehicle fuel and oil for construction equipment. A release or spill of these materials during construction could create a hazard to the school through toxic emissions or increased risk of fire ignition. However, implementation of construction BMPs such as the preparation of a SPCC Plan would serve to avoid potential hazardous spills along this Project alignment. In addition, Mitigation Measures HAZ-1a (Environmental Training and Monitoring Program), HAZ-1b (Proper Disposal of Construction Waste), and HAZ-1c (Emergency Spill Supplies and Equipment) would ensure impacts related to emitting or handling hazardous materials within one-quarter mile of an existing school would be less than significant (Class II).

Mitigation Measure for Impact HAZ-3

HAZ-1a Environmental Training and Monitoring Program.

HAZ-1b Proper Disposal of Construction Waste.

HAZ-1c Emergency Spill Supplies and Equipment.

Impact HAZ-4: The project would be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment (Class III).

As discussed above for the Proposed Project, a review of environmental databases for the El Casco Substation site and the subtransmission line route did not identify any sites that would be likely to result in contamination of soils or groundwater along the proposed alignment. Though four sites located within 0.25 mile of the proposed alignment were identified on the Leaking Underground Storage Tank (LUST) list, all four sites involved releases to soil only and are currently closed (EDR 2006). Therefore, the possibility that contamination associated with these sites could have migrated to the Project alignment to create a hazard to the public or environment is low and impacts would be less than significant (Class III). No mitigation would be required.

Impact HAZ-5: For a project located within two miles of a public airport, would the project result in a safety hazard for people residing or working in the Project area (No Impact).

Banning Municipal Airport is located approximately one mile east of Banning Substation. Some of the steel poles that would be placed along this portion of the subtransmission route would be taller than the existing wood poles, which range in height from 61 feet to 79 feet above ground level (SCE, 2007b). The height of the poles to be installed in this area ranges from 66 feet to 79 feet above ground level (SCE, 2007b). According to Federal Aviation Regulations, Part 77, Section 77.23 (a)(2), an existing or future object would be an obstruction to air navigation if it is of greater height than 200 feet above ground level within three nautical miles of an airport. Therefore, since no features of the Proposed Project would be greater than 79 feet in height from the ground surface in this area, the Proposed Project would have no impact on aviation activities at the Banning Municipal Airport.

San Bernardino International Airport and Redlands Municipal airport are located one mile and one half mile, respectively, from the northwestern portion (along East San Bernardino Avenue) of the proposed fiber optic system. Construction of the fiber optic circuits would involve installing fiber optic cables on existing transmission poles that are less than 200 feet above ground level. Therefore, the Proposed Project would have no impact on aviation activities at the San Bernardino International Airport or the Redlands Municipal Airport.

Impact HAZ-6: The project would result in a safety hazard related to a private airstrip for people residing or working in the Project area (No Impact).

There are no private airstrips located within at least three miles of the Proposed Project route. Therefore, construction and operation of the Proposed Project would have no impacts with regard to safety hazards and private airstrips.

Impact HAZ-7: The project would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (Class II)

The proposed subtransmission line would cross several roadways, including: State Route 60 (SR-60), SR-79, San Timoteo Canyon Road, South Highland Springs Avenue, and several local roads. Construction activities associated with stringing the power line over these roads would result in temporary (approximately 10-minute) road closures. The temporary closures may impede traffic flow for short

durations. Closures would be conducted under the permit requirements set forth by the Cities of Beaumont and Banning. Trenching activities associated with the underground portion of this alternative would last approximately 10 months and would result in restricted and temporarily blocked access within the Sun Lakes community. Traffic interruptions due to construction activities would be coordinated with the appropriate jurisdictional agency, as defined in Mitigation Measure T-3 (Ensure Emergency Response Access). With implementation of Mitigation Measure T-3, impacts would be reduced to a less-than-significant level (Class II).

Mitigation Measure for Impact HAZ-7

T-3 **Ensure Emergency Response Access.** (See full description under discussion of Impact T-3 in Section D.11, Transportation and Traffic).

Impact HAZ-8: The project would expose people or structures to a significant risk of loss, injury or death involving wildland fires (Class II).

As described for the Proposed Project, a notable portion of this alternative route lies within the high fire probability zone. High fire risk is noted at the El Casco Substation and Zanja Substation sites and along the subtransmission line route between mileposts 0 and 5.62 and between mileposts 9.91 and 11.93 (SCE, 2007a). The rest of the Project area has a low probability rating, including the underground portion of this alternative, which is surrounded by residential development and a golf course. The proposed fiber optic line would pass through areas of high fire risk in both San Bernardino County and Riverside County (SCE, 2007a).

Fire potential in the Project area is typically greatest in the months of August, September, and October, when dry vegetation coexists with hot, dry Santa Ana winds (Riverside County, 2003). However, fires with conflagration potential can occur at any time. Construction of the Partial Underground Alternative would be scheduled to begin in June 2008 and end in April 2011; therefore, construction would occur during three periods of anticipated Santa Ana winds.

As discussed above for the Proposed Project, implementation of this alternative would result in an overall decrease in the potential for downed power lines as a result of a wildland fire since steel poles would be used to replace existing wood poles along the overhead portion of this alternative.

During operation of this alternative, power lines may pose a fire hazard if a conducting object, such as a tree limb, comes in close proximity to a line or if a live-phase conductor falls to the ground. Conductors can be fire hazards if they fall to the ground and create an electrical arc that ignites combustible material. The use of internal combustion engines (e.g., automobiles, chain saws, string trimmers) for maintenance activities also poses a potential fire hazard. Impacts resulting from the potential ignition of fires would be significant. The Fire Management Plan required by APM HAZ-1 for the construction and operation phases for both the substation and the sections of the subtransmission line routes classified with a high risk for wildfires would reduce the likelihood of the ignition and spread of a fire. However, to further reduce impacts to a less-than-significant level (Class II), implementation of the following mitigation measures is recommended: HAZ-8a (Prepare and Implement Fire Management Plan), HAZ-8b (County Fire Department Review of Construction Methods), HAZ-8c (Practice Safe Welding Procedures), and HAZ-8d (Fire Preventive Construction Equipment Requirements).

Mitigation Measures for Impact HAZ-8

HAZ-8a Prepare and Implement Fire Management Plan.

HAZ-8b County Fire Department Review of Construction Methods.

HAZ-8c Practice Safe Welding Procedures.

HAZ-8d Fire Preventive Construction Equipment Requirements.

D.7.6 No Project Alternative

Under the No Project Alternative, neither the Proposed Project nor its alternatives would be built and none of the impacts described above would occur. However, without the Proposed Project, overload of the existing capacities would occur at five distribution stations that are currently served by the Vista and Devers 115 kV Systems. To address the overload conditions in the Maraschino service area, SCE would add a third transformer and two 12 kV distribution lines (each about nine miles in length).

D.7.6.1 Environmental Impacts of the No Project Alternative

If the No Project Alternative is selected, the environmental impacts identified above would not occur. However, without the Proposed Project, to address the overload conditions in the Maraschino Substation service area, SCE would add a third transformer and two 12 kV distribution lines (each approximately 9 miles in length) at Maraschino Substation. Although it is currently not known precisely where the 12 kV distribution lines would be constructed, it can be reasonably assumed that construction of these lines would result in similar impacts as the Proposed Project and would require the same or similar mitigation measures as discussed above for the Proposed Project. Potential routes for these distribution lines would have to be investigated to determine if the potential sites are located near schools, within high fire hazard areas, or on properties that are included on a list of hazardous materials sites. Depending on the results of such investigations, additional mitigation measures, such as remediation of contaminated sites prior to construction or additional measures to reduce the risk of upset of hazardous materials or igniting a fire, may be required.

D.7.7 Electric and Magnetic Fields and Other Field-Related Concerns

Recognizing that there is a great deal of public interest and concern regarding potential health effects from exposure to electric and magnetic fields (EMFs) from power lines, this section 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 is 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*** from power lines. However, this section does **not** consider magnetic fields in the context of CEQA and determination of environmental impacts, first because there is no agreement among scientists that EMF does create a potential health risk, and second because 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 decision makers.

Additional concerns regarding the Proposed Project related to power line fields include corona and audible noise; radio, television, electronic equipment interference; induced currents and shock hazards; and effects on cardiac pacemakers. Environmental impacts are defined for these issues, and mitigation measures are recommended. These field issues are addressed in Sections D.7.7.4 and D.7.8.

D.7.7.1 Defining EMF

Electric and magnetic fields are separate phenomena that occur both naturally and as a result of human activity across a broad electrical spectrum. Naturally occurring electric and magnetic fields are caused by the weather and the earth's geomagnetic field. The fields caused by human activity result from technological application of the electromagnetic spectrum for uses such as communications, appliances, and the generation, transmission, and local distribution of electricity.

The frequency of a power line is determined by the rate at which electric and magnetic fields change their direction each second. For power lines in the United States, the frequency of change is 60 times per second and is defined as 60 Hertz (Hz) power. In Europe and many other countries, the frequency of electric power is 50 Hz. Radio and communication waves operate at much higher frequencies – 500,000 Hz to 1,000,000,000 Hz. The information presented in this document is limited to the EMF from power lines at frequencies of 50 or 60 Hz.

Electric power flows across transmission systems from generating sources to serve electrical loads within the community. The apparent power flowing over a transmission line is determined by the transmission line's voltage and the current. The higher the voltage level of the transmission line, the lower the amount of current needed to deliver the same amount of power. For example, a 115 kV transmission line with 200 amps of current will transmit approximately 40,000 kilowatts (kW), and a 230 kV transmission line requires only 100 amps of current to deliver the same 40,000 kW. Due to thermal limitations on the amount of current that can be carried over conductors, utilities use higher voltage levels to increase the amount of power that can be transmitted over a transmission line.

D.7.7.2 Electric Fields

Electric fields from power lines are created whenever the lines are energized, with the strength of the field directly dependent on the voltage of the line creating it. Electric field strength is typically described in terms of kilovolts per meter (kV/m). Electric field strength attenuates (reduces) rapidly as the distance from the source increases. Electric fields are reduced at many receptors because they are effectively shielded by most objects or materials such as trees or houses.

Unlike magnetic fields, which penetrate almost everything and are unaffected by buildings, trees, and other obstacles, electric fields are distorted by any object that is within the electric field, including the human body. Even trying to measure an electric field with electronic instruments is difficult because the devices themselves will alter the levels recorded. Determining an individual's exposure to electric fields requires the understanding of many variables, one of which is the electric field itself.

At reasonably close distances, electric fields of sufficient strength in the vicinity of power lines can cause the same phenomena as the static electricity experienced on a dry winter day, or with clothing just removed from a clothes dryer, and may result in electric discharges when touching long metal fences, pipelines, or large vehicles. An acknowledged potential impact to public health from electric transmission lines is the hazard of electric shock; electric shocks from transmission lines are generally the result of accidental or unintentional contact by the public with the energized wires.

D.7.7.3 Magnetic Fields

Magnetic fields from power lines are created whenever current flows through power lines at any voltage. The strength of the field is directly dependent on the current in the line. Magnetic field strength is typically measured in milliGauss (mG). Similar to electric fields, magnetic field strength

attenuates rapidly with distance from the source. However, unlike electric fields, magnetic fields are not easily shielded by objects or materials.

The nature of a magnetic field can be illustrated by considering a household appliance. When the appliance is energized by being plugged into an electrical outlet but is not turned on (so no current would be flowing through it), an *electric* field is generated around the cord and appliance, but no magnetic field is present. If the appliance is switched on, the electric field would still be present and a magnetic field would also be created. The electric field strength is directly related to the magnitude of the voltage from the outlet and the magnetic field strength is directly related to the magnitude of the current flowing in the cord and appliance.

D.7.7.4 Other Field Related Public Concerns

Other public concerns related to electric power facility projects are both safety and nuisance issues, and include radio/television/electronic equipment interference; induced currents and shock hazards; and potential effects on cardiac pacemakers. Each of these issues is described below.

Radio/Television/Electronic Equipment Interference

Although corona can generate high frequency energy that may interfere with broadcast signals or electronic equipment, this is generally not a problem for transmission lines. The Institute of Electrical and Electronic Engineers (IEEE) has published a design guide (Radio Noise Subcommittee 1971) that is used to limit conductor surface gradients so as to avoid electronic interference.

Gap discharges, or arcs, can also be a source of high frequency energy. Gap discharges occur when an arc forms across a gap in loose or worn line hardware. It is estimated that over 90 percent of interference problems from electric transmission lines are due to gap discharges. Line hardware is designed to be problem-free, but wind motion, corrosion, and other factors can create a gap discharge condition. When identified, gap discharges can be located and remedied by utilities.

Electric fields from power lines do not typically pose interference problems for electronic equipment in businesses since the equipment is shielded by buildings and walls. However, magnetic fields can penetrate buildings and walls thereby interacting with electronic equipment. Depending upon the sensitivity of equipment, the magnetic fields can interfere with equipment operation. Review of this phenomenon in regard to the sensitivity of electrical equipment identifies a number of thresholds for magnetic field interference. Interference with cathode ray tube (CRT) type computer monitors can be detected at magnetic field levels of 10 mG and above, while large screen or high-resolution monitors can be susceptible to interference at levels as low as 5 mG. Other specialized equipment, such as medical equipment or testing equipment can be sensitive at levels below 5 mG. Equipment that may be susceptible to very low magnetic field strengths is typically installed in specialized and controlled environments, since even building wiring, lights, and other equipment can generate magnetic fields of 5 mG or higher.

The most common electronic equipment that can be susceptible to magnetic field interference is probably computer monitors. Magnetic field interference results in disturbances to the image displayed on the monitor, often described as screen distortion, “jitter,” or other visual defects. In most cases it is annoying, and at worst can prevent use of the monitor. This type of interference is a recognized problem in the video monitor industry. As a result, there are manufacturers who specialize in monitor interference solutions and shielding equipment. Possible solutions to this problem include: relocation of the monitor, use of magnetic shield enclosures, software programs, and replacement of CRT monitors

with liquid crystal displays that are not susceptible to magnetic field interference and are rapidly becoming the predominate type of computer monitor.

Induced Currents and Shock Hazards

Power line fields can induce voltages and currents on conductive objects, such as metal roofs or buildings, fences, and vehicles. When a person or animal comes in contact with a conductive object a perceptible current or small secondary shock may occur. Secondary shocks cause no physiological harm; however, they may present a nuisance.

Wind, Earthquake, and Fire Hazards

Wind. Transmission line structures used to support overhead transmission lines must meet the requirements of the California Public Utilities Commission, General Order No. 95, Rules for Overhead Electric Line Construction. This design code and the National Electrical Safety Code include loading requirements related to wind conditions. Transmission support structures are designed to withstand different combinations of loading conditions including extreme winds. These design requirements include use of safety factors that consider the type of loading as well as the type of material used, e.g., wood, steel or concrete. Failures of transmission line support structures are extremely rare and are typically the result of anomalous loading conditions such as tornadoes or ice-storms.

Earthquakes. Overhead transmission lines consist of a system of support structures and interconnecting wire that is inherently flexible. Industry experience has demonstrated that under earthquake conditions structure and member vibrations generally do not occur or cause design problems. Overhead transmission lines are designed for dynamic loading under variable wind conditions that generally exceed earthquake loads. Underground transmission lines are susceptible to ground motion and displacements that may occur under earthquake loading. The proposed underground transmission line segment uses solid dielectric cable, which does not present the environmental or fire hazards that may be associated with oil-filled cable types.

Fire Hazards. Electrical arcing from power lines can represent a fire hazard. This phenomenon is more prevalent for lower voltage *distribution* lines since these lines are typically on shorter structures and in much closer proximity to trees and vegetation than *transmission* lines. Fire hazards from high voltage transmission lines are greatly reduced through the use of taller structures and wider ROWs. Furthermore, transmission line ROWs are cleared of trees to prevent this hazard. Fire hazards due to a fallen conductor from an overhead line or ruptured underground cable are minimal due to system protection features. Both overhead and underground high voltage transmission lines include system protection designed to safeguard the public and transmission line equipment. These protection systems consist of transmission line relays and circuit breakers that are designed to rapidly detect faults and cut off power to avoid shock and fire hazards. This equipment is typically set to operate in 2 to 3 cycles, representing a time interval range from 2/60 of a second to 3/60 of a second.

Cardiac Pacemakers

An area of concern related to electric fields from transmission lines has been the possibility of interference with cardiac pacemakers. There are two general types of pacemakers: asynchronous and synchronous. The asynchronous pacemaker pulses at a predetermined rate. It is generally immune to interference because it has no sensing circuitry and is not exceptionally complex. The synchronous pacemaker, however, pulses only when its sensing circuitry determines that pacing is necessary. Interference from transmission line electric field may cause a spurious signal on the pacemaker's sensing circuitry. However, when these pacemakers detect a spurious signal, such as a 60 Hz signal,

they are programmed to revert to an asynchronous or fixed pacing mode of operation, returning to synchronous operation within a specified time after the signal is no longer detected. Cardiovascular specialists do not consider prolonged asynchronous pacing a problem, since some pacemakers are designed to operate that way. Periods of operation in this mode are commonly induced by cardiologists to check pacemaker performance. So, while transmission line electric fields may interfere with the normal operation of some of the older model pacemakers, the result of the interference is generally not harmful, and is of short duration (EPRI, 1985 and 1979).

D.7.7.5 Scientific Background and Regulations Applicable to EMF

EMF Research

For more than 20 years, research has been conducted to address questions regarding the potential effects within the environment of EMF from power lines. Earlier studies focused primarily on interactions with the electric fields from power lines. In the late 1970s, the subject of magnetic field interactions began to receive additional public attention and research levels have since increased. A substantial amount of research investigating both electric and magnetic fields has been conducted over the past 20 years; however, much of the body of national and international research regarding EMF and public health risks remains contradictory or inconclusive.

Extremely low frequency (ELF) fields are known to interact with tissues by inducing electric fields and currents in these tissues However, the electric currents induced by ELF fields commonly found in our environment are normally much lower than the strongest electric currents naturally occurring in the body such as those that control the beating of the heart.[1]

Research related to EMF can be grouped into three general categories: cellular-level studies, animal and human experiments, and epidemiological studies. These studies have provided mixed results, with some studies showing an apparent relationship between magnetic fields and health effects while other similar studies do not.

Since 1979, public interest and concern specifically regarding magnetic fields from power lines has increased. This increase has generally been attributed to publication of the results of a single epidemiological study (Wertheimer and Leeper, 1979). This study observed an association between the wiring configuration on electric power lines outside of homes in Denver and the incidence of childhood cancer. Following publication of the Wertheimer and Leeper study, many epidemiological, laboratory, and animal studies regarding EMF have been conducted.

Research on ambient magnetic fields in homes and buildings in several western states found average magnetic field levels within most rooms to be approximately 1 mG, while in a room with appliances present, the measured values ranged from 9 to 20 mG (Severson et al., 1988, and Silva et al., 1988). Immediately adjacent to appliances (within 12 inches), field values are much higher, as illustrated in Tables D.7-2 and D.7-3. These tables indicate typical sources and levels of EMF exposure the general public experiences from appliances.

Table D.7-2. Typical Electric Field Values for Appliances, at 12 Inches

Appliance	Electric Field Strength (kV/m)
Electric Blanket	0.25*
Broiler	0.13
Stereo	0.09
Refrigerator	0.06
Iron	0.06
Hand Mixer	0.05
Coffee Pot	0.03

*1 to 10 kV/m next to blanket wires
Source: Enertech, 1985

[1] The power frequencies (50/60 Hz) are part of the ELF (3 Hz to 300 Hz) bandwidth.

Scientific Panel Reviews

Numerous panels of expert scientists have convened to review the data relevant to the question of whether exposure to power-frequency EMF is associated with adverse health effects. These evaluations have been conducted in order to advise governmental agencies or professional standard-setting groups. These panels of scientists first evaluate the available studies individually, not only to determine what specific information the studies can offer, but also in terms of the validity of their experimental design, methods of data collection, analysis, and suitability of the authors' conclusions to the nature and quality of the data presented. Subsequently, the individual studies, with their previously identified strengths and weaknesses, are evaluated collectively in an effort to identify whether there is a consistent pattern or trend in the data that would lead to a determination of possible or probable hazards to human health resulting from exposure to these fields.

Table D.7-3. Magnetic Field From Household Appliances

	Magnetic Field (mG)	
Appliance	12" Distant	Maximum
Electric range	3 to 30	100 to 1,200
Electric oven	2 to 25	10 to 50
Garbage disposal	10 to 20	850 to 1,250
Refrigerator	0.3 to 3	4 to 15
Clothes washer	2 to 30	10 to 400
Clothes dryer	1 to 3	3 to 80
Coffee maker	0.8 to 1	15 to 250
Toaster	0.6 to 8	70 to 150
Crock pot	0.8 to 1	15 to 80
Iron	1 to 3	90 to 300
Can opener	35 to 250	10,000 to 20,000
Mixer	6 to 100	500 to 7,000
Blender, popper, processor	6 to 20	250 to 1,050
Vacuum cleaner	20 to 200	2,000 to 8,000
Portable heater	1 to 40	100 to 1,100
Fan/blower	0.4 to 40	20 to 300
Hair dryer	1 to 70	60 to 20,000
Electric shaver	1 to 100	150 to 15,000
Color TV	9 to 20	150 to 500
Fluorescent fixture	2 to 40	140 to 2,000
Fluorescent desk lamp	6 to 20	400 to 3,500
Circular saw	10 to 250	2,000 to 10,000
Electric drill	25 to 35	4,000 to 8,000

Source: Gauger, 1985

These reviews include those prepared by international agencies such as the World Health Organization (WHO, 1984, WHO, 1987, and WHO, 2001) and the international Non-Ionizing Radiation Committee of the International Radiation Protection Association (IRPA/INIRC, 1998) as well as governmental agencies of a number of countries, such as the U.S. EPA, the National Radiological Protection Board of the United Kingdom, the Health Council of the Netherlands, and the French and Danish Ministries of Health.

Many of these scientific panels have found that the scientific evidence suggesting that power-frequency EMF exposures pose any health risk is weak. In May 1999 the National Institute of Environmental Health Sciences (NIEHS) submitted to Congress its report titled, *Health Effects from Exposure to Power-Line Frequency Electric and Magnetic Fields*, which contained the following conclusion regarding EMF and health effects:

> Using criteria developed by the International Agency for Research on Cancer (IARC), none of the Working Group considered the evidence strong enough to label ELF-EMF exposure as a known human carcinogen or *probable* human carcinogen. However, a majority of the members of this Working Group concluded that exposure to power-line frequency ELF-EMF is a *possible* carcinogen [italics added].

In June 2001, a scientific working group of IARC (an agency of WHO) reviewed studies related to the carcinogenicity of EMF. Using standard IARC classification, magnetic fields were classified as "possibly carcinogenic to humans" based on epidemiological studies. "Possibly carcinogenic to humans" is a classification used to denote an agent for which there is limited evidence of carcinogenicity in humans and less than sufficient evidence for carcinogenicity in experimental animals. Other agents identified as

"possibly carcinogenic to humans" include gasoline exhaust, styrene, welding fumes, and coffee (WHO, 2001).

On behalf of the California Public Utilities Commission (CPUC), the California Department of Health Services (DHS) recently completed a comprehensive review of existing studies related to EMF from power lines and potential health risks. This risk evaluation was undertaken by three staff scientists with the DHS, each of whom is identified in the review results as an epidemiologist, and their work took place from 2000 to 2002. The results of this review titled, *An Evaluation of the Possible Risks From Electric and Magnetic Fields (EMFs) From Power Lines, Internal Wiring, Electrical Occupations, and Appliances*, were published in June 2002. The conclusions contained in the executive summary are provided below:

- To one degree or another, all three of the DHS scientists are inclined to believe that EMFs can cause some degree of increased risk of childhood leukemia, adult brain cancer, Lou Gehrig's Disease, and miscarriage.
- They strongly believe that EMFs do not increase the risk of birth defects, or low birth weight.
- They strongly believe that EMFs are not universal carcinogens, since there are a number of cancer types that are not associated with EMF exposure.
- To one degree or another they are inclined to believe that EMFs do not cause an increased risk of breast cancer, heart disease, Alzheimer's Disease, depression, or symptoms attributed by some to sensitivity to EMFs. However, all three scientists had judgments that were "close to the dividing line between believing and not believing" that EMFs cause some degree of increased risk of suicide.
- For adult leukemia, two of the scientists are "close to the dividing line between believing or not believing" and one was "prone to believe" that EMFs cause some degree of increased risk.

The report indicates that the DHS scientists are more inclined to believe that EMF exposure increased the risk of the above health problems than the majority of the members of scientific committees that have previously convened to evaluate the scientific literature. With regard to why the DHS review's conclusions differ from those of other recent reviews, the report states:

> The three DHS scientists thought there were reasons why animal and test tube experiments might have failed to pick up a mechanism or a health problem; hence, the absence of much support from such animal and test tube studies did not reduce their confidence much or lead them to strongly distrust epidemiological evidence from statistical studies in human populations. They therefore had more faith in the quality of the epidemiological studies in human populations and hence gave more credence to them.

While the results of the DHS report indicate these scientists believe that EMF can cause some degree of increased risk for certain health problems, the report did not quantify the degree of risk.

In addition to the uncertainty regarding the level of health risk posed by EMF, individual studies and scientific panels have not been able to determine or reach consensus regarding what level of magnetic field exposure might constitute a health risk. In some early epidemiological studies, increased health risks were discussed for daily time-weighted average field levels greater than 2 mG. However, the IARC scientific working group indicated that studies with average magnetic field levels of 3 to 4 mG played a pivotal role in their classification of EMF as a possible carcinogen.

Policies, Standards, and Regulations

A number of counties, states, and local governments have adopted or considered regulations or policies related to EMF exposure. The reasons for these actions have been varied; in general, however, the actions can be

attributed to addressing public reaction to and perception of EMF as opposed to responding to the findings of any specific scientific research. Following is a brief summary of regulatory activity regarding EMF.

International Guidelines

The International Radiation Protection Association, in cooperation with the World Health Organization, has published recommended guidelines (INRC, 1998) for electric and magnetic field exposures. For the general public, the limits are 4.2 kV/m for electric fields, and 830 mG for magnetic fields. Neither of these organizations has any governmental authority nor recognized jurisdiction to enforce these guidelines. However, because they were developed by a broad base of scientists, these guidelines have been given merit and are considered by utilities and regulators when reviewing EMF levels from electric power lines.

National Guidelines

Although the U.S. EPA has conducted investigations into EMF related to power lines and health risks, no national standards have been established. The number of studies sponsored by the U.S. EPA, the Electric Power Research Institute (EPRI), and other institutions has increased in the past few years. Several bills addressing EMF have been introduced at the congressional level and have provided funding for research; however, no bill has been enacted that would regulate EMF levels.

The 1999 NIEHS report to Congress suggested that the evidence supporting EMF exposure as a health hazard was insufficient to warrant aggressive regulatory actions. The report did suggest passive measures to educate the public and regulators on means aimed at reducing exposures. NIEHS also suggested the power industry continue its practice of siting lines to reduce public exposure to EMF and to explore ways to reduce the creation of magnetic fields around lines.

State Guidelines

Several states have adopted limits for electric field strength within transmission line ROWs. Florida and New York are the only states that currently limit the intensity of magnetic fields from transmission lines. These regulations include limits within the ROW as well as at the edge of the ROW and cover a broad range of values. Table D.7-4 lists the states that regulate EMF as well as their respective EMF limits. The magnetic field limits were based on an objective of preventing field levels from increasing beyond levels currently experienced by the public and are not based upon any link between scientific data and health risks (Morgan, 1991).

Elsewhere in the United States, several agencies and municipalities have taken action regarding EMF policies. These actions have been varied and include requirements that the fields be considered in the siting of new facilities. The manner in which EMF is considered has taken several forms. In a few instances, a concept referred to as “prudent avoidance” has been formally adopted. Prudent avoidance, a concept proposed by Dr. Granger Morgan of Carnegie-Mellon University, is defined as “. . . limiting exposures which can be avoided with small investments of money and effort” (Morgan, 1991). Some municipalities or regulating agencies have proposed limitations on field strength, requirements for siting of lines away from residences and schools, and, in some instances, moratoria on the construction of new transmission lines. The origin of these individual actions has been varied, with some initiated by regulators at the time of new transmission line proposals within their community, and some by public grass-roots efforts.

Table D.7-4. EMF Regulated Limits (by State)

State	Electric Field (kV/M	Magnetic (Field (mG)	Location	Application
Florida (codified):				
500 kV Lines	10		In ROW	Single circuit
	2	200	Edge of ROW	Single circuit
	2	250	Edge of ROW	Double circuit
230 kV Lines or less	8		In ROW	
	2	150	Edge of ROW	230 kV lines or less
Minnesota	8		In ROW	>200 kV
Montana (codified)	1		Edge of ROW	>69 kV
	7		In ROW	Road crossings
New Jersey	3	Under consideration	Edge of ROW	Guideline for complaints
New York	1.6	200	Edge of ROW	>125 kV, >1 mile
	7		In ROW	Public roads
	11		In ROW	Public roads
	11.8		In ROW	Other terrain
North Dakota	9		In ROW	Informal
Oregon (codified)	9		In ROW	230 kV, 10 miles

Source: Public Utilities Commission of Texas, 1992

CPUC Guidelines

In 1991, the CPUC initiated an investigation into EMFs associated with electric power facilities. This investigation explored the approach to potential mitigation measures for reducing public health impacts and possible development of policies, procedures, or regulations. Following input from interested parties the CPUC implemented a decision (D.93-11-013) that requires that utilities use "low-cost or no-cost" mitigation measures for facilities requiring certification under General Order 131-D. The decision directed the utilities to use a four percent benchmark on the low-cost mitigation. This decision also implemented a number of EMF measurement, research, and education programs, and provided the direction that led to the preparation of the DHS study described above. The CPUC did not adopt any specific numerical limits or regulation on EMF levels related to electric power facilities.

In Decision D.93-11-013, the CPUC addressed mitigation of EMF of utility facilities and implemented the following recommendations:

- No-cost and low-cost steps to reduce EMF levels
- Workshops to develop EMF design guidelines
- Uniform residential and workplace programs
- Stakeholder and public involvement
- A four-year education program
- A four-year non-experimental and administrative research program
- An authorization of federal experimental research conducted under the National Energy Policy Act of 1992.

Most recently the CPUC issued Decision D.06-01-042, on January 26, 2006, affirming the low-cost/no-cost policy to mitigate EMF exposure from new utility transmission and substation projects. This decision also adopted rules and policies to improve utility design guidelines for reducing EMF. The CPUC stated "at this time we are unable to determine whether there is a significant scientifically

verifiable relationship between EMF exposure and negative health consequences." The CPUC has not adopted any specific limits or regulation on EMF levels related to electric power facilities.

Methods to Reduce EMF

EMF levels from transmission lines can be reduced in three primary ways: shielding, field cancellation, or increasing the distance from the source. Shielding, which primarily reduces exposure to electric fields, can be actively accomplished by placing trees or other physical barriers along the transmission line ROW. Shielding also results from existing structures the public may use or occupy along the line. Since electric fields can be blocked by most materials, shielding is effective for the electric fields but is of limited effectiveness for magnetic fields.

Magnetic fields can be reduced either by cancellation or by increasing distance from the source. Cancellation is achieved in two ways. A transmission line circuit consists of three "phases:" three separate wires (conductors) on a transmission tower. The configuration of these three conductors can reduce magnetic fields. First, when the configuration places the three conductors closer together, the interference, or cancellation, of the fields from each wire is enhanced. This technique has practical limitations because of the potential for short circuits if the wires are placed too close together. There are also worker safety issues to consider if spacing is reduced. Second, in instances where there are two circuits (more than three phase wires), such as in the Proposed Project, cancellation can be accomplished by arranging phase wires from the different circuits near each other. In underground lines, the three phases are typically much closer together than in overhead lines because the cables are insulated (coated).

The distance between the source of fields and the public can be increased by either placing the wires higher above ground, burying underground cables deeper, or by increasing the width of the ROW. For transmission lines, these methods can prove effective in reducing fields because the reduction of the field strength drops rapidly with distance.

D.7.7.6 Consideration of Electric and Magnetic Fields (EMFs)

As discussed in Section D.7.7.5, there remains a lack of consensus in the scientific community in regard to public health impacts from EMF at the levels expected from electric power facilities. Further, there are no federal or State standards limiting human exposure to EMFs from transmission lines or substation facilities in California. For those reasons, EMF is not considered in this EIR as a CEQA issue and no impact significance is presented. This information is presented to allow understanding of the issue by the public and decision makers.

EMF in the Proposed Project Area

Public exposure to EMFs in developed areas is widespread and encompasses a very broad range of field intensities and durations. In developed areas, EMFs are prevalent from the use of electronic appliances or equipment and existing electric power lines. In general *distribution lines* exist throughout developed portions of the community and represent the predominant source of public exposure to power line EMF. *Transmission lines* are much less prevalent in most developed areas and therefore they generally represent a much lower contribution to overall public exposure to power line EMF. In undeveloped and natural areas, only low level naturally occurring EMFs exist. Measurable EMFs are not present except in the vicinity of existing power line corridors.

For the purpose of examining EMFs, SCE divided the Proposed Project into 5 segments, considering changes in characteristics of the transmission corridor (i.e., changes in the number of transmission lines in the corridor, changes to structure type). SCE's magnetic field computer modeling results graph the calculated magnetic field strength, without the Proposed Project (existing conditions) and with the Proposed Project, for an area extending 100 feet from each side of the transmission line. These results are shown in Figures D.7-4 through D.7-8. Table D.7-5 presents the estimated magnetic field along the Proposed Project.

Table D.7-5. Comparison of Baseline and Expected Magnetic Fields Levels (mG) – Proposed Project[1]

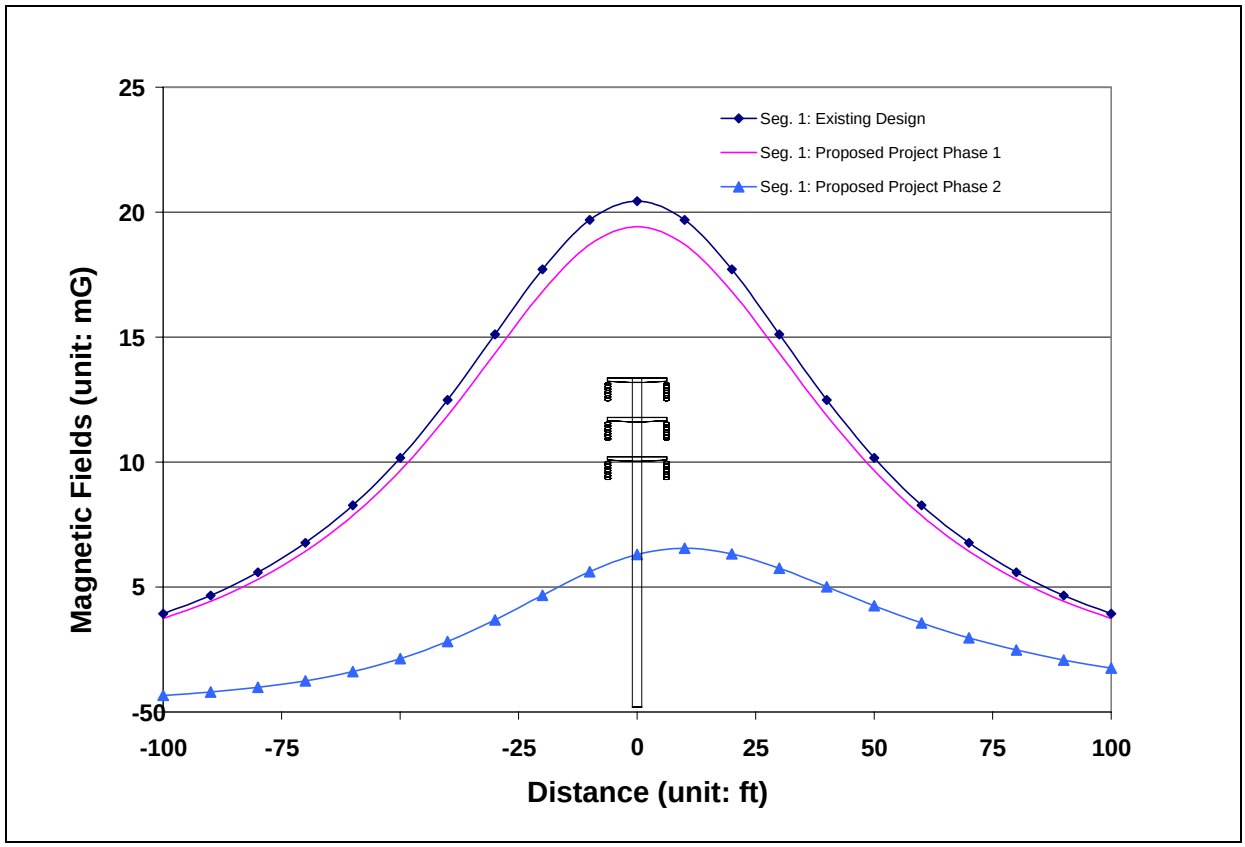
		Left Side of ROW[2,3]			Right Side of ROW[2,3]		
Segment ID	Location	Existing	Proposed	Change	Existing	Proposed	Change
	El Casco Substation to Maraschino Loop West	10.2	2.1	-8.1	10.2	4.3	-5.9
1	Maraschino Loop West	6.4	7.2	0.8	6.1	6.9	0.8
2	Maraschino Loop South	0	2.3	2.3	0	2.2	2.2
3	El Casco-Banning between Maraschino Loop West and Maraschino Loop South	0	5.1	5.1	0	4.8	4.8
4	Maraschino Loop South to Banning Substation	0	4.1	4.1	0	2.7	2.7

Source: SCE, 2007a
1. Following completion of Phase 2
2. As measured 50 feet from the transmission line
3. mG = milliGauss

Segment 1 – El Casco Substation to Maraschino Loop West

The proposed El Casco-Banning 115 kV subtransmission line would parallel the El Casco-Maraschino 115 kV subtransmission line (which prior to Project implementation is the existing San Bernardino-Maraschino 115 kV subtransmission line). The construction of this second line within the ROW could be phased with respect to the existing 115 kV subtransmission line to reduce the magnetic field levels. Figure D.7-3 shows the existing magnetic field levels along the ROW for Segment 1. Figure D.7-3 also shows the magnetic field levels that would occur with the 115 kV El Casco-Maraschino subtransmission line on one side of the double-circuit towers at the completion of Phase 1 of the Proposed Project, as well as the magnetic field levels that would occur after the El Casco-Banning 115 kV subtransmission line is added to the other side of the double-circuit tower with the completion of Phase 2 of the Proposed Project. Upon completion of both Phases 1 and 2, the Proposed Project would generate lower magnetic fields as compared to the existing design.

Figure D.7-3. Magnetic Field Profiles – Segment 1 (El Casco Substation to Maraschino Loop West)

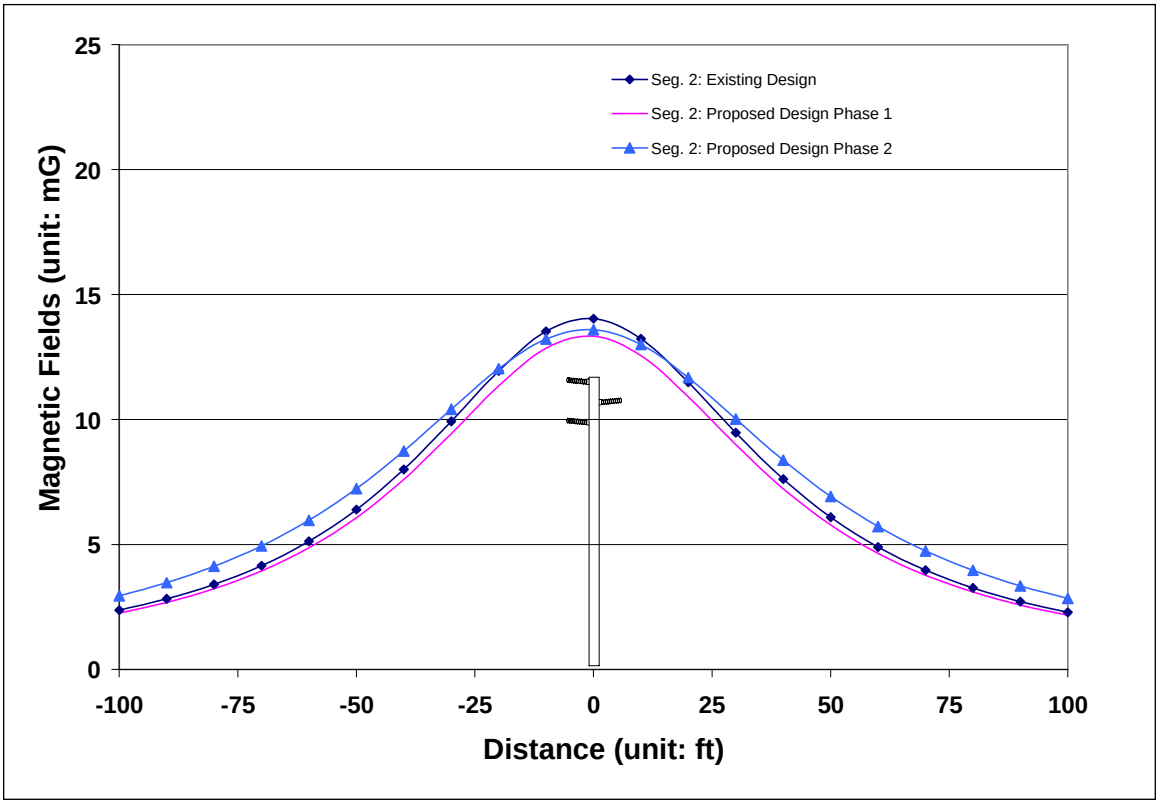


Source: SCE, 2007a

Segment 2 – Maraschino Loop West

The Proposed Project would replace the existing single-circuit poles for a portion of this segment and would reconductor existing single-circuit poles for the remainder of this segment. New poles that would be installed along this segment would utilize a "triangular" pole-head configuration and would be taller than the existing poles. Figure D.7-4 shows the existing magnetic field levels along Segment 2, the magnetic field levels that would occur following the connection of the line with El Casco Substation in Phase 1, and the magnetic field levels that would occur after the replacement of some of the existing poles and reconductoring of the remaining existing poles in Phase 2. Upon completion of both Phases 1 and 2, the Proposed Project would generate greater magnetic fields compared to the existing levels.

Figure D.7-4. Magnetic Field Profiles – Segment 2 (Maraschino Loop West)

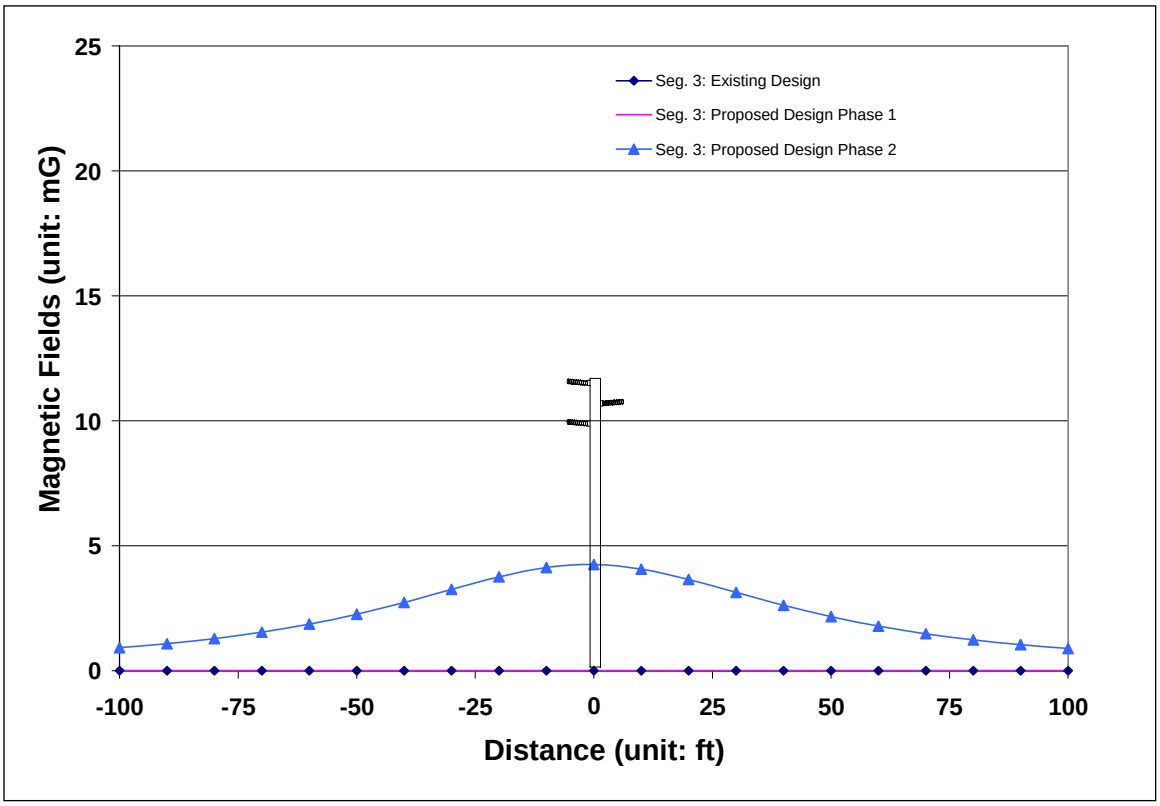


Source: SCE, 2007a

Segment 3 – Maraschino Loop South

The Proposed Project would replace the existing single-circuit poles along this segment. New poles that would be installed along this segment would utilize a "triangular" pole-head configuration and would be taller than the existing poles. The existing Banning-Maraschino 115 kV subtransmission line is an open circuit that carries load only in emergencies. Consequently, the magnetic field levels for this segment would be zero until the completion of the Proposed Project in Phase 2. Figure D.7-5 shows the existing magnetic field levels along Segment 3 and the magnetic field levels that would occur after the replacement of the existing poles and energization of the line in Phase 2. Upon completion of the Proposed Project, lines in this segment would generate greater magnetic fields compared to the existing levels.

Figure D.7-5. Magnetic Field Profiles – Segment 3 (Maraschino Loop South)

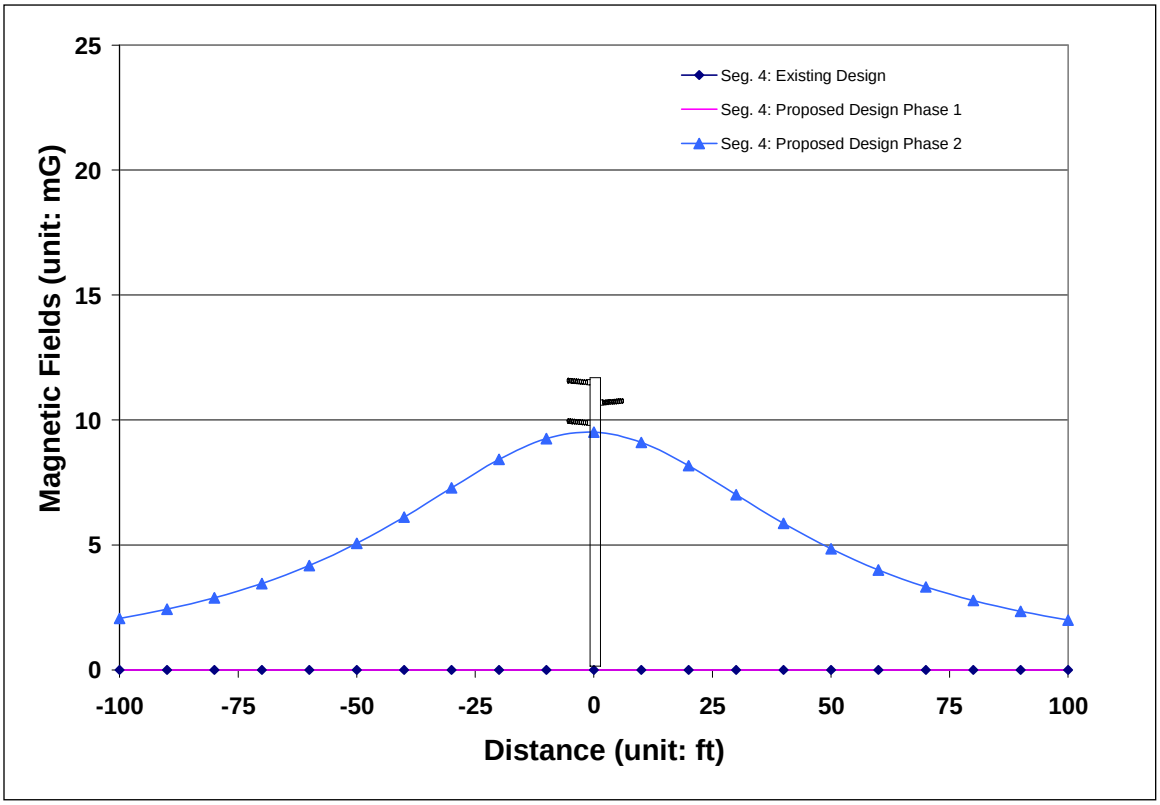


Source: SCE, 2007a

Segment 4 – El Casco-Banning between Maraschino Loop West and Maraschino Loop South

Similar to Segment 3, the Proposed Project would replace the existing wood single-circuit poles along this segment with new single-circuit steel poles that would utilize a "triangular" pole-head configuration and would be taller than the existing poles. The existing line in this segment is an open circuit that carries load only in emergencies. Consequently, the magnetic field levels for this segment would be zero until the completion of the Proposed Project in Phase 2. Figure D.7-6 shows the existing magnetic field levels along Segment 4 and the magnetic field levels that would occur after the replacement of the existing poles and energization of the line in Phase 2. After completion of the Proposed Project, lines in this segment would generate greater magnetic fields compared to the existing levels.

Figure D.7-6. Magnetic Field Profiles – Segment 4 (El Casco-Banning between Maraschino Loop West and Maraschino Loop South)

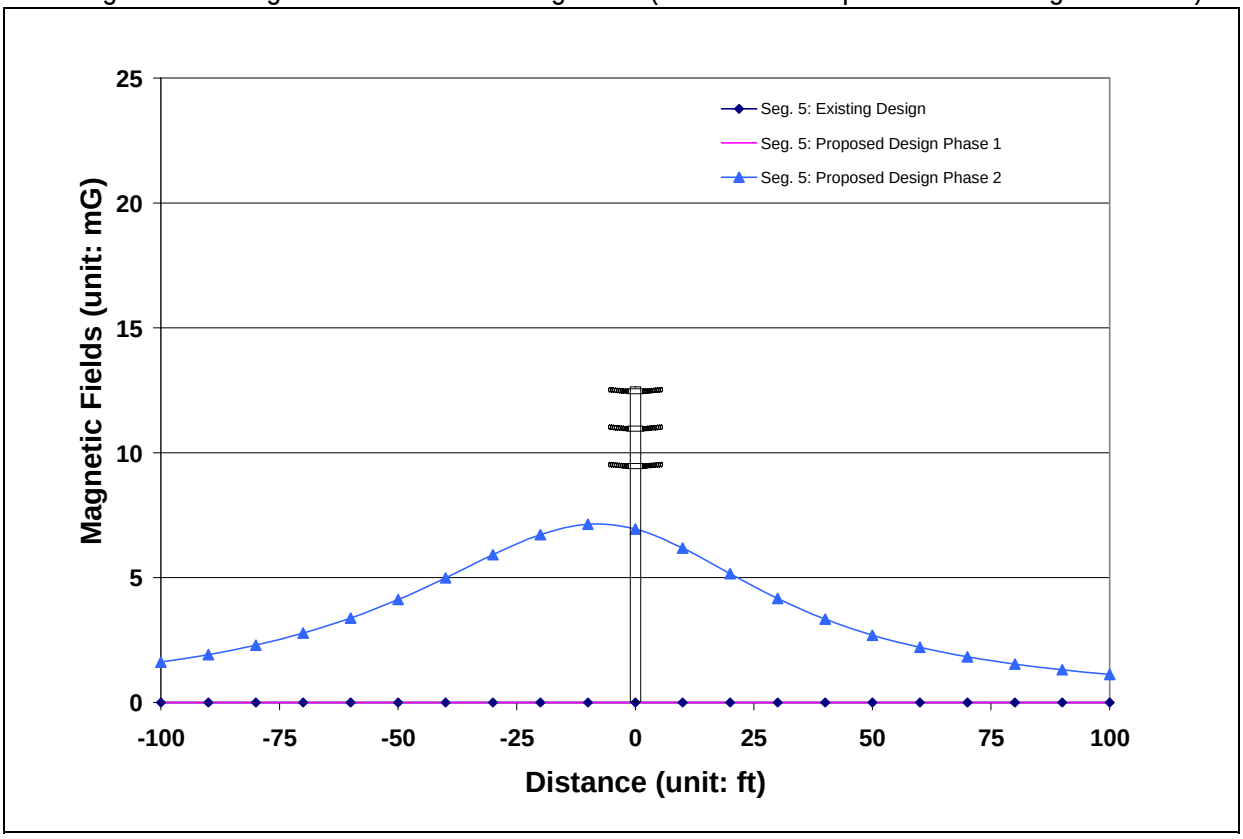


Source: SCE, 2007a

Segment 5 – Maraschino Loop South to Banning Substation

The Proposed Project would replace the existing single-circuit Banning-Maraschino 115 kV subtransmission line with a double-circuit 115 kV subtransmission line. One circuit would be the Banning-Maraschino 115 kV subtransmission line while the other would be the El Casco-Banning 115 kV subtransmission line. As described for Segments 3 and 4, the existing Banning-Maraschino is an open circuit carrying load only in emergencies. As with the previous segments, the magnetic field levels for Segment 5 would be zero until the completion of the Proposed Project in Phase 2. Figure D.7-7 shows the existing magnetic field levels along Segment 5 and the magnetic field levels that would occur after the replacement of the existing single-circuit poles with double-circuit poles and energization of the lines in Phase 2. Following the completion of the Proposed Project, the lines in this segment would generate greater magnetic fields compared to the existing levels.

Figure D.7-7 Magnetic Field Profiles – Segment 5 (Maraschino Loop South to Banning Substation)



Source: SCE, 2007a

El Casco Substation

The Proposed El Casco Substation is located within an undeveloped habitat conservation area. The CPUC Decision 06-01-042 stated that "Low-cost EMF mitigation is not necessary in agricultural and undeveloped lands except for permanently occupied residences, schools or hospitals located on these lands." Consequently, phasing arrangements for the 220 kV transmission and 115 kV subtransmission lines would be selected by SCE based primarily on the phasing arrangements in Segments 1 and 5, rather than priority being given to EMF mitigation phasing at the substation. However, the phasing arrangements for Segments 1 and 5 would result in beneficial reductions to EMF at El Casco Substation where the transmission circuits enter the substation.

SCE's Proposed EMF Mitigation

In accordance with CPUC Decisions D.93-11-013 and 06-01-042, SCE proposes to incorporate "no-cost" and "low-cost" magnetic field reduction steps in the proposed transmission and substation facilities. SCE proposed specific measures to reduce EMF in its Field Management Plan for the Proposed Project. Following are the measures that would reduce magnetic fields:

Segments 1 and 5

- Use taller poles (typically 85 feet above the ground for Segment 1 and 70 feet above the ground for Segment 5);
- Use a double-circuit pole-head configuration; and
- Phase the proposed 115 kV subtransmission line with respect to the existing subtransmission lines.

Segments 2, 3, and 4

- Use taller poles (typically 65 feet above the ground); and
- Use a "triangular" type pole-head configuration.

El Casco Substation

- Place major substation electric equipment (such as transformers, capacitor banks, switchracks, etc.) away from the substation property lines; and
- Phase Devers-El Casco and El Casco-San Bernardino 220 kV transmission lines optimally at the getaway structure.

SCE's plan for reducing magnetic fields for the Proposed Project is consistent with the CPUC's Interim EMF Opinion Decision No. 93-11-013 ("1993 CPUC Decision") and also with recommendations made by the U.S. National Institute of Environmental Health Sciences. Furthermore, the recommendations above meet CPUC-approved EMF Design Guidelines as well as all national and State safety standards for new electric facilities.

EMF Issues Applicable to Alternatives

CPUC's Northerly Route Alternative Option 3

The Route Alternative Option 3 requires constructing approximately 9.5 miles of new double-circuit 115 kV subtransmission lines to intercept the existing 115 kV subtransmission line between Banning Substation and Zanja Substation within an existing SCE ROW to create the El Casco-Zanja 115 kV and the El Casco-Banning 115 kV subtransmission lines. Along this alternative route, the proposed 115 kV subtransmission lines would parallel existing 220 kV transmission lines. To determine the effect the Route Alternative Option 3 would have on EMF levels in the area, SCE used magnetic field computer modeling to graph the calculated magnetic field strength with and without the proposed alternative route.

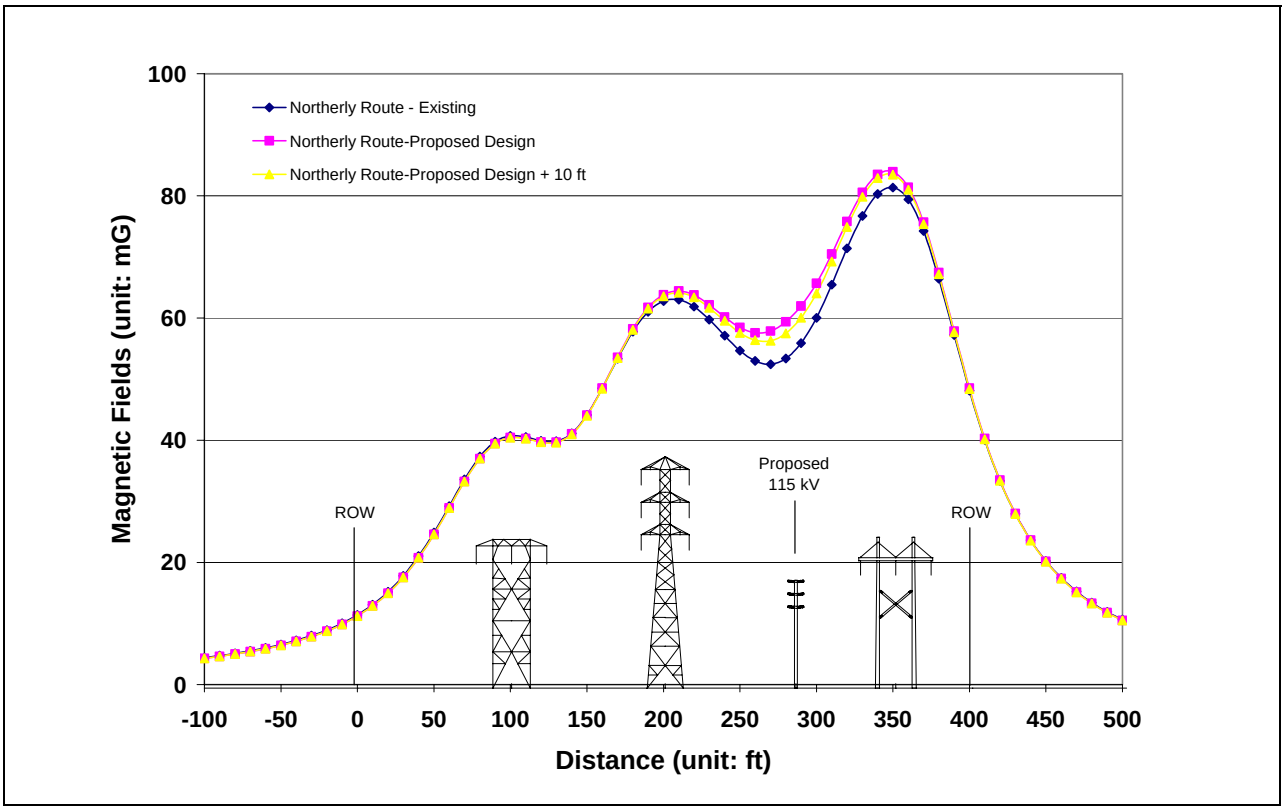
Figure D.7-9 shows a comparison of magnetic field profiles of the El Casco-Banning portion of this alternative while Table D.7-6 shows the percentage reduction at edges of the ROW for various conditions. "Existing Conditions" reflects magnetic field levels within this ROW without the Route Alternative Option 3. The "Route Alternative Option 3" condition reflects magnetic field levels for construction of the Route Alternative Option 3 with the proposed double-circuit design of which the 115 kV subtransmission lines would be phased to reduce the magnetic fields. The "Route Alternative Option 3 +10 ft" condition reflects magnetic field levels for considering 10-foot taller poles in addition to the proposed double-circuit design. As shown in Figure D.7-8 and Table D.7-6, there are no noticeable changes in magnetic fields by adding the Route Alternative Option 3 line within the existing 220 kV ROW. Using 10 foot taller poles, however, could marginally increase the magnetic field levels due to a decrease in magnetic field cancellation effects.

Table D.7-6. Comparison of Magnetic Fields at Edges of ROW for CPUC's Northerly Route Alternative Option 3

Design Options	Left ROW (mG)	% Reduction	Right ROW (mG)	% Reduction
Existing Conditions	11.4	Base	48.1	Base
Route Alternative Option 3	11.2	1.8	48.5	< 15% increase
Route Alternative Option 3 + 10 ft	11.2	0	48.4	0.2

Source: SCE, 2007f. Fields measured 50 feet from the transmission line; mG = milliGauss

Figure D.7-8 – A Design Comparison of Magnetic Field Levels for the El Casco-Banning 115 kV Subtransmission Line



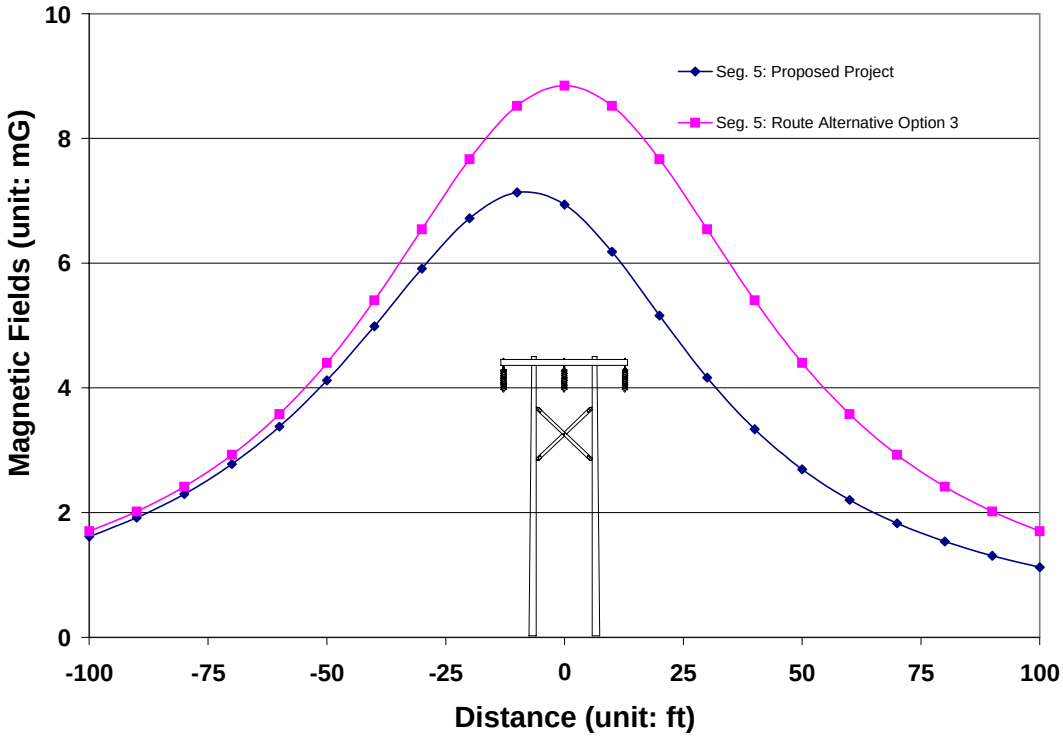
Source: SCE, 2007f

From the "Zanja Break-off" point to Banning Substation, SCE would reconductor approximately 4.3 miles of the existing 115 kV subtransmission line. The reconductoring activity on a single-circuit subtransmission line is limited in scope and does not provide significant opportunities to implement magnetic field reduction measures; therefore, no further consideration was given to EMF reduction for this portion of the line (SCE, 2007f).

Existing and future magnetic field conditions for the El Casco-Maraschino portion of Route Alternative Option 3 would be identical to Segment 1 of the Proposed Project, which is discussed above.

Under Route Alternative Option 3, the existing Banning-Maraschino 115 kV Subtransmission Line would remain on the existing wood H-frame poles; however, this subtransmission line would be energized and carry electrical current at all times to increase the system reliability. As shown on Figure D.7-9, below, energizing the existing Banning-Maraschino line would result in higher magnetic fields compared to the Proposed Project for Segment 5. The Proposed Project design has lower magnetic fields mainly due to the following design differences: the double circuit design of the Proposed Project has less phase-to-phase distance, is taller, and has phasing arrangements that reduce magnetic fields. Thus, because of double circuit design, the Proposed Project would better meet CPUC's No-Cost and Low-Cost EMF Policy than the existing H-Frame design that would exist under the Route Alternative Option 3.

Figure D.7-9 – A Design Comparison of Magnetic Field Levels for the Banning-Marschino 115 kV Subtransmission Line (Segment 5)



Source: SCE, 2007f

Partial Underground Alternative

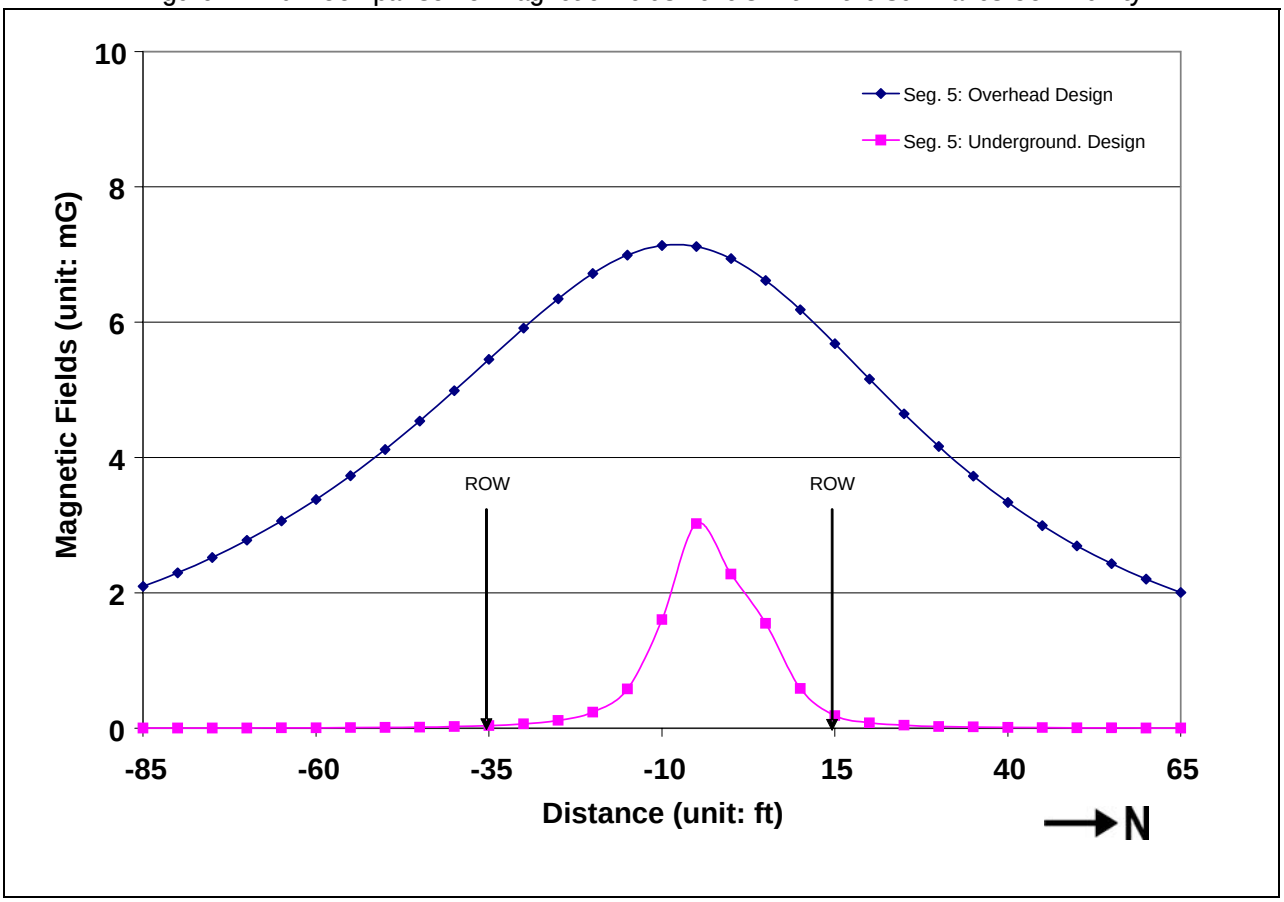
EMF levels along the underground portion of the ROW within the Sun Lakes Community would be reduced compared to the Proposed Project, as shown below in Table D.7-7 and Figure D.7-10. As shown in Table D.7-7, the magnetic field levels from the overhead double-circuit 115-kV design (Proposed Project) at the edges of the ROW would be approximately 5.5 to 5.7 mG while the underground double-circuit 115-kV design would be approximately 0 to 0.2 mG (SCE, 2007h).

Table D.7-7. Comparison of Magnetic Fields Levels within the Sun Lakes Community

Scenario	Northern Edge of ROW (mG)[1]	Southern Edge of ROW (mG)[2]
Existing Conditions	0	0
Proposed Project (aboveground)	5.7	5.5
Underground Segment	0.2	0

Source: SCE, 2007h
mG = milliGauss
1. 15 feet north of buried transmission line
2. 35 feet south of buried transmission line

Figure D.7-10 – Comparison of Magnetic Fields Levels within the Sun Lakes Community



Source: SCE, 2007h

Summary Regarding EMF

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. The information included in the preceding sections identifies existing EMF exposures within the community, and specific information on the EMF levels estimated for the proposed project. Presently there are no applicable regulations related to EMF levels from power lines, however, the CPUC has implemented a decision requiring utilities to incorporate "low-cost" or "no-cost" measures for managing EMF from power lines. SCE's Proposed Project does incorporate low-cost and no-cost measures as mitigation for magnetic fields. The preceding information is provided for the benefit of the public and decision makers in reviewing the Proposed Project.

D.7.8 Environmental Impacts and Mitigation Measures for the Proposed Project – Non-EMF Electric Power Field Issues

This section focuses on the following environmental impacts from the Proposed Project: corona; induced current; electronic equipment interference; wind, fire, and earthquake hazards; and effects on cardiac pacemakers.

D.7.8.1 Definition and Use of Significance Criteria

Radio/Television/Electronic Equipment Interference

There are no local, State or federal regulations with specific limits on high frequency emissions from electric power facilities. Federal Communication Commission (FCC) regulations require that transmission lines be operated so that no harmful interference is produced (FCC regulations, section 15.25).

Induced Currents and Shock Hazards

The National Electrical Safety Code (NESC) specifies that transmission lines be designed to limit short circuit current from vehicles or large objects near the line to no more than 5 milliampere (mA). CPUC General Order 95 and the NESC also address shock hazards to the public by providing guidelines on minimum clearances to be maintained for practical safeguarding of persons during the installation, operation, or maintenance of overhead transmission lines and their associated equipment.

Cardiac Pacemakers

It has been reported that synchronous pacemakers can be affected by electric fields between 2 kV/m and 9 kV/m (EPRI, 1985; 1979). As described above, when a synchronous pacemaker is in a field in this range, a few older model pacemakers may revert to an asynchronous mode.

Wind, Earthquake, and Fire Hazards

Transmission line structures used to support overhead transmission lines must meet the requirements of the California Public Utilities Commission, General Order No. 95, Rules for Overhead Electric Line Construction. This design code and the National Electrical Safety Code include loading requirements related to wind conditions.

D.7.8.2 Environmental Impacts and Mitigation Measures for Operation of the Proposed Subtransmission Line

Impact HAZ-9: Radio and Television Interference (Class II)

Corona or gap discharges related to high frequency radio and television interference impacts are dependent upon several factors, including the strength of broadcast signals, and are anticipated to be very localized if they occur. Individual sources of adverse radio/television interference impacts can be located and corrected on the power lines. Conversely, magnetic field interference with electronic equipment such as computer monitors can be corrected through the use of software, shielding, or changes at the monitor location. Mitigation Measures HAZ-9a (Limit Conductor Surface Gradient) and HAZ-9b (Resolve Radio/Television/Equipment Interference Complaints) are recommended to reduce the potential impacts of interference (Class II).

Mitigation Measures for Impact HAZ-9

HAZ-9a Limit Conductor Surface Gradient. As part of the design and construction process for the Proposed Project, SCE shall limit the conductor surface electric gradient in accordance with the IEEE Radio Noise Design Guide.

HAZ-9b Resolve Radio/Television/Equipment Interference Complaints. After energizing the transmission line, SCE shall respond to and document all radio/television/equipment interference complaints received and the responsive action taken. These records shall be made available to the CPUC for review upon request. All unresolved disputes shall be referred by SCE to the CPUC for resolution.

Impact HAZ-10: Induced Currents and Shock Hazards in Joint Use Corridors (Class II)

Induced currents and voltages on conducting objects near the proposed transmission lines represent a potential significant impact that can be mitigated. These impacts do not pose a threat in the environment if the conducting objects are properly grounded, and Mitigation Measure HAZ-10 (Prevent Induced Currents) is recommended to reduce the potential impacts of induced currents (Class II).

Mitigation Measure for Impact HAZ-10

HAZ-10 Prevent Induced Currents. As part of the siting and construction process for the Proposed Project, SCE shall identify objects (such as fences, conductors, and pipelines) that have the potential for induced voltages and work with the affected parties to determine proper grounding procedures (CPUC G095 and the NESC do not have specific requirements for grounding). SCE shall install all necessary grounding measures prior to energizing the line. Thirty days prior to energizing the line, SCE shall notify in writing, subject to the review and approval of the CPUC, all property owners within and adjacent to the Proposed Project ROW of the date the line is to be energized. The written notice shall provide a contact person and telephone number for answering questions regarding the line and guidelines on what activities should be limited or restricted within the ROW. SCE shall respond to and document all complaints received and the responsive action taken. These records shall be made available to the CPUC for review upon request. All unresolved disputes shall be deferred by SCE to the CPUC for resolution.

The written notice shall describe the nature and operation of the line, and the Applicant's responsibilities with respect to grounding all conducting objects. In addition, the notice shall describe the property owner's responsibilities with respect to notification for any new objects which may require grounding and guidelines for maintaining the safety of the ROW.

Impact HAZ-11: Effects on Cardiac Pacemakers (Class III)

The electric fields associated with the Proposed Project's transmission lines may be of sufficient magnitude to impact operation of a few older model pacemakers resulting in them reverting to an asynchronous pacing. Cardiovascular specialists do not consider prolonged asynchronous pacing to be a problem; periods of operation in this mode are commonly induced by cardiologists to check pacemaker performance. Therefore, while the transmission line's electric field may impact operation of some older model pacemakers, the result of the interference would be of short duration and is not considered

harmful. Therefore impacts would be less than significant (Class III) and no mitigation measures are required or recommended.

Impact HAZ-12: Wind, Earthquake, and Fire Hazards (Class III)

As described in Section D.7.7.4, these hazards are addressed in Project design. SCE is required to design the transmission line in accordance with safety requirements of the CPUC's G.O.95 and other applicable requirements, so safety impacts from these causes would be less than significant (Class III).

D.7.8.3 CPUC's Northerly Route Alternative Option 3

Impact HAZ-9: Radio and Television Interference (Class II)

As described above for the Proposed Project, corona or gap discharges related to high frequency radio and television interference impacts are dependent upon several factors, including the strength of broadcast signals, and are anticipated to be very localized if they occur. Individual sources of adverse radio/television interference impacts can be located and corrected on the power lines. Conversely, magnetic field interference with electronic equipment such as computer monitors can be corrected through the use of software, shielding, or changes at the monitor location. Mitigation Measures HAZ-9a (Limit Conductor Surface Gradient) and HAZ-9b (Resolve Radio/Television/Equipment Interference Complaints) are recommended to reduce the potential impacts of interference (Class II).

Mitigation Measures for Impact HAZ-9

HAZ-9a **Limit Conductor Surface Gradient.** As part of the design and construction process for the CPUC's Northerly Route Alternative Option 3, SCE shall limit the conductor surface electric gradient in accordance with the IEEE Radio Noise Design Guide.

HAZ-9b **Resolve Radio/Television/Equipment Interference Complaints.** After energizing the transmission line, SCE shall respond to and document all radio/television/equipment interference complaints received and the responsive action taken. These records shall be made available to the CPUC for review upon request. All unresolved disputes shall be referred by SCE to the CPUC for resolution.

Impact HAZ-10: Induced Currents and Shock Hazards in Joint Use Corridors (Class II)

Induced currents and voltages on conducting objects near the proposed transmission lines represent a potential significant impact that can be mitigated. These impacts do not pose a threat in the environment if the conducting objects are properly grounded, and Mitigation Measure HAZ-10 (Prevent Induced Currents) is recommended to reduce the potential impacts of induced currents (Class II).

Mitigation Measure for Impact HAZ-10

HAZ-10 **Prevent Induced Currents.** As part of the siting and construction process for the CPUC's Northerly Route Alternative Option 3, SCE shall identify objects (such as fences, conductors, and pipelines) that have the potential for induced voltages and work with the affected parties to determine proper grounding procedures (CPUC G095 and the NESC do not have specific requirements for grounding). SCE shall install all necessary grounding measures prior to energizing the line. Thirty days prior to energizing the line, SCE shall notify in writing, subject to the review and approval of the CPUC, all property owners within and adjacent to

the CPUC's Northerly Route Alternative Option 3 ROW of the date the line is to be energized. The written notice shall provide a contact person and telephone number for answering questions regarding the line and guidelines on what activities should be limited or restricted within the ROW. SCE shall respond to and document all complaints received and the responsive action taken. These records shall be made available to the CPUC for review upon request. All unresolved disputes shall be deferred by SCE to the CPUC for resolution.

The written notice shall describe the nature and operation of the line, and the Applicant's responsibilities with respect to grounding all conducting objects. In addition, the notice shall describe the property owner's responsibilities with respect to notification for any new objects which may require grounding and guidelines for maintaining the safety of the ROW.

Impact HAZ-11: Effects on Cardiac Pacemakers (Class III)

The electric fields associated with the Route Alternative Option 3 transmission lines may be of sufficient magnitude to impact operation of a few older model pacemakers resulting in them reverting to an asynchronous pacing. Cardiovascular specialists do not consider prolonged asynchronous pacing to be a problem; periods of operation in this mode are commonly induced by cardiologists to check pacemaker performance. Therefore, while the transmission line's electric field may impact operation of some older model pacemakers, the result of the interference would be of short duration and is not considered harmful. Therefore impacts would be less than significant (Class III) and no mitigation measures are required or recommended.

Impact HAZ-12: Wind, Earthquake, and Fire Hazards (Class III)

As described in Section D.7.7.4, these hazards are addressed in Project design. SCE is required to design the transmission line in accordance with safety requirements of the CPUC's G.O.95 and other applicable requirements, so safety impacts from these causes would be less than significant (Class III).

D.7.8.4 Partial Underground Alternative

Impact HAZ-9: Radio and Television Interference (Class II)

As described above for the Proposed Project, corona or gap discharges related to high frequency radio and television interference impacts are dependent upon several factors, including the strength of broadcast signals, and are anticipated to be very localized if they occur. Individual sources of adverse radio/television interference impacts can be located and corrected on the power lines. Conversely, magnetic field interference with electronic equipment such as computer monitors can be corrected through the use of software, shielding, or changes at the monitor location. EMF levels for the underground portion of this alternative would be 0.2 mG or less at the edge of the transmission ROW, and 3.0 directly above the line and would not result in these impacts. However, Mitigation Measures HAZ-9a (Limit Conductor Surface Gradient) and HAZ-9b (Resolve Radio/Television/Equipment Interference Complaints) are recommended to reduce the potential impacts of interference of the aboveground portion of this alternative route (Class II).

Mitigation Measures for Impact HAZ-9

HAZ-9a Limit Conductor Surface Gradient. As part of the design and construction process for the aboveground portion of this alternative, SCE shall limit the conductor surface electric gradient in accordance with the IEEE Radio Noise Design Guide.

HAZ-9b Resolve Radio/Television/Equipment Interference Complaints. After energizing the transmission line, SCE shall respond to and document all radio/television/equipment interference complaints received and the responsive action taken. These records shall be made available to the CPUC for review upon request. All unresolved disputes shall be referred by SCE to the CPUC for resolution.

Impact HAZ-10: Induced Currents and Shock Hazards in Joint Use Corridors (Class II)

The underground portion of this alternative would be co-located within the ROW with a high-pressure natural gas line. Induced currents and voltages on conducting objects near the proposed transmission lines represent a potential significant impact that can be mitigated. These impacts do not pose a threat in the environment if the conducting objects are properly grounded, and Mitigation Measure HAZ-10 (Prevent Induced Currents) is recommended to reduce the potential impacts of induced currents (Class II).

Mitigation Measure for Impact HAZ-10

HAZ-10 Prevent Induced Currents. As part of the siting and construction process for the Partial Underground Alternative, SCE shall identify objects (such as fences, conductors, and pipelines) that have the potential for induced voltages and work with the affected parties to determine proper grounding procedures (CPUC G095 and the NESC do not have specific requirements for grounding). SCE shall install all necessary grounding measures prior to energizing the line. Thirty days prior to energizing the line, SCE shall notify in writing, subject to the review and approval of the CPUC, all property owners within and adjacent to the Partial Underground Alternative ROW of the date the line is to be energized. The written notice shall provide a contact person and telephone number for answering questions regarding the line and guidelines on what activities should be limited or restricted within the ROW. SCE shall respond to and document all complaints received and the responsive action taken. These records shall be made available to the CPUC for review upon request. All unresolved disputes shall be deferred by SCE to the CPUC for resolution.

The written notice shall describe the nature and operation of the line, and the Applicant's responsibilities with respect to grounding all conducting objects. In addition, the notice shall describe the property owner's responsibilities with respect to notification for any new objects which may require grounding and guidelines for maintaining the safety of the ROW.

Impact HAZ-11: Effects on Cardiac Pacemakers (Class III)

The electric fields associated with the aboveground portion of the Partial Underground Alternative transmission lines may be of sufficient magnitude to impact operation of a few older model pacemakers resulting in them reverting to an asynchronous pacing. Although the underground portion of this alternative would emit substantially lower EMF levels, since most of this part of the ROW consists of a golf course, people using the course would be able to walk directly above the buried transmission line where EMF would be approximately 3 mG, which may some affect pacemakers. Cardiovascular specialists do not consider prolonged asynchronous pacing to be a problem; periods of operation in this mode are commonly induced by cardiologists to check pacemaker performance. Therefore, while the transmission line's electric field may impact operation of some older model pacemakers, the result of the interference would be of short duration and is not considered harmful. Therefore impacts would be less than significant (Class III) and no mitigation measures are required or recommended.

Impact HAZ-12: Wind, Earthquake, and Fire Hazards (Class III)

Since the underground portion of this alternative would be located beneath the ground surface it would not be susceptible to wind or fire hazards. Regarding earthquake hazards, as described in Section D.7.7.4, SCE is required to design the transmission line in accordance with safety requirements of the CPUC's G.O.95 and other applicable requirements, so safety impacts from these causes would be less than significant (Class III) and no mitigation would be required.

D. 7.8.5 Environmental Impacts of the No Project Alternative

Under the No Project Alternative, neither the Proposed Project nor its alternatives would be built and none of the impacts described above would occur. However, without the Proposed Project or alternatives, overload of the existing capacities would occur at five distribution stations that are currently served by the Vista and Devers 115 kV Systems. To address the overload conditions in the Maraschino service area, SCE would add a third transformer and two 12 kV distribution lines (each about nine miles in length). Impacts with regard to radio and television interference, induced shock, and effects on pacemakers from two 12 kV distribution lines would likely be incrementally less than those of the Proposed Project or alternatives which would each be of higher voltage than these distribution lines. The distribution lines would have similar impacts as the Proposed Project and alternatives with regard to wind, fire, and earthquake hazards.

D.7.9 Mitigation Monitoring, Compliance, and Reporting Table

Table D.7-8 on the following page presents the mitigation monitoring recommendations for Hazards. These measures along with Applicant Proposed Measure HAZ-1 would be applicable to construction and operation of the proposed route and all alternative route segments.

Table D.7-8. Mitigation Monitoring Program – Hazards

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
HAZ-1: The project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. (Class II)	HAZ-1a: Environmental Training and Monitoring Program. An environmental training program shall be established to communicate environmental concerns and appropriate work practices, including spill prevention, emergency response measures, and proper Best Management Practice implementation, to all construction and maintenance personnel. The training program will emphasize site-specific physical conditions to improve hazard prevention (e.g., identification of potentially hazardous substances) and will include a review of all site-specific plans, including but not limited to, the Proposed Project's Stormwater Pollution Prevention Plan (SWPPP); and Spill Prevention, Control, and Countermeasures Plan (SPCC). A monitoring program shall also be implemented to ensure that the plans are followed throughout the period of construction. Best Management Practices, as identified in the Proposed Project SWPPP, shall also be implemented during the construction of the Proposed Project to minimize the risk of an accidental release and provide the necessary information for emergency response.	Entire Project route.	Review and monitor implementation of environmental training program and compliance with all plans	Minimize exposure of workers or the public to releases of hazardous materials	CPUC	Prior to and during construction
	HAZ-1b: Proper Disposal of Construction Waste. All construction and demolition waste, including trash and litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials, shall be removed to a hazardous waste facility permitted or otherwise authorized to treat, store, or dispose of such materials.	Entire Project route	Onsite monitor to verify proper disposal of all construction waste	Minimize exposure of workers or the public to releases of hazardous materials	CPUC	During and immediately after construction
	HAZ-1c: Emergency Spill Supplies and Equipment. Hazardous material spill kits shall be maintained on site for small spills. This shall include oil-absorbent material, tarps, and storage drums to be used to contain and control any minor releases. Emergency spill supplies and equipment will be kept adjacent to all areas of work and in staging areas, and will be clearly marked. Detailed information for responding to accidental spills and for handling any resulting hazardous materials will be provided in the Proposed Project's Spill Prevention, Control, and	Entire Project route	Onsite monitor to document availability of spill kits at each construction site and compliance with Spill Prevention, Control, and Countermeasures Plan	Minimize exposure of workers or the public to releases of hazardous materials	CPUC	During construction

Table D.7-8. Mitigation Monitoring Program – Hazards

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	Countermeasures Plan.					
HAZ-2: The project would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. (Class II)	HAZ-1a: Environmental Training and Monitoring Program.	Entire Project route.	Review and monitor implementation of environmental training program and compliance with all plans	Minimize exposure of workers or the public to releases of hazardous materials	CPUC	Prior to and during construction
	HAZ-1b: Proper Disposal of Construction Waste.	Entire Project route	Onsite monitor to verify proper disposal of all construction waste	Minimize exposure of workers or the public to releases of hazardous materials	CPUC	During and immediately after construction
	HAZ-1c: Emergency Spill Supplies and Equipment.	Entire Project route	Onsite monitor to document availability of spill kits at each construction site and compliance with Spill Prevention, Control, and Countermeasures Plan	Minimize exposure of workers or the public to releases of hazardous materials	CPUC	During construction
	HAZ-2: Perform Methane Investigation. SCE shall conduct a subsurface investigation by a qualified contractor to assess the potential for methane to be encountered along the proposed subtransmission line route. Where methane is found or suspected to exist along the Project alignment, design of appropriate BMPs should be conducted by or under the direction of a qualified geologist or engineer.	Portions of Route Alternative Option 3 that fall within the Riverside County designated Methane Hazard Area	Review of subsurface investigation report and BMPs developed as a result of the report	Minimize exposure of workers or the public to releases of methane	CPUC	Prior to construction in methane areas
HAZ-3 : The project would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. (Class II)	HAZ-1a: Environmental Training and Monitoring Program.	Entire Project route.	Review and monitor implementation of environmental training program and compliance with all plans	Minimize exposure of workers or the public to releases of hazardous materials	CPUC	Prior to and during construction
	HAZ-1b: Proper Disposal of Construction Waste.	Entire Project route	Onsite monitor to verify proper disposal of all construction waste	Minimize exposure of workers or the public to releases of hazardous materials	CPUC	During and immediately after construction
	HAZ-1c: Emergency Spill Supplies and Equipment.	Entire Project route	Onsite monitor to document availability of spill kits at each construction site and compliance with Spill Prevention, Control, and Countermeasures Plan	Minimize exposure of workers or the public to releases of hazardous materials	CPUC	During construction

Table D.7-8. Mitigation Monitoring Program – Hazards

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
HAZ-7: The project would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (Class II)	T-3: Ensure Emergency Response Access. SCE and its construction contractor shall coordinate in advance with emergency service providers to avoid restricting movements of emergency vehicles. Police departments, fire departments, ambulance services, and paramedic services shall be notified in advance by SCE of the proposed locations, nature, timing, and duration of any construction activities and shall be advised of any access restrictions that could impact their effectiveness. At locations where access to nearby property is blocked, provision shall be ready at all times to accommodate emergency vehicles, such as plating over excavations, short detours, and alternate routes in conjunction with local agencies. Traffic Control Plans (required under Mitigation Measure T-1c) shall include details regarding emergency services coordination and procedures, and copies shall be provided to all relevant service providers. Documentation of coordination with service providers shall be provided to the CPUC prior to the start of construction.	All locations where temporary road or lane closures would be required.	Review documentation of SCE notification and coordination with emergency service providers. Review SCE demonstration of capability to provide immediate access across excavations, subject to approval by affected police, medical, and fire agencies	Construction activities would not entirely preclude access to any area by emergency vehicles and/or personnel	CPUC and affected emergency service providers (fire, police, sheriff, CHP, and ambulance services)	Prior to and during construction
HAZ-8: The project would expose people or structures to a significant risk of loss, injury or death involving wildland fires. (Class II)	HAZ-8a: Prepare and Implement Fire Management Plan. SCE shall develop and implement a comprehensive Fire Management Plan to reduce the risk of igniting a fire during construction and operation as well as controlling the spread of a fire should one occur. The plan shall include, but not be limited to: • Ensuring that reasonable safeguards and Best Management Practices have been implemented and all supervision, labor, tools, equipment and material as necessary to prevent starting any fire, control spread of fires if started, and provide assistance for extinguishing fires started as a result of transmission line construction activities are provided. • Using every reasonable precaution against starting fires where the work is performed, in whole or in part, in an area covered with flammable dry grass, brush, and trees. • Providing temporary safeguards, walks, rails, guards, construction fences, and suchlike, as	Entire Project route.	CPUC-approved engineer shall review and approve plans. Onsite monitor shall verify compliance with plans..	Prevent wildfires	CPUC	Prior to, during, and after construction

Table D.7-8. Mitigation Monitoring Program – Hazards

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	required by any ordinances, as directed by the Construction Representative, or as necessary to protect workers, SCE employees, and the public. • Providing portable fire fighting equipment, shovels, axes, and other necessary fire fighting equipment at all sites where work is in progress, and with all crews in transit. • Prohibiting smoking on the jobsite, and if necessary assigning a Fire Patrolperson whose responsibility would be solely to monitor the contractor's fire-prevention activities.					
	HAZ-8b: County Fire Department Review of Construction Methods. SCE shall coordinate with the Riverside and San Bernardino County Fire Departments to review the specific construction methods and equipment, and to identify any additional requirements that will minimize the potential for wildfires, such as the following: • Any motor, engine, welding equipment, cutting torch, grinding device or equipment from which a spark, fire or flame may originate shall not be used without first (a) clearing away all flammable material for a distance of 10 feet, and (b) having on hand a round-point shovel with an overall length of not less than 46 inches and a fire extinguisher or water-filled backpack pump fully equipped and ready to use. This does not apply to power saws and other portable tools powered by a gasoline-fueled internal combustion engine. • Any portable gasoline-powered tool (chainsaws, etc.) shall not be used within 25 feet of any flammable materials without providing one round-point shovel with an overall length of not less than 46 inches or a fire extinguisher having a minimum rating of 2-BC. The fire tools must be unobstructed and within 25 feet of the tool operation at all times. Motor vehicles shall not be parked or operated outside of cleared work areas except for the specific purpose of clearing vegetation.	Entire Project route.	Review documentation of coordination with Riverside and San Bernardino County Fire Departments. Onsite monitor shall verify compliance with all requirements.	Prevent wildfires	CPUC and Riverside and San Bernardino County Fire Departments	Prior to and during construction

Table D.7-8. Mitigation Monitoring Program – Hazards

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	HAZ-8c: Practice Safe Welding Procedures. SCE shall select a welding site that is void of native combustible material and/or clear the site of such material to minimize the fire hazard. All welding on supporting structures shall be performed during fabrication of the poles at the fabricator's yard.	Entire Project route.	Onsite monitor shall verify safe welding procedures are followed	Prevent wildfires	CPUC	During construction
	HAZ-8d: Fire Preventive Construction Equipment Requirements. Construction equipment shall meet the following requirements: • The exhausts of all equipment powered by gasoline, diesel, or other hydrocarbon fuel shall be equipped with effective spark arrestors; • The spark arrestor shall be designed to prevent the escape from the exhaust of carbon or other flammable particles over 0.0232 inches. Motor trucks, truck tractors, buses, and passenger vehicles (except motorcycles) shall not be subject to this provision if their exhaust systems are equipped with mufflers; and • All welding rigs shall be equipped with a minimum of one 20-pound or two 10-pound fire extinguishers, and a minimum of five gallons of water in a fire-fighting apparatus.	Entire Project route.	Onsite monitor will verify that all construction equipment meets the stated requirements for fire prevention	Prevent wildfires	CPUC	Prior to and during construction
	APM HAZ-1: SCE would develop a fire management plan for the construction and operation phases for both the substation and the sections of the subtransmission line routes classified with a high risk for wildfires.	All locations classified as high wildfire risk areas	Review fire management plan. Onsite monitor shall verify compliance with fire management plan.	Prevent wildfires	CPUC	Prior to and during construction
HAZ-9: Radio and Television Interference (Class II)	HAZ-9a: Limit Conductor Surface Gradient. .As part of the design and construction process for the Proposed Project, SCE shall limit the conductor surface electric gradient in accordance with the IEEE Radio Noise Design Guide.	Along the entire transmission line route	CPUC-approved engineer shall review construction design plans to ensure consistency with IEEE Radio Noise Design Guide.	The potential for magnetic field interference of electronic equipment is reduced.	CPUC	Prior to construction

Table D.7-8. Mitigation Monitoring Program – Hazards

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	HAZ-9b: Resolve Radio/Television/Equipment Interference Complaints. After energizing the transmission line, SCE shall respond to and document all radio/television/equipment interference complaints received and the responsive action taken. These records shall be made available to the CPUC for review upon request. All unresolved disputes shall be referred by SCE to the CPUC for resolution.	Along the entire subtransmission line route	Review documentation provided.	All radio/television/equipment interference disputes are resolved.	CPUC	After construction
HAZ-10: Induced Currents and Shock Hazards in Joint Use Corridors (Class II)	HAZ-10 Prevent Induced Currents. As part of the siting and construction process for the Proposed Project, SCE shall identify objects (such as fences, conductors, and pipelines) that have the potential for induced voltages and work with the affected parties to determine proper grounding procedures (CPUC G095 and the NESC do not have specific requirements for grounding). SCE shall install all necessary grounding measures prior to energizing the line. Thirty days prior to energizing the line, SCE shall notify in writing, subject to the review and approval of the CPUC, all property owners within and adjacent to the Proposed Project ROW of the date the line is to be energized. The written notice shall provide a contact person and telephone number for answering questions regarding the line and guidelines on what activities should be limited or restricted within the ROW. SCE shall respond to and document all complaints received and the responsive action taken. These records shall be made available to the CPUC for review upon request. All unresolved disputes shall be deferred by SCE to the CPUC for resolution. The written notice shall describe the nature and operation of the line, and the Applicant's responsibilities with respect to grounding all conducting objects. In addition, the notice shall describe the property owner's responsibilities with respect to notification for any new objects, which may require grounding and guidelines for maintaining the safety of the ROW.	Along the entire subtransmission line route	CPUC-approved engineer shall review construction design plans to ensure consistency with IEEE Radio Noise Design Guide.	The potential for magnetic field interference of electronic equipment is reduced.	CPUC	Prior to and after construction