

C.13 ANALYSIS OF OTHER ALTERNATIVES

This section contains analysis of several alternatives not considered in the issue area analysis contained in Sections C.2 through C.12. Table C.13-1 lists the issues that are evaluated herein. Note that two mitigation measures that recommend transmission line reroutes (V-1 and A-6) have been incorporated into the Environmentally Superior Alternative (defined in Part D), and in that context are titled the P3 and S2A Alternatives, respectively. Section C.13.3 includes analysis of the impacts of these routes, as well as the other mitigation measure reroutes listed in Table C.13-1.

Table C.13-1 Alternatives Addressed in Section C.13

Section	Issue	Mitigation Measure
C.13.1	Switching Station Alternative to Phase 2	n/a
C.13.2	Local Generation	n/a
C.13.3	Impacts of Mitigation Measures Requiring Reroutes	A-5: Connection of D2 Alternative to San Ramon-Pittsburg line (bypassing San Ramon Substation);
		A-6: (also called P3 Alternative): Underground Along May School Road to Proposed North Livermore Substation
		V-1 and L-7: (also called the S2A Alternative , a segment of the S1/S2/L2 Alternatives): Move the Tesla-Newark tap point to south of Zone 7 water treatment plant and install transmission line underground along access road
		V-2: Reduce transmission line structure heights along Alternative S4 or move underground transition structure further to the south
		V-5: - Reroute south of Manning Road between MP B13 and B14.5; Install the line underground from the top to the Contra Costa-Newark line to approximately Milepost B14.5
		L-16: Relocate the Proposed North Livermore Substation further to the north
		L-20: Convert Alternative L2 to underground approximately 4,000 feet to the south, just north of Stanley Boulevard.
C.13.4	No Project Alternative	n/a

C.13.1 SWITCHING STATION ALTERNATIVE TO PHASE 2

Phase 2 of the Proposed Project is intended to create a direct transmission connection from the Tri-Valley area to the Tesla Substation. As an alternative to construction of a new transmission line (either along the Proposed Phase 2 route or along the Stanislaus Corridor), construction of a one-acre switching station at the south end of the new transmission line would allow the existing Tesla-Newark 230 kV high voltage line to be “stepped down” in voltage to that compatible for the 230 kV line required for the Tri-Valley project. The existing Tesla-Newark 230 kV occupies the same corridor as the Tiger Creek towers and, starting in the area west of Mines Road (south of Livermore) the Contra Costa-Newark 230 kV transmission line. A switching station is required in order to connect the new Tri-Valley transmission system to this line, because the underground sections of the new system could not carry the large amount of current that passes through the Tesla-Newark line. This alternative would require the construction of an approximately one-acre station adjacent to the Tesla Newark corridor (see Figure B-17 for an illustration of a typical switching station layout).

Figure C.13-a illustrates the three locations evaluated for this alternative. Site 1 is located where the Proposed south area transmission line and the S4 Alternative route would begin at the Tesla-Newark Corridor. Site 2 is adjacent to the Del Valle (Zone 7) Water Treatment Plant. Site 3 is just southwest of the location where the S1/S2 Alternative transmission line route would begin at the Tesla-Newark Corridor, in Sycamore Grove Regional Park. See Section B.6.5 for a more detailed description of switching stations. The following sections address potential impacts of these switching station sites.

C.13.1.1 Switching Station Site 1

Switching Station Site 1 would be located south of Route 84, adjacent to the proposed tap point of the Proposed Route/S4 Alternative with the Contra Costa-Newark Transmission Line in the Tesla-Newark Corridor. The site is located between the Stanislaus Transmission Line (to the north) and the Contra Costa Newark Transmission Line (to the south). The terrain is level to gently sloping undeveloped grassland (see Figure C.13-1).

Air Quality. Site 1 is located within the San Francisco Bay Area Air Basin, which is under the jurisdiction of the BAAQMD. Potential impacts associated with construction of Switching Station Site 1 are similar in nature, but not scope, to the impacts described under the Proposed Project. Exhaust emissions from construction equipment would create adverse, but less than significant impacts (**Class III**). PM₁₀ levels from construction would violate BAAQMD significance criteria unless all of required BAAQMD PM₁₀ control measures are implemented. Implementation of Mitigation Measures A1 through A4 (apply water three times daily, sweep daily, prevent silt runoff to public roadways, and replant vegetation after construction) in addition to Applicant Proposed Measures 10.1a through 10.1k (see Table C.2-10) would reduce potentially significant PM₁₀ impacts to less than significant (**Class II**). Operational emission sources associated with the switching station would be limited to maintenance and inspection activities and are considered to be adverse, but less than significant (**Class III**).

Biological Resources. Site 1 would be located on undeveloped land with Non-Native Grassland habitat. Table C.13-2 identifies the potentially significant, but mitigable impacts (**Class II**) and accompanying mitigation measures that would be associated with Switching Station Site 1. See Section C.3.3 for complete descriptions of these impacts and mitigation measures.

Table C.13-2 Site 1 Impacts and Mitigation Measures for Biological Resources*

Impact	Mitigation Measure
Impact 5: Direct mortality or direct disturbance to wildlife during construction	B-3: Avoidance, vehicle restrictions, litter removal, and biological monitoring
Impact 8: Temporary and permanent loss of special status plant species and their habitats	B-6: Pre-construction surveys, avoidance, and education
Impact 32: Impacts to the California red-legged frog or its critical habitat	B-9: Pre-construction and pre-maintenance delineation of critical habitat; consultation with USFWS will lead to development of avoidance and minimization measures

* Note: All impacts are Class II: mitigable to less than significant levels.

Placeholder: **Figure C.13-a Switching Station Sites**

Adverse, but less than significant impacts (**Class III**) that do not require additional mitigation beyond the applicable applicant proposed measures listed in Table C.3-19 are those to burrowing owls and California Tiger Salamanders.

Cultural Resources. No known cultural resource sites are identified within or immediately adjacent to Switching Station Site 1. However, there is a potential for previously unknown prehistoric or historic cultural materials to be inadvertently exposed during subsurface construction activities such as excavating and grading. Potential significant impacts to previously unknown cultural resource sites or materials would be reduced to levels that are less than significant (**Class II**) with implementation of Mitigation Measure C-1 (development of a Cultural Resources Treatment Plan for discovery of unexpected resources).

Geology, Soils, and Paleontology. Site 1 generally overlies Pleistocene alluvial terrace, Pleistocene alluvial and fluvial, and Holocene floodplain deposits. The site is generally on soils of the Positas and Diablo series, and is on a corner of the Alquist-Priolo Earthquake Fault Zone established for the Verona fault (CDMG, 1982e).

With regard to ground shaking, PG&E Co.'s commitment to conform to IEEE 693 standards for seismic safety should limit the risk of damage from strong ground shaking to a less than significant level (**Class III**).

Positas and Diablo series soils have a high shrink-swell potential, which could cause tilting or misalignment of switching station equipment. However, the design-level investigation, engineering, and appropriate construction practices identified by PG&E Co. (see Table C.5-2) would reduce the impact of expansive, soft, and loose soils to a less than significant level (**Class III**). The corrosion potential in native soils of the Diablo soil series can be high and could impact the chemical stability of concrete used for the foundation of the switching station. Implementation of Mitigation Measure G-1, which requires corrosivity testing and implementation of remediation if necessary would reduce potential impacts of corrosive soils ability to dissolve or weaken project structural materials to less than significant (**Class II**).

Hydrology and Water Quality. Erosional impacts from construction at Site 1 would be temporary and less than significant (**Class III**). Earth moving activities such as grading would be required during construction of the switching station, but there are no existing stream channels or swales on (or adjacent) to the site, which could be significantly impacted by potential erosion or sediment transport.

Construction of the switching station would require the use of a variety of motorized heavy equipment, including trucks, cranes, dozers, air compressors, graders, and backhoes. This equipment requires job site replenishment of hazardous chemicals in the form of fuels, oils, grease, coolants, and other fluids. The accidental spill of these, or other, construction-related materials could lead to the discharge of contaminants into the drainage system. Surface water and groundwater contamination impacts from construction related materials could occur at the construction site.

Placeholder: Figure C.13-1 **Switching Station 1**

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page 2 of 2 Figure C.13-1 **Switching Station 1**

Implementation of Mitigation Measures H-3 (Develop Best Management Practices), H-4 (prepare a Hazardous Substance Control and Emergency Response Plan), and H-5 (establishing of an environmental training program) would reduce the impact of spilled and transported contaminants to a less than significant level (**Class II**). See Section C.6.3.1 for detailed descriptions of these impacts and mitigation measures.

Land Use and Public Recreation. Switching Station Site 1 is located in unincorporated Alameda County on open space land that is dedicated to cattle grazing. The site is designated Resource Management by the County. As defined in the *East County Area Plan*, Resource Management lands are intended mainly for long-term preservation as open space, but may include low-intensity agriculture, grazing, and very low-density residential use (see Section C.7.1.2.3 of Land Use). The Resource Management designation also provides for recreational uses, habitat protection, watershed management, and public and quasi-public uses.

Construction activities at the switching station site would temporarily disrupt and displace cattle grazing within the right-of-way, a less than significant impact (**Class III**). The switching station would permanently remove approximately one acre of land from its current use for cattle grazing. However, as discussed in more detail in the Section C.7.1.2.2, electric transmission facilities are considered compatible uses on agricultural lands. Therefore, this would be an adverse but not significant impact (**Class III**).

Noise. Existing noise sources in the vicinity of the Site 1 are traffic associated with Highway 84 and corona noise from the several transmission lines in the Tesla-Newark corridor. Ambient noise levels at the site are estimated to range from 50 dBA to 55 dBA. There are no sensitive receptors in the vicinity of Site 1.

Construction would cause short-term noise from heavy equipment operation. However, because no sensitive receptors are in the area, impacts related to construction noise levels would be less than significant (**Class III**). Operational noise levels associated with switching centers would be low. Permanent noise levels would be limited because switching stations do not need cooling fans that produce relatively high noise levels like transformers do. Operational noise sources associated with the project would be primarily from periodic maintenance and inspection activities, which are considered less than significant (**Class III**).

Public Health, Safety and Nuisance. The switching station would have electric and magnetic fields (EMF) associated with the facility and its transmission connection to the Tesla-Newark line. The EMF from a switching facility is primarily associated with its switchyard and would be the same as discussed for electric substations (see Section C.9). These impacts are considered adverse but less than significant (**Class III**). No mitigation measures are recommended.

Socioeconomics and Public Services. The demand for public services such as fire and police protection, schools, hospitals, and maintenance of public facilities would not increase during construction of the switching station. Potential impacts are considered less than significant (**Class III**).

Construction and operation of the switching station would not have an adverse impact on any local utilities in the project area. Water use during construction would be minimal and would be limited to dust control or other incidental uses, resulting in a less than significant impact to the overall available water supply. Project construction would result in an insignificant temporary increase in the total amount of waste generated in the region. Waste that is generated during construction would be disposed of in an environmentally responsible manner in the Altamont or Vasco Road Landfills and impacts would be less than significant (**Class III**).

Transportation and Traffic. Impacts related to switching station construction would be primarily related to short-term construction traffic associated with commuting workers and truck equipment and refuse haul trips. Potential impacts are considered insignificant (**Class III**) and no mitigation measures are required. Operation of the switching station would have no appreciable impact on transportation, as maintenance would be limited to periodic inspections and repairs as necessary. Impacts would be less than significant (**Class III**) and no mitigation is required.

Visual Resources. Visual access to the site is limited to a brief view of the site from eastbound Route 84. Views from Route 84 are screened by trees and intervening topography and view duration is brief due to high rates of vehicular speed on Route 84. Views from westbound Route 84 are completely screened by intervening topography. Therefore, visual impacts would be adverse but not significant (**Class III**).

C.13.1.2 Switching Station Site 2

Switching Station Site 2 would be located just south of the Del Valle Treatment Plant operated by the Zone 7 Water District (see Figure C.13-2). The proposed switching station would be located just south of the Tesla-Newark transmission corridor that parallels the south boundary of the treatment plant.

As illustrated in Figure C.13-a, this switching station site would connect with an underground transmission line (identified as the S2A Alternative segment, originating as Mitigation Measures V-1 and L-7) that would follow the access road for the Zone 7 facility, joining the S1/S2/L2 Alternative routes at the end of that private access road. The underground transmission line route was suggested in the Visual Resources (Section C.12) and Land Use/Recreation (Section C.7) analyses as mitigation for impacts of the S1/S2/L2 Alternatives on Sycamore Grove Regional Park; its impacts are evaluated in Section C.13.3. *(Note that the S2A Alternative segment could be implemented with or without construction of the switching station.)*

Air Quality. Switching Station Site 2 is located within the San Francisco Bay Area Air Basin, which is under the jurisdiction of the BAAQMD. Potential impacts associated with construction of Site 2 are similar to the impacts described under the Proposed Project. Exhaust emissions from construction equipment would create adverse, but less than significant impacts (**Class III**). PM₁₀ levels from construction would violate BAAQMD significance criteria unless all of required BAAQMD PM₁₀ control measures are implemented. Implementation of Mitigation Measures A1 through A4 (apply water three times daily, sweep daily, prevent silt runoff to public roadways, and replant vegetation after

Figure C.13-2 placeholder: Switching Station Site 2

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Placeholder: Figure C.13-2 Switching Station 2 (page 2 of 2)

construction) in addition to Applicant Proposed Measures 10.1a through 10.1k (see Table C.2-10) would reduce potentially significant dust (PM₁₀) impacts to less than significant levels (**Class II**). Operational emission sources associated with the switching station would be limited to maintenance and inspection activities and are considered to be adverse, but less than significant (**Class III**).

Biological Resources. Switching Station Site 2 would be located on undeveloped land with non-native grassland habitat. Sycamore Grove Regional Park, which provides habitat for aquatic species including invertebrates and amphibians, is approximately one-quarter mile northeast of the site.

A potentially significant impact that would be associated with Switching Station Site 2 is to the California red-legged frog or its critical habitat (Impact 32 in Section C.3). Implementation of Mitigation Measure B-9 (delineation of critical habitat; consultation with USFWS) would reduce this impact to a less than significant level (**Class II**). A potential impact to California Tiger Salamanders also exists at the site; however this impact would be less than significant (**Class III**) with implementation of Applicant Proposed Measure 7.7, which details survey and protection requirements.

Cultural Resources. No known cultural resource sites are identified within or immediately adjacent to Switching Station Site 2. However, there is a potential for previously unknown prehistoric or historic cultural materials to be inadvertently exposed during subsurface construction activities such as excavating and grading. Potential significant impacts to previously unknown cultural resource sites or materials would be reduced to levels that are less than significant (**Class II**) with implementation of Mitigation Measure C-1 (development of a Cultural Resources Treatment Plan for previously unidentified resources).

Geology, Soils, and Paleontology. The slope at the site is flat to gently sloping. Site 2 overlies Holocene alluvial and fluvial deposits and flood plain deposits of Arroyo Valle. The site is located on a trace of the Los Positas Fault that shows late Quaternary fault displacement and thus is classified as potentially active. The site is generally on soils of the Positas and San Ysidro series.

With regard to ground shaking, PG&E Co.'s commitment to conform with IEEE 693 standards for seismic safety should limit the risk of damage from strong ground shaking to a less than significant level (**Class III**).

The Positas soil series has a high shrink-swell potential, which could cause tilting or misalignment of switching station equipment. However, the design-level investigation, engineering, and appropriate construction practices identified by PG&E Co. (see Table C.5-2) would reduce the impact of expansive, soft, and loose soils to a less than significant level (**Class III**). The corrosion potential in native soils of the San Ysidro soil series can be high and could impact the chemical stability of concrete used for the foundation of the switching station. Implementation of Mitigation Measure G-1, which requires corrosivity testing and implementation of remediation if necessary would reduce potential impacts of corrosive soils ability to dissolve or weaken project structural materials to less than significant (**Class II**).

Hydrology and Water Quality. Erosion impacts at Site 2 would be temporary and less than significant (**Class III**). Earth moving activities such as grading would be required during construction of the switching station, but there are no existing stream channels or swales on (or adjacent) to the site, which could be significantly impacted by potential erosion or sediment transport.

Potential construction related impacts to surface water and groundwater quality at Site 2 are mostly related to contamination through the potential spill of fuels and other fluids. This impact is very similar to the impacts described above for the construction of Site 1. Potential construction impacts to surface water and ground water quality are reduced to a less than significant level through the application of Mitigation Measures H-2, H-3, H-4, and H-5 (**Class II**). These measures include development of an erosion control plan, implementation of Best Management Plans (BMPs) through the NPDES permitting requirements, a Hazardous Substance Control and Emergency Response Plan (HSCERP), and an environmental training program.

Land Use and Public Recreation. Site 2 is located in unincorporated Alameda County just south of the Del Valle Water Treatment Plant property. The site is currently dedicated to cattle grazing. Construction activities at the switching station site would temporarily disrupt and displace cattle grazing within the right-of-way (**Class III**). The switching station would permanently remove approximately one acre of land from its current use for cattle grazing. However, as discussed in more detail in the Section C.7.1.2.2, electric transmission facilities are considered compatible uses on agricultural lands. Therefore, this would be an adverse but not significant impact (**Class III**).

Noise. The main existing noise sources in the vicinity of Site 2 are operations of the water treatment plant and corona noise from the transmission lines in the Tesla-Newark Corridor. Ambient noise levels at the site are estimated to range from approximately 50 dBA to 55 dBA. There are no sensitive receptors in the vicinity of Site 2.

Short-term construction noise levels would be generated by the project. However, because no sensitive receptors are in the area, impacts related to construction noise levels would be less than significant (**Class III**). Operational noise levels associated with switching centers are low. Permanent noise levels would be limited because switching stations do not need cooling fans that produce relatively high noise levels like transformers do. Operational noise sources associated with the project would be primarily from periodic maintenance and inspection activities, which are considered less than significant (**Class III**).

Public Health, Safety and Nuisance. The switching station would have electric and magnetic fields associated with the facility and its transmission connection to the Tesla-Newark line. The EMF from a switching facility is primarily associated with its switchyard and would be the same as discussed for electric substations. These impacts are considered adverse but less than significant (**Class III**). No further mitigation measures are recommended.

Socioeconomics and Public Services. The demand for public services such as fire and police protection, schools, hospitals, and maintenance of public facilities would not increase during

construction of the switching station. Potential impacts associated with these public services are considered less than significant (**Class III**).

The switching station site would be located just south of the property boundaries of the Del Valle Water Treatment Plant. Its location is north of the underground aqueduct that parallels the Tesla-Newark transmission corridor, and east of the pipeline that connects the Del Valle facility with the aqueduct. Therefore, construction and operation of the switching station is not expected to have an adverse impact on water transmission utilities in the project area. (See Section C.13.3 for analysis of the underground transmission S2A Alternative segment that would lead from the switching station towards the Vineyard Substation.)

Water use during construction would be minimal and would be limited to dust control or other incidental uses, resulting in a less than significant impact to the overall available water supply. Project construction would result in an insignificant temporary increase in the total amount of waste generated in the region. Waste that is generated during construction would be disposed of in an environmentally responsible manner in the Altamont or Vasco Road Landfills and impacts would be less than significant (**Class III**).

Transportation and Traffic. Impacts related to switching station construction would be primarily related to short-term construction traffic associated with commuting workers, truck equipment, and refuse haul trips. Potential impacts are considered to be less than significant (**Class III**) and no mitigation measures are required. Operation of the switching station would have no appreciable impact on transportation, as maintenance would be limited to periodic inspections and repairs as necessary. Impacts would be less than significant (**Class III**) and no mitigation is required.

Visual Resources. Visual access to the site is limited since there is minimal public access to the site, which is located in a topographic depression. Although most of the switching station would be screened from public view, portions of the switching station structures (45 feet in height) would likely be visible due northeast to users of the nearby Sycamore Grove Regional Park. The resulting visual impact would be minimal when viewed in the context of surrounding transmission line structures in the Tesla-Newark corridor and existing water treatment plant facilities. Therefore, visual impacts would be less than significant (**Class III**).

C.13.1.3 Switching Station Site 3

Switching Station Site 3 would be located within Sycamore Grove Regional Park on level, undeveloped grassland, immediately adjacent to an existing multi-use trail (see Figure C.13-3), and would allow connection of the S1/S2/L2 Alternatives with the Tesla-Newark transmission line. As illustrated in Figure C.13-a, the switching station would be sited southwest of the tap point of the S1/S2/L2 alternatives, between the existing Stanislaus Transmission Line to the north and the Contra Costa-Newark Transmission Line to the south.

Air Quality. Site 3 is located within the San Francisco Bay Area Air Basin, which is under the jurisdiction of the BAAQMD. Potential impacts associated with construction of the switching station

are similar to the impacts described under the Proposed Project. Exhaust emissions from construction equipment would create adverse, but less than significant impacts (**Class III**). Dust (PM₁₀) levels from construction would violate BAAQMD significance criteria unless all of the required BAAQMD PM₁₀ control measures are implemented. Implementation of Mitigation Measures A1 through A4 (apply water three times daily, sweep daily, prevent silt runoff to public roadways, and replant vegetation after construction) in addition to Applicant Proposed Measures 10.1a through 10.1k (see Table C.2-10) would reduce potentially significant PM₁₀ impacts to less than significant (**Class II**). Operational emission sources associated with the switching station would be limited to maintenance and inspection activities and are considered to be adverse, but less than significant (**Class III**).

Biological Resources. The site is within Sycamore Grove Regional Park. Park habitat types include grassland, oak woodland, scrub, and riparian habitats. The park provides habitat for nesting and foraging bird species, small and large mammals, and aquatic species including invertebrates and amphibians.

Potentially significant, but mitigable impacts (**Class II**) and accompanying mitigation measures that would be associated with Switching Station Site 3 are presented in Table C.13-3. See Section C.3.3 for complete descriptions of these impacts and mitigation measures.

Table C.13-3 Site 3 Impacts and Mitigation Measures for Biological Resources *

Impact	Mitigation Measure
Impact 1: Temporary or permanent impacts to wetland plant communities	B-1: Avoidance, restoration, and offsite compensation
Impact 2: Impacts to Heritage Trees in Blue Oak Woodland and Central Coast Cottonwood-Sycamore Riparian Forest communities	B-2: Heritage Tree avoidance or development of a Tree Replacement Plan
Impact 5: Direct mortality or direct disturbance to wildlife during construction	B-3: Avoidance, vehicle restrictions, litter removal, and biological monitoring
Impact 8: Temporary and permanent loss of special status plant species and their habitats	B-6: Pre-construction surveys, avoidance, and education
Impact 32: Impacts to the California red-legged frog or its critical habitat	B-9: Pre-construction and pre-maintenance delineation of critical habitat; consultation with USFWS will lead to development of avoidance and minimization measures

* Note: All impacts are Class II: mitigable to less than significant levels.

Adverse, but less than significant impacts (**Class III**) that do not require additional mitigation beyond the applicable applicant proposed measures listed in Table C.3-19 include: impacts to burrowing owls; impacts to California Tiger Salamanders; and disruption to nesting raptors and other avian species.

Cultural Resources. No known cultural resource sites are identified within or immediately adjacent to Switching Station Site 3. However, there is a potential for previously unknown prehistoric or historic cultural materials to be inadvertently exposed during subsurface construction activities such as excavation and grading. Potential significant impacts to previously unknown cultural resource sites or materials would be reduced to levels that are less than significant (**Class II**) with implementation of Mitigation Measure C-1 (development of a Cultural Resources Treatment Plan for previously undiscovered resources).

Placeholder: Figure C.13-3 Switching Station Site 3

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Geology, Soils, and Paleontology. The slope at the site is generally flat. Site 3 overlies Holocene alluvial and fluvial deposits and flood plain deposits of the Arroyo Valle. The site is on a trace of the Los Positas Fault that shows late Quaternary fault displacement and thus is classified as potentially active. The site is generally on soils of the Positas and San Ysidro series.

With regard to ground shaking, PG&E Co.'s commitment to conform with IEEE 693 standards for seismic safety should limit the risk of damage from strong ground shaking to a less than significant level (**Class III**).

The Positas soil series has a high shrink-swell potential, which could cause tilting or misalignment of switching station equipment. However, the design-level investigation, engineering, and appropriate construction practices identified by PG&E Co. (see Table C.5-2) would reduce the impact of expansive, soft, and loose soils to a less than significant level (**Class III**). The corrosion potential in native soils of the San Ysidro soil series can be high and could impact the chemical stability of concrete used for the foundation of the switching station. Implementation of Mitigation Measure G-1, which requires corrosivity testing and implementation of remediation if necessary would reduce potential impacts of corrosive soils ability to dissolve or weaken project structural materials to less than significant (**Class II**).

Hydrology and Water Quality. Arroyo Valle, which drains an undeveloped area of nearly 150 square miles south of Livermore Valley runs through Sycamore Grove Park and adjacent to the switching station site. Potential construction related impacts to surface water and groundwater quality at Site 1 are mostly related to contamination through the potential spill of fuels and other fluids. This impact is very similar to the impacts described for the construction of Switching Station Site 3. Potential construction impacts to surface water and ground water quality are reduced to a less than significant level through the application of Mitigation Measures H-2, H-3, H-4, and H-5 (**Class II**). These measures include development of an Erosion Control Plan, BMPs through the NPDES permitting requirements, a Hazardous Substance Control and Emergency Response Plan (HSCERP), and an environmental training program.

Construction of the switching station would require the use of a variety of motorized heavy equipment, including trucks, cranes, dozers, air compressors, graders, and backhoes. This equipment requires job site replenishment of hazardous chemicals in the form of fuels, oils, grease, coolants, and other fluids. The accidental spill of these, or other, construction-related materials could lead to the discharge of contaminants into the drainage system. Surface water and groundwater contamination impacts from construction related materials could occur at the construction site. Implementation of Mitigation Measures H-3 (Develop Best Management Practices), H-4 (prepare a Hazardous Substance Control and Emergency Response Plan), and H-5 (establishing of a an environmental training program) would reduce the impact of spilled and transported contaminants to a less than significant level (**Class II**). See Section C.6.3.1 for detailed descriptions of these impacts and mitigation measures.

It is assumed that construction of Switching Station Site 3 would require grading, scraping, and concrete and pavement work to create a suitable pad and foundation for the site. Such earth moving

work occurring in close proximity to the arroyo could result in accelerated sediment delivery to the creek channel. Implementation of Mitigation Measure H-2 (development of an appropriate Erosion Control Plan) should reduce the potentially significant construction impacts to a less than significant level (**Class II**).

Construction of Site 3 would result in the replacement of a grassy slope cover with a more impermeable surface, which includes gravel, concrete and pavement. The transition to a more impervious land cover will reduce storm water infiltration capacities and result in increased peak runoff rates and flow volumes in the adjacent arroyo. This impact of increased runoff and erosion due to development of the site is considered significant, but mitigable (**Class II**) through a more appropriate site-specific design that addresses runoff and erosion issues and the degraded quality of the existing creek.

Land Use and Public Recreation. The Livermore Area Recreation and Park District (LARPD) owns and operates Sycamore Grove Regional Park, a 1,113-acre park with hiking, bicycle, and equestrian trails, picnic areas, and nature areas. The site is on unincorporated land designated Large Parcel Agriculture by Alameda County.

Construction activities at Site 3 would adversely affect park users in the vicinity of the construction through the generation of noise, dust, and diesel equipment odors. Park users would be able to avoid the active construction areas, while bikers and hikers would quickly pass by the construction areas and into undisturbed areas of the park. For these reasons, this would be an adverse, but less than significant impact (**Class III**). Implementation of Mitigation Measure L-4 (barricades and signs to route park users around the construction site) would reduce potential adverse impacts.

The South Livermore Valley Agricultural Land Trust owns conservation easements on this portion of the park, which require the land to be retained in open space. The switching station would conflict with both the SLVALT's conservation easements and the LARPD's intended character of regional parks under its jurisdiction. The LARPD *Master Plan 1995* establishes standards for regional parks that state that they should provide minimal developed area and should enhance the enjoyment of the site's natural character. The Master Plan also states that the viewshed should enhance the natural character of the site. (Refer to Section C.7.1.2.3 in Land Use for more about these plans.) The switching station would not be compatible with these values, and would therefore have a significant unavoidable impact (**Class I**). Mitigation Measures L-7 (remove the existing 60-kV transmission line) and L-8 (contribution to the South Livermore Valley Agricultural Land Trust equal to the cost of purchasing conservation easements elsewhere in the South Livermore area) should be implemented if this site is selected, but the impact would remain significant.

Noise. The main existing noise source in the vicinity of Site 3 is corona noise from the Tesla-Newark Transmission Corridor. Ambient noise levels at the site are estimated to be approximately 50 dBA. Sycamore Grove Regional Park is considered a noise sensitive area.

Short-term construction noise levels would be generated by the project. Construction noise would adversely affect park users in the vicinity of the construction. As described in Land Use above, park users would be able to avoid the active construction areas, while bikers and hikers would quickly pass

by the construction areas and into undisturbed areas of the park. For this reason construction noise impacts would be adverse, but less than significant (**Class III**). Implementation of Mitigation Measure L-4 (barricades and signs to route park users around the construction site) would further reduce potential adverse impacts.

Operational noise levels associated with switching centers are low. Permanent noise levels would be limited because switching stations do not need cooling fans that produce relatively high noise levels like transformers do. Operational noise sources associated with the project would be primarily from periodic maintenance and inspection activities, which are considered to be less than significant impacts (**Class III**).

Public Health, Safety and Nuisance. The switching station would have electric and magnetic fields associated with the facility and its transmission connection to the Tesla-Newark line. The EMF from a switching facility is primarily associated with its switchyard and would be the same as discussed for electric substations. These impacts are considered adverse but less than significant (**Class III**). No mitigation measures are recommended.

Socioeconomics and Public Services. The demand for public services such as fire and police protection, schools, hospitals, and maintenance of public facilities would not increase during construction of the switching station. Potential impacts are considered less than significant (**Class III**). Construction and operation of the switching station would not have an adverse impact on any local utilities in the project area. Water use during construction would be minimal and would be limited to dust control or other incidental uses, resulting in a less than significant impact to the overall available water supply. Project construction would result in an insignificant temporary increase in the total amount of waste generated in the region. Waste that is generated during construction would be disposed of in the Altamont or Vasco Road Landfills in a manner that would not result in the breach of published national, state, or local standards (PEA, 1999). Therefore, impacts would be less than significant (**Class III**).

Transportation and Traffic. Impacts related to switching station construction would be primarily related to short-term construction traffic associated with commuting workers and truck equipment and refuse haul trips. Potential impacts are considered insignificant (**Class III**) and no mitigation measures are required. Operation of the switching station would have no appreciable impact on transportation, as maintenance would be limited to periodic inspections and repairs as necessary. Impacts would be less than significant (**Class III**) and no mitigation is required.

Visual Resources. A switching station at this location would result in unavoidable significant visual impacts (**Class I**) to trail users. The industrial nature of the station would also impair the aesthetics of the recreational trail experience, resulting in a significant recreation impact.

C.13.2 LOCAL GENERATION

The construction of power generation in the Tri-Valley area could delay or reduce the need for the portions of Proposed Project. Three generation facilities (providing a possible 50 MW of power each at peak use) have been proposed or are expected to be proposed in the Tri-Valley area: two in the City of Pleasanton and one in Livermore. All would be under-50 MW natural gas turbine power plants. These facilities are undergoing environmental review by the City's Planning Department. Due to the time required by the local jurisdictions for CEQA review of the proposed facilities, none of the three are expected to be operational in the summer of 2001, but it is possible that they could be operational for the summer of 2002.

As detailed in Section A.2.6, the Planning Commission of the City of Pleasanton recently adopted a resolution requesting that the City Council initiate a study of electrical power facilities and adopt a local energy policy/strategy. The resolution also called for deferring action on any CEQA process for any pending power plant application until the study is completed. As also addressed in Section A.2.6, implementation of local generation projects would not necessarily result in reduced need for proposed Tri-Valley 2002 Capacity Increase Project, but could defer the need for the transmission project for one or two years.

The City of Pleasanton recently prepared a Draft Negative Declaration on the first of these local generators, proposed by Enron on a site north of the Vineyard Substation; subsequently, the Pleasanton Planning Commission decided that an Environmental Impact Report would be required for that project. The impact analysis following is primarily based on that Draft Negative Declaration, and derives from the impact assessments included in Sections C.2 through C.12, as well. The impacts of the other two potential facilities (one in Pleasanton west of the Vineyard Substation, and one in Livermore near the Las Positas Substation) would be similar, except that the proximity of sensitive land uses and receptors would vary with each specific site.

C.13.2.1 Enron Facility

The proposed facility is a 45-megawatt (MW) electrical generation facility located on an approximately one-acre site leased from the Kiewit Company. As proposed, the facility would utilize a natural gas-fired combustion turbine engine to generate electricity. The facility would be unstaffed, would operate from 6:00 a.m. to 10:00 p.m., and would operate on most days of the year. The plans call for an employee to visit the site 3-4 times per week to conduct routine maintenance and equipment checks, and for 19.5% aqueous ammonia solution to be delivered to the site every two weeks (for injection into the air pollution control system). The electricity generated would connect, via proposed overhead lines, into the existing 60 kilovolt (kV) transmission system located south of the site.

Unlike the other transmission route and switching station alternatives, the CPUC does not have jurisdiction over this alternative project to implement measures to reduce significant impacts. Mitigation authority for this project is with the City of Pleasanton as the Lead Agency of the project, and any other permitting authorities. The City of Pleasanton released a Draft Negative Declaration for the project on October 6, 2000. However, at the November 8, 2000, Planning Commission hearing on

this document, the Planning Commission directed staff to prepare an EIR for the project, and subsequently, on November 28, 2000, the Planning Commission requested preparation of an energy policy for the City (see Section A.2.1). The following analysis presents impact discussions only; no mitigation measures are presented. The discussions are not in any way a substitute for the analysis that the City is performing, but are preliminary analyses based on limited available information about the project.

Air Quality. Unlike the proposed transmission line project, the local generation project would produce long-term operational air pollutant emissions that are potentially significant. The BAAQMD would require that the facility operators use the Best Available Control Technology (BACT) to control emissions. One of these technologies is selective catalytic reduction (SCR) to control nitrogen dioxide emissions. The catalyst in the SCR would need to be replaced every seven years to keep the SCR functioning properly. To control the release of aqueous ammonia into the air, known as “ammonia slip”, the BAAQMD would impose permit conditions on the SCR to limit ammonia emissions.

BAAQMD modeled the carcinogenic compound emissions to determine the maximum ground level concentration of the pollutants at residential receptors. Since the specific plan for the eastside of Pleasanton is still in progress, BAAQMD assumed that future residential property lines would be 35 feet from the facility. According to the model, the facility would pose a cancer risk of less than 1 in a million due to exposure through inhalation, which meets the BAAQMD standard. BAAQMD found this level of toxic emissions to be insignificant (City of Pleasanton, 2000).

BAAQMD has determined that the applicant would need to obtain emission reduction credits (ERCs). BAAQMD would allow the applicant to purchase offsets from any pollutant source in the 9-county District. Therefore, the owner of the power generation facility shall obtain ERCs as required by the BAAQMD. The owner of the power generation facility shall also purchase the offsets from local sources in Alameda County, if credits are available in the county (City of Pleasanton, 2000).

Biological Resources. Because the Enron facility is proposed for an already disturbed industrial site, the biological resources impacts are not likely to be significant and would be similar to those described for substation construction and operation in Section C.3.3.1. Potentially significant impacts associated with Local Generation would be the direct mortality or direct disturbance of wildlife and overland travel that may occur during construction.

The Enron Local Generation alternative would have fewer impacts to biological resources than the Proposed Project since it would be located in heavily disturbed Non-Native Annual Grassland dominated by ruderal plant species. This alternative reduces the impacts to all biological resources, including plant communities and wildlife habitats, and virtually eliminates impacts due to overland travel.

Cultural Resources. There are no recorded sites, reported in or adjacent to the local generation site. One identified site within 0.25 miles is the Transcontinental Railroad grade. Potentially significant impacts could occur if subsurface construction unearthed previously unknown cultural resources.

Geology, Soils, and Paleontology. There are no mapped faults underlying the area proposed for the construction of a local power generation plant. The site is located approximately 1.5 miles east of mapped traces of the active Pleasanton fault, 2.2 miles north of the mapped trace of the active Verona fault, and 3.3 miles east of the active Calaveras fault. In addition, the site is approximately 3.3 miles southwest of the potentially active Livermore fault and 9.4 miles west of the active Greenville fault. Unless proper geotechnical and engineering designs are implemented, geological hazards such as ground shaking could significantly impact the project. The area proposed for the construction of a local power generation plant lies within an area mapped predominantly as Yolo series soil, which does not have high shrink-swell or corrosivity potential, is within an area mapped as MRZ-2, and is adjacent to properties owned/leased by active gravel mining operations.

According to the City's Negative Declaration, no grading is presently proposed for the site. If grading is proposed at a later date, the City requires site-specific geologic and soils reports prior to issuing any grading and building permits. Grading on the site would be subject to engineering and building standards prior to any development. The site is not subject to high erosion.

Hydrology and Water Quality. According to the City's Negative Declaration, the owner of the power generation facility has agreed to meet all local ordinances regarding wastewater quality. The current application and supporting documents describe wastewater quality as it relates to the maximum amount of total dissolved solids. Upon initial review, it appears that the amounts proposed would comply with local ordinances. To ensure that the facilities wastewater does comply with local ordinances, the owner of the power generation facility shall install a sampling manhole for monitoring purposes. The owner of the power generation facility shall submit, prior to the issuance of a City building permit for the project, a more detailed discharge analysis to the City Utility Manager. This analysis must be approved by the City Utility Manager prior to the issuance of a building permit for the project. Potential impacts associated with discharged water quality are anticipated to be less than significant.

Construction of the local generation facility would require the use of a variety of motorized heavy equipment, including trucks, cranes, dozers, air compressors, graders, and backhoes. This equipment requires job site replenishment of hazardous chemicals in the form of fuels, oils, grease, coolants, and other fluids. The accidental spill of these, or other, construction-related materials could lead to the discharge of contaminants into the drainage system that could cause significant impacts. Surface water and groundwater contamination impacts from construction related materials could occur at the construction site.

Land Use and Public Recreation. The local generation facility would be located on a portion of a site currently owned and occupied by the Kiewit Construction Company and located within the City of Pleasanton. The site is currently used for storage of construction materials and equipment. Under the Local Generation Alternative, none of the land use, planning, or recreation impacts identified for the Proposed Project in the south area would occur in the immediate term, while all of the impacts identified for the north alignment would still apply. There are no adjacent sensitive receptors that would be disturbed by construction activities. Although the site would displace construction materials currently being stored on the site, the property owner would be a willing lessor and would receive just

compensation for the property. It is assumed that an upgrade to the Vineyard Substation would still ultimately be required if this alternative were implemented. Therefore, it would defer but not avoid the impacts identified for the south alignment. If one of the south area alternatives were ultimately selected, the impacts identified herein for that alternative would result.

Noise. The Alternative LG site is in the City of Pleasanton, north of Stanley Boulevard and East of Valley Avenue. Noise levels in the vicinity of the Alternative LG site are dominated by local traffic, aircraft overflights associated with the Livermore Municipal Airport, and industrial activities (Hanson Radum Rock Crushing Plan). Ambient noise measurements in the vicinity of the site have been recorded by Wilson Ihrig and Associates, Inc., and Illingworth and Rodkin, Inc. and presented in the City of Pleasanton's Negative Declaration for the planned facility. Measurements recorded at 10:20 a.m. in the Vineyard Villa Mobile Home Park, the closest point to Stanley Boulevard at the north end of Cereza Drive indicated an Leq range of 55 to 62 dBA (City of Pleasanton, 2000).

The Vineyard Villa Mobile Home Park is located south of Stanley Boulevard approximately 1,200 feet southeast of the site. Other residential receptors consist of homes west of E. California Avenue, approximately 2200 feet from the site (City of Pleasanton, 2000).

The Negative Declaration concluded that the project would meet the City of Pleasanton's noise requirements. However, it is not clear if significant noise impacts would occur. A more detailed analysis is going to be conducted for the City of Pleasanton's EIR.

Public Health, Safety and Nuisance. The local generation alternative in Pleasanton would have electric and magnetic fields associated with the facility and its transmission connection to the Vineyard substation. The EMF from a generating facility is primarily associated with its switchyard and would be the same as discussed for electric substations. These impacts are considered adverse but less than significant. The local generation alternative may have less EMF impact than the Proposed Project or other Pleasanton area alternatives since only a short segment of transmission line would be needed to interconnect with Vineyard substation. However, the local generation alternative may result in higher current flow and therefore higher EMF on existing transmission lines.

Socioeconomics and Public Services. The demand for public services such as fire and police protection, schools, hospitals, and maintenance of public facilities will not increase during construction of the local generation alternative. Impacts would be less than significant. Construction activities would not physically affect local hospitals because no hospitals are present in the project area. This potential impact is considered less than significant.

Construction of natural gas turbine power plant and connection to Vineyard Substation would not have an adverse impact on any local utilities in the project area. Water use during construction would be minimal and would be limited to dust control or other incidental uses, resulting in a less than significant impact to the overall available water supply. Project construction would result in an insignificant temporary increase in the total amount of waste generated in the region. Waste that is generated during

construction will be disposed of in an environmentally responsible manner in the Altamont or Vasco Road Landfills and impacts would be less than significant.

Impacts to public services during operation of the power plant would be less than significant. Operation of the project would increase the demand for public water supply and sewage treatment, but according to the utilities providing these services, this impact is less than significant.

Transportation and Traffic. Impacts related to the generation facility construction would be primarily related to short-term construction traffic associated with commuting workers and truck equipment and refuse haul trips. Potential impacts are considered insignificant. Operation of the local generation facility would have no appreciable impact on transportation. Impacts would be less than significant.

Visual Resources. The local generation facility is in a landscape highly modified by mineral extraction activities and dominated by the complex, industrial character of mineral extraction and transport equipment and facilities. Although the project would involve a stack approximately 65 feet tall, no adverse visual impacts are anticipated because of the areas industrial character.

C.13.3 IMPACTS OF PROPOSED MITIGATION MEASURES

Ten mitigation measures were proposed in Sections C.2 through C.12 that would require use of different rights-of-way than those previously analyzed. The potential impacts of using these different routes are considered in this section. The mitigation measures are presented in Table C.13-4, including the new Alternative number assigned as warranted.

Table C.13-4 Mitigation Measures Requiring New Rights-of-Way

Mitigation Measure #	Alternative # (if relevant)	Text of Mitigation Measure
Air Quality		
A-5		Modify the route of the D2 Alternative (as shown in Figure A-2) so it connects with the existing San Ramon-Pittsburg 230 kV line approximately one-half mile northeast of the San Ramon Substation.
A-6	P3	The 230 kV transmission line to the proposed North Livermore Substation shall begin at a tap to the existing Contra Costa-Newark 230kV transmission line at a point due east of the proposed North Livermore Substation. The nearly two-mile long underground route would include approximately one-half mile of line installation across open space, and the remaining 1.5 miles would follow May School Road.
Land Use and Recreation		
L-7	S2A	PG&E Co. shall remove the existing 60-kV transmission line that crosses the park on the same approximate alignment as the S1 alignment. If this is not feasible, the 230-kV alignment through the park shall be placed underground or the tap point shall be moved out of the park to the east, near the Zone 7 Water Treatment Plant.
L-10	S2A	The conversion of the Alternative S1 transmission line to an underground segment shall be located further away from Highway 84 so that the transition structure and the overhead lines leading to it are not so conspicuous from the scenic route.
L-16		The North Livermore substation shall be relocated at least 500 feet to the north, outside of the May School Road Greenbelt, and shall be screened along the southern exposure by sufficient landscaping to render it inconspicuous as a manmade element, as viewed from the adjacent greenbelt. As required by 6.0 131-D, PG&E Co. shall consult with the relevant local jurisdiction and make every reasonable effort to comply with local design standards. See also Applicant Proposed Measure 1.9 regarding landscaping.

Mitigation Measure #	Alternative # (if relevant)	Text of Mitigation Measure
L-20		If the L2 Alternative is adopted by the CPUC, the conversion to underground cable in the L2 alignment shall be relocated approximately 4,000 feet to the south, to just north of Stanley Boulevard, in order to remove the overhead section from the 5,000-foot radius around Livermore Airport.
Visual Resources		
V-1	S2A	If the S1, S2, or L2 Alternatives are selected, the underground portion of these routes should be extended southeast so the overhead/underground transition structure is located immediately adjacent to the tap pint in the Tesla-Newark Corridor. (Impacts to Public Services from implementing this mitigation measure are addressed in Section C.13.1.2).
V-2		If Alternative S4 is approved by the CPUC, reduce transmission line structure heights as sufficient to eliminate views of the structures and conductors from the Rudy Hill development. If necessary to accomplish this objective, move the underground transition structure further south to reduce the number of aboveground structures. The design to comply with these conditions will be submitted to the CPUC for approval at least 30 days prior to construction start.
V-3		If the proposed transmission line route to the Dublin Substation is selected, the visual impact of the line east of Milepost B14.5 shall be reduced by one of the following methods (the first is preferred): Option A: Install the line underground from the tap to the Contra Costa-Newark line to approximately Milepost B14.5 to eliminate an overhead crossing of the scenic valley and hills visible from Key Viewpoint 13 on Manning Road. Option B: Relocate the overhead portion of the proposed route between Mileposts B13 and B14.5 further south such that the overhead line is not visible from Manning Road in the vicinity of Key Viewpoint 13 (see Figure C.12-15-C).

Implementation of these mitigation measures would require use of a right-of-way or construction methods (i.e., underground placement of the line) that were not analyzed previously in this EIR. Therefore, the potential impacts of each mitigation measure in each relevant environmental issue areas are presented in Table C.13-5 (at the end of this section). For the measures that have been considered as alternative transmission line segments, impacts are presented in Section C.13.3.1.

C.13.3.1 P3 Alternative (Mitigation Measure A-6)

This mitigation reroute to the P2 Alternative in North Livermore would eliminate 3.8 miles of underground construction along PG&E Co.’s vacant easement and 1 mile along North Livermore Avenue, replacing that with 2.8 miles of underground construction from the Contra Costa-Newark transmission line and along May School Road. Overall, this alternative would have fewer impacts than P2 due to the decrease in underground construction. Impacts would be as follows:

- **Air Quality:** Because this alternative segment would have fewer miles of underground construction than the P2 Alternative, construction of this segment would have fewer air quality impacts than P2.
- **Biological Resources and Hydrology:** While there are no apparent direct impacts of this alternative, it has the potential to impede subsurface hydrologic flows to special status plant species and their habitat in the Springtown Alkali Sink. However, due to the distance north of the sink, these impacts are not believed to be significant.
- **Cultural Resources:** AS with the P1 and P2 Alternatives, there is a slight increase in the chance of uncovering previously unknown cultural resources during underground construction activities, relative to the Proposed Project.
- **Geology and Soils:** Similar to P1 and P2 Alternatives, there is increase in construction impacts (soil erosion), relative to the Proposed Project.

- **Hydrology and Water Quality:** Relative to the Proposed Project there would be more construction related water contamination and sedimentation impacts from underground construction .
- **Land Use and Recreation:** Potential for construction impacts to residential receptors along May School Road (although less than for the P2 Alternative)
- **Noise:** Fewer miles of underground construction activities and associated construction noise than the P2 Alternative.
- **Visual Resources:** No difference between the two underground alternatives (P2 and P3). As with P2, the P3 Alternative would avoid visual impacts associated with the Proposed Project.

C.13.3.2 S2A Alternative (Mitigation Measures V-1, L-7, L-10)

This alternative would replace the southernmost segment of the S1/S2/L2 Alternatives, eliminating the construction of 0.75 miles of overhead transmission lines (including 2,000 feet within Sycamore Grove Regional Park) and adding the construction of 1.05 miles of underground transmission line. Following are the potential impacts of implementation of this alternative.

- **Air Quality:** Construction of S2A would have greater air quality impacts (higher levels of PM₁₀ and exhaust emission) than the S1/S2/L2 Alternative segment. These impacts would be reduced to less than significant levels with implementation of air quality mitigation measures defined in Section A.2.
- **Biological Resources:** Decrease in potential bird collisions associated the overhead line than the S1/S2/L2 Alternative segment.
- **Cultural Resources:** Slight increase in chance of uncovering previously unknown cultural resources during underground construction activities.
- **Geology and Soils:** Increase in impacts (soil erosion) during underground construction activities.
- **Hydrology and Water Quality:** More construction related water contamination and sedimentation impacts from underground construction.
- **Land Use and Recreation:** Elimination of land use conflict associated with construction of new line through Sycamore Grove Regional Park and elimination of impact to recreational users in the park.
- **Noise:** Increase in noise impacts associated with underground construction activities.
- **Visual Resources:** Elimination of the 230 kV overhead line through the Sycamore Grove Regional Park would decrease visual impacts relative to the S1/S2/L2 Alternative segment.

Public Services Impacts of S2A Alternative. As illustrated in Figure C.13-1, this alternative requires installation of an underground 230 kV line (heading north from Switching Station Site 2) and located along the Del Valle Water Treatment Plant service road, adjacent to (but not concurrently) three Zone 7 pipelines:

- 48-inch Del Valle-Livermore Pipeline,
- 36-inch Vineyard Pipeline,
- Veterans Authority Medical Center Turnout No. 2.

The Zone 7 Water District is concerned about the potential impacts of locating the underground line adjacent to these pipelines (Zone 7, 2000). Such impacts include increased corrosion and replacement costs, and short-term construction related impacts. In addition, although Zone 7 records indicate that

there are no wells located within the project boundaries, there are several wells located in close proximity to the project (Zone 7, 2000). Project construction activities could potentially damage these wells. Potential impacts to Zone 7 water pipelines and wells would be reduced to levels that are less than significant (**Class II**) with implementation of Mitigation Measure S-3 below. In addition, Mitigation Measure S-1 should be implemented to ensure appropriate location of the underground transmission line with respect to existing utilities, and to ensure that cathodic protection is provided for pipelines that could be affected by increased soil currents.

S-3: To avoid damage to the Zone 7 water pipeline system and interruption in water services, the protective measures listed below shall be implemented. Documentation of compliance with these requirements shall be submitted to the CPUC by PG&E Co.

- A Zone 7 encroachment permit is required prior to any work within a Zone 7 easement. The encroachment permit will have specific conditions for construction within the waterline easement. This permit will become effective upon payment of an application fee and the deposit of an approved surety bond with Zone 7 and any applicable inspection charges.
- Future improvement plans for the Proposed Project should be submitted for review.
- Future improvement plans should include a detail of the location where Zone 7's waterline is crossed or is parallel to an electric line.
- The contractor shall notify the Zone 7 Field Facilities Supervisor at least 3 working days prior to any construction around Zone 7 facilities.
- The contractor shall verify the location on Zone 7's existing water facilities by potholing prior to construction.
- Contractor shall avoid using heavy equipment over Zone 7's waterline when cover is less than three feet.
- Where the proposed electrical construction crosses or parallels existing Zone 7 facilities a minimum clearance shall be established by Zone 7 based on analysis provided by the project lead agency to ensure that no damage is done to any Zone 7 facility.
- PG&E shall backfill and compact around Zone 7's existing water facilities in accordance with Zone 7 Standards.
- All excavation shall satisfy CalOSHA for proper shoring, bracing, sloping, etc. for trenches five feet or more in depth.
- If undocumented wells are found to be located within project limits, they should be recorded at Zone 7.
- All unused or "abandoned" wells must be properly destroyed, or a signed "statement of future use" must be filed at Zone 7 if there are plans to use the well in the future.
- Any planned soil boring or well destruction must be permitted by Zone 7 before starting the work.

C.13.3.3 Other Mitigation Reroute Measures

Table C.13-5 on the following page summarizes the impacts of the other "mitigation reroutes".

Table C.13-5 Impacts of Mitigation Measures Requiring Route Changes or Additional Undergrounding

Mitigation Measure	Air Quality	Biological Resources	Cultural Resources	Geology	Hydrology	Land Use	Noise	Visual Resources
A-5 Connection to San Ramon-Pittsburg line (eliminates connection to San Ramon Substation)	Lower levels of PM ₁₀ and exhaust emissions (Class II and III)	Slight increase in potential bird collisions with the overhead line (Class III)	Less chance of uncovering previously unknown cultural resources during underground construction activities	No underground construction impacts	Less construction related water contamination and sedimentation impacts (Class II).	Less noise, dust, and odor impacts to residential receptors because the construction activities would be farther away from the receptors (Class III).	Less noise from overhead line construction and farther away from San Ramon sensitive receptors	Increase in visual impacts associated with approximately 0.5 mile of additional overhead line
V-2 Reduces transmission line structure heights along Alternative S4 or move underground transition structure further to the south.	Higher levels of PM ₁₀ and exhaust emissions (Class II and III)	Decrease in potential bird collisions with the overhead line (Class III)	Slight increase in chance of uncovering previously unknown cultural resources during underground construction activities	Increase in underground construction impacts	More construction related water contamination and sedimentation impacts from underground construction (Class II).	Reduction in visual impacts (Class II)	More miles of underground construction activities and associated construction noise (Class III)	Reduction in visual impacts (Class II)
V-5 Install the Proposed Project North Area transmission line underground from the tap to MP B14.5 or reroute south of Manning Road between MP B13 and B14.5	Impacts are approximately the same (Class II and III)	No change in impacts	No change in impacts	No change in impacts	No change in impacts	Reduction in visual impacts (Class II)	No change in impacts	Reduction in visual impacts (Class II)
L-16 Relocate the Proposed North Livermore Substation further to the north.	No change in PM ₁₀ or exhaust emissions (Class II and III)	No change in impacts	No change in impacts	No change in impacts	No change in impacts	Preserve the natural character of the greenbelt	Sensitive receptor to the east would be farther from substation noise sources. Operation noise impacts would be less (Class III)	Reduction in visual impacts from the greenbelt
L-20 Convert L2 Alternative to underground approximately 4,000 feet to the south, just north of Stanley Boulevard	Higher levels of PM ₁₀ and exhaust emissions (Class II and III)	Decrease in potential bird collisions with the overhead line (Class III)	Slight increase in chance of uncovering previously unknown cultural resources during underground construction activities	Increase in underground construction impacts	More construction related water contamination and sedimentation impacts from underground construction (Class II).	Reduction in visual impacts (Class II)	More miles of underground construction activities and associated construction noise (Class III)	Reduction in visual impacts (Class II)

C.13.4 IMPACTS OF THE NO PROJECT ALTERNATIVE

CEQA requires an evaluation of the No Project Alternative that must include (a) the assumption that conditions at the time of the Notice of Preparation (i.e., baseline environmental conditions) would not be changed since the Proposed Project would not be installed, and (b) the events or actions that would be reasonably expected to occur in the foreseeable future if the project were not approved. These two scenarios are listed below.

No Action Taken by PG&E Co. In this scenario, PG&E Co. would not implement any of the proposed facility upgrades to the electric transmission system, nor would any alternatives be implemented. As described in Section A.2, as a result of rapidly growing demand for electricity in the Tri-Valley area, the electric transmission system will not be able to reliably serve customers in the Tri-Valley area if no new facilities are in place by the year 2002.

Reasonably Foreseeable Actions by PG&E Co. If neither the Proposed Project nor any alternative were approved by the CPUC, PG&E Co. would be forced to evaluate other courses of action that could be implemented to solve the near-term electricity shortages in the Tri-Valley area. Following are possible courses of action:

- Reconductoring of Existing Lines
- Curtailment of Electric Service
- Demand-Side Management (Conservation)
- Interruptible Load Program
- Local Peaking Power Plants (which could include Local Generation proposals discussed in Section C.13.2)

Impacts of No Project Alternative

Generally, the selection of the No Project Alternative would necessitate a subsequent power generation or reconductoring project to meet the growing electrical demands of the rapidly developing Tri-Valley region. A subsequent electric project could likely have similar (or even more deleterious) impacts to those discussed for the Proposed Project and alternatives particularly since these actions could very well be conducted without any environmental review and/or under emergency conditions.

Air Quality. Under the No Project Alternative, the proposed Tri-Valley 2002 Capacity Increase Project would not be constructed, eliminating the air quality impacts discussed in Section C.2.2. However, PG&E Co. would have to otherwise upgrade its existing facilities and add new transmission and generation capacity to compensate for existing system limitations and anticipated loads. Construction of the PG&E Co. facility expansions and transmission line additions would occur in the San Francisco Bay area air basin. These localized short-term construction scenarios could create a significant air quality impact since construction activities could create a nuisance or not conform with the requirements of the SIP for the Bay Area Air Basin, which did not attain standards.

Biological Resources. The No Project Alternative could decrease the cumulative impacts to natural plant communities, special status plant species, and wildlife over the near term of projects proposed for the region.

Cultural Resources. The No Project Alternative could decrease the cumulative impacts to cultural resources over the near term projects proposed for the region.

Geology, Soils, and Paleontology. The No Project Alternative would avoid the conversion of agricultural soils to a non-agricultural use at the Proposed Dublin substation site.

Hydrology and Water Quality. Under the No Project Alternative, construction of the Proposed Project would not occur. Direct impacts to water resources would not occur if the transmission lines and substations of the Proposed Project were not built.

Land Use and Public Recreation. Under the No Project Alternative, none of the construction or operational impacts identified for the Proposed Project and alternatives would occur. The No Project Alternative would also conflict with planning policies of local jurisdictions, most of which have goals or policies pertaining to the provision of adequate services and utilities to the population under their jurisdiction.

Noise. Under the No Project Alternative, the Proposed Project would not be constructed, eliminating the noise impacts discussed in Section C.8. However, PG&E Co. would have to otherwise upgrade its existing facilities and add new transmission and generation capacity to compensate for existing system limitations and anticipated loads. Localized short-term construction scenarios could create significant noise impacts.

Public Health, Safety and Nuisance. The No Project Alternative will also have EMF and public health and safety impacts, since current flow on existing transmission lines would be expected to increase and other transmission lines and/or generation facilities would likely be built to provide the desired transmission capacity if the Tri-Valley 2002 Capacity Increase Project does not go forward. The types of impacts would be similar to those of the Proposed Project and alternatives, but the magnitude of the effects would be specific to the design of the No Project Alternative.

Socioeconomics and Public Services. Under this alternative, the Proposed transmission lines and substations would not be built. Unless some other technique is found to bring more electricity to the Tri-Valley area, economic development would be limited by the shortage of electrical supply. This would be inconsistent with local and regional policies encouraging economic development in the Tri-Valley area. Additionally, electrical failures could result in a wide variety of adverse environmental impacts, particularly related to health and safety.

Transportation and Traffic. Under the No Project Alternative, the Proposed transmission lines and substations would not be constructed; therefore, no direct or cumulative construction-related or operational traffic or aviation impacts would occur. If the demand for electrical power exceeded the capacity of the existing system, as anticipated, the No Project Alternative could result in other construction projects. In the short-term, improvements would be made to the existing system, which would result in minor temporary traffic impacts at each construction site. In the long-term, it may be

necessary to construct another transmission line, which would likely result in traffic and aviation impacts similar to those of the Proposed Project.

Visual Resources. The visual impacts identified for the Proposed Project and alternatives would not occur. However, reconductoring could increase the intrusion of existing power lines and substations into existing landscapes and viewsheds, and the addition of Local Peaking Power Plants could also add to visual intrusion.

C.13.5 MITIGATION MONITORING PROGRAM

The mitigation monitoring program for measures recommended in Section C.13 is presented in Table C.13-6.

Table C.13-6 Mitigation Monitoring Program for Alternatives Evaluated in Section C.13

Impact	Mitigation Measure	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
S2A Alternative						
Construction and operation of underground transmission line could affect existing pipelines	S-3: To avoid damage to the Zone 7 water pipeline system and interruption in water services, specific protective measures shall be implemented (see full text in Section C.13.3.1.2)	S2A Alternative	Review reports submitted by PG&E	No Zone 7 facilities are damaged during construction	CPUC; Zone 7 Water	Before and during construction

C.13.6 REFERENCES

In addition to the references listed for Sections C.2 through C.12, the following references were used specifically for this section.

CDMG (California Division of Mines and Geology). 1982e. *Earthquake Fault Zones, La Costa Quadrangle, Revised*. Scale 1:24,000.

City of Pleasanton. 2000a. Draft Negative Declaration for the Pleasanton Local Reliability Facility, October 6.

2000b. Pleasanton Planning Commission Meeting Minutes of November 28, 2000.

Zone 7. 2000. Letter with attachments to Martha Sullivan, Vice President of Aspen Environmental Group from John Mahoney, Senior Engineer at Zone 7 Water Agency. November 2000.