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PART 2 OF 2
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To review Part 1 please see:

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CHAPTER 6.0
SIGNIFICANT AND POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION OF THE PROPOSED PROJECT

6.1 DEVERS-HARQUAHALA 500kV TRANSMISSION LINE

6.1.1 Introduction

The BLM Right-of-Way Grant CA-17905/AZ-23805 Exhibit B (1989) was used in compiling mitigation measures for the resources addressed in this document. The mitigation measures in the following sections were drawn from the mitigation measures appended to the Right-of-Way Grant. In some instances, additional mitigation measures also are provided. The measures will be applied to federal, state, and private lands crossed by the proposed project. The Right-of-Way Grant is included in this PEA as Appendix B.

6.1.2 Land Use

6.1.2.1 Arizona

No significant impacts to existing or planned land uses would result from construction and operation of the Arizona portion of the Devers-Harquahala transmission line. Mitigation measures as required by the BLM Right-of-Way Grant will be implemented during construction of the transmission line on public lands.

Construction of the first mile of the line on Link 1a, east of the Harquahala Switchyard, would cross agricultural land. Less than 0.1 acre of prime and unique cropland would be permanently removed from production by the tower structure foundations.

Impacts corresponding to crossing of the KOFA NWR (Link 2) would be minimized through utilization of existing utility access (gas and transmission) roads during the construction and operational phases of the project. All vehicular traffic would be limited to approved access or spur roads. Impacts would not be significant after mitigation is incorporated.

The following mitigation measures as specified in the BLM Right-of-Way Grant (under Access Roads) would be applied to reduce impacts to land use:

1. Although the Holder may restore and maintain existing access roads, they cannot be either widened or upgraded without approval of the Authorized Officer.

2. New access road construction will be kept to a minimum.

Where feasible, the following additional mitigation measures would be implemented:

- Matching of tower spans
- Aligning towers adjacent or parallel to agricultural field boundaries
- Using tubular steel pole structures in agricultural fields instead of lattice steel towers to reduce the footprint of the structure
- Specific tower placement to avoid/span sensitive features

6.1.2.2 California

No significant impacts to existing or planned land use would result from construction and operation of the California portion of the Devers-Harquahala transmission line. Mitigation measures as required by the BLM Right-of-Way Grant would be implemented during construction of the transmission line on public lands.

Construction of 10.5 miles of the proposed line along Link 10 in the Palo Verde Valley would permanently displace prime farmland. The H-frame structures, similar to the existing DPV1 structures, would be installed in this segment to reduce the amount of farmland permanently removed from production and minimize impacts to farm operations. Where feasible, additional mitigation measures would include matching tower spans, and aligning towers adjacent or parallel to field boundaries.

In the agricultural area of the Palo Verde valley, towers would be located to allow for canal dredging by the Palo Verde Irrigation District. This also could include canal modifications.

Link 10 crosses an (unoccupied) single-family dwelling unit at Milepost 5.3. Two additional single-family dwelling units and one mobile home would be impacted due to the alignment of Link 10 at Milepost 6.2. Mitigation measures would include purchase of the parcel and relocation or, if practical, adjusting the transmission line alignment and placing towers to avoid the affected dwelling units.

Link 14 crosses an open pit gravel operation. Potential impacts would be mitigated during construction by coordinating with the owner/operator to avoid critical mining periods and high volume earth-moving days. Operational mitigation would include spanning the mine.

6.1.3 Socioeconomics, Population, and Housing

No potentially significant impacts were identified for socioeconomics, population, and housing.

6.1.4 Geology and Soils

No potentially significant impacts were identified for geology and soils.

6.1.4.1 Arizona and California

Mitigation measures as required by the BLM Right-of-Way Grant would be implemented during construction of the transmission line on public lands to reduce impacts to geology and soils as follows.

Geology

1. The line will be located to minimize the disruption of any active mining operations.

2. Transmission towers will not be sited on nor straddle the mapped traces of any known fault that has been designated active or potentially active. In areas where known faults are present, the Holder will visually check the tower site area before clearing, and will check the tower footing holes for any trace of a previously unmapped fault. If manifestations of a fault are found, construction will immediately stop at that site and the Holder will consult with the BLM Authorized Officer. The BLM Authorized Officer will determine if it is a fault trace and if so, will ascertain if it is active, potentially active, or inactive.

3. Towers will be located so that the line will span the surface traces of active and potentially active faults such that a relative lateral surface displacement would shorten the span between towers, and thus avoid potential line breaks. Where this is not feasible, the Holder will incorporate slack spans to bridge the fault(s) such that the projected lateral

surface displacement, as forecast by the Holder's geologist and accepted by the BLM Authorized Officer, will not structurally affect the associated towers.

4. Appropriate tower design will be used to mitigate the potential for very strong seismic ground shaking. In general, an appropriate tower design which accounts for lateral wind loads and conductor loads during line stringing exceeds any credible seismic loading (ground shaking).

5. Towers will be located to avoid areas of highly sensitive dune sand areas. Where these areas cannot be avoided, towers will be located to minimize disturbance to the deposits at a site approved by the BLM Authorized Officer.

6. Wherever possible to minimize the potential for slope instability, towers will be located to avoid gullies or active drainages, and over-steepened slopes.

7. The Authorized Officer may require, on a site-specific basis, helicopter assisted construction in sensitive areas. Sensitive areas are those that exhibit both (1) high erosion potential and/or slope instability; and (2) a lack of existing access roads within a reasonable distance of the tower site (generally no more than ¼ mile), or existing access that is not suitable for upgrading to accommodate conventional tower construction or line stringing equipment, and where it is determined that, after field review, the issues of erosion and/or slope instability cannot be successfully mitigated through implementation of accepted engineering practices.

8. Mitigation of potentially significant impacts to the western end of the proposed transmission line due to (1) potential surface fault rupture along the Banning, Mission Creek, and Mecca Hills faults, and (2) potential for severe seismic shaking can be achieved by standard design methods listed below:

a. Towers will be sited so as not to straddle active fault traces.

b. The alignment will be designed to cross an active fault such that future rupture on the fault would not cause excessive stress on the line or the towers.

c. Standard foundation and structural design measures will be utilized to minimize the impact from severe seismic shaking.

9. Appropriate design of tower foundations will be used to reduce the potential for settlement and compaction.

Soils

1. New access roads and soil disturbance will be avoided or minimized in all areas designated as having high erosion hazards or potential slope instability. If the Authorized Officer, after consultation and review of alternatives (including helicopter or helicopter assisted construction), deems the proposed new access road feasible, design plans must be submitted for approval, in writing, prior to construction.

2. New access roads, which are required, will be designed to minimize ground disturbance from grading. They will follow natural ground contours as closely as possible and include specific features for road drainage, including water bars on slopes over 25 percent. Other measures could include drainage dips, side ditches, slope drains, and velocity reducers. Where temporary crossings are constructed, the crossings will be restored and repaired as soon as possible after completion of the discrete action associated with construction of the line in the area.

3. Side casting of soil during grading will be minimized. Excess soil will be properly stabilized or, if necessary, end-hauled to an approved disposal site.

6.1.5 Hydrology

No potentially significant impacts were identified for hydrology.

Mitigation measures as required by the BLM Right-of-Way Grant would be implemented during construction of the transmission line on public lands to reduce impacts to hydrological resources as follows:

1. During the first year following construction, potential soil erosion sites will be inspected by the Holder after each major rainstorm as access permits. For the purpose of this measure, a major rainstorm is defined as any singular storm where the total precipitation exceeds the arithmetic mean for similar events in the area and results in flooding. Examples include cloudbursts (high quantity – short duration) or storms where saturated soils produce runoff (high quantity – long duration).

2. Construction equipment will be kept out of flowing stream channels except when absolutely necessary to construct crossings.

3. Erosion control and hazardous material plans will be incorporated into the construction bidding specifications to ensure compliance.

4. Appropriate design of tower footing foundations, such as raised foundations and/or enclosing flood control dikes, will be used to prevent scour and/or inundation by a 100-year flood.

5. Towers will be located to avoid active drainage channels, especially downstream of steep hillslope areas, to minimize the potential for damage by flash flooding and mud and debris flows.

6. Diversion dikes will be required to divert runoff around a tower structure if (a) the location in an active channel cannot be avoided; and (b) where there is a very significant flood scour/deposition threat, unless specifically exempted by the BLM Authorized Officer.

7. Runoff from roadways will be collected and diverted from steep, disturbed, or otherwise unstable slopes.

8. Ditches and drainage concourses will be designed to handle the concentrated runoff, will be located to avoid disturbed areas, and will have energy dissipations at discharge points.

9. Cut and fill slopes will be minimized by a combination of benching and following natural topography where possible.

6.1.6 Air Quality

Potentially significant impacts for air quality could occur depending on the phasing of the project construction. The following mitigation measures would be applied, where appropriate, to reduce impacts to air quality:

- Heavy duty off-road diesel engines would be properly tuned and maintained to manufacturers' specifications to ensure minimum emissions under normal operations.

- Water or chemical dust suppressants would be applied to unstabilized disturbed areas and/or unpaved roadways in sufficient quantity and frequency to maintain a stabilized surface.

- Water or water-based chemical additives would be used in such quantities to control dust on areas with extensive traffic including unpaved access roads; water, organic polymers, lignin compounds, or conifer resin compounds would be used depending on availability, cost, and soil type.

- Surfaces permanently disturbed by construction activities would be covered or treated with a dust suppressant after completion of activities at each site of disturbance.

- Vehicle speeds on unpaved roadways would be restricted to 15 miles per hour.

- Vehicles hauling dirt would be covered with tarps or by other means.

- Site construction workers would be staged off-site at or near paved intersections and workers would be shuttled in crew vehicles to construction sites. As part of the construction contract, SCE would require bidders to submit a construction transportation plan describing how workers would travel to the job site.

- Emissions credits would be purchased to offset any emissions levels which are over the emissions thresholds.

6.1.7 Traffic and Transportation

No potentially significant impacts were identified for traffic and transportation.

6.1.8 Biology

The following discussion presents mitigation measures for the proposed Devers-Harquahala 500kV transmission line that are specified in the BLM Right-of-Way Grant, Exhibit B (1989). References to specific mitigation measures listed in the right-of-way grant are annotated as either vegetation (V#), or wildlife (W#). The right-of-way grant is provided in Appendix B. Table 6-1 summarizes mitigation measures for resources potentially affected by the construction and operation of the proposed Devers-Harquahala 500kV transmission line.

TABLE 6-1
A SUMMARY OF POTENTIAL IMPACTS AND MITIGATION MEASURES FOR THE DEVERS-HARQUAHALA 500KV TRANSMISSION LINE

Impact Types – Arizona	Mitigation Measures
Vegetation removal	Span washes, careful tower placement, transplant cacti, avoid large trees, minimize access road construction
Sonoran desert tortoise	Avoid upland areas, monitor construction, provide pre-construction education to workers
Desert bighorn sheep	Limit construction activities in lambing areas during lambing season
Native plants	Avoid large ironwood, paloverde, and mesquite trees, avoid barrel cacti and saguaros, minimize access road construction, adjust tower locations
Impact Types – California	**Mitigation Measures**
Vegetation removal	Span washes, careful tower placement, transplant cacti, avoid large trees, minimize access road construction
Mohave desert tortoise	Monitor construction activities, provide pre-construction education to workers, minimize access/spur road construction in tortoise habitat, limit construction vehicle speeds to 25 mph or less, keep construction and other work areas clean to avoid attracting ravens, provide habitat compensation pursuant to latest BLM requirements
Flat-tailed horned lizard	Minimize access road construction in potential habitat, limit construction vehicle speeds to 25 mph, provide pre-construction education to workers
Coachella Valley fringe-toed lizard	Minimize access road construction in potential habitat, do not place concrete batch plants or materials storage site in suitable habitat, monitor construction in suitable habitat, provide habitat compensation pursuant to latest BLM or Coachella Valley MSHCP requirements
Least Bell's vireo	Conduct pre-construction surveys in suitable habitat, avoid removal of riparian vegetation, site towers to avoid potential habitat, avoid construction in suitable habitat during the nesting season
Coastal California gnatcatcher	Conduct pre-construction surveys in suitable habitat, avoid removal of coastal sage scrub habitat, avoid construction in suitable habitat during the nesting season
Stephens' kangaroo rat	Minimize access road construction, keep construction vehicles on existing roads to the extent practicable, provide habitat compensation pursuant to latest Riverside County HCP requirements
Sensitive native plants	Avoid known populations by spanning, minimize ground disturbing activities, minimize access road construction, conduct pre-construction surveys for Coachella Valley milkvetch

6.1.8.1 Arizona

Impacts to sensitive plants and wildlife are expected to be less than significant. The application of appropriate mitigation measures as required by the BLM Right-of-Way Grant would provide additional reductions in impacts associated with construction of the proposed Devers-Harquahala transmission line in Arizona.

Links 1a and 1b - Potential impacts on plants and wildlife on Links 1a and 1b of the proposed Devers-Harquahala transmission line would be less than significant. There is potential tortoise habitat present, primarily at the southern end of the Big Horn Mountains, a BLM Category 3 area for desert tortoise. However, tortoise densities in this area are very low. Direct temporary impacts could include collapse of tortoise burrows and disturbance and removal of existing native vegetation that provides food and shelter for tortoises. Bighorn sheep present could be disturbed by human presence and construction noise. Some loss to avian nesting habitat along washes could occur. Direct permanent impacts would be limited to minor habitat loss from the placement of tower foundations, but would not exceed 0.01 acre per tower site.

Mitigation efforts to reduce potential impacts could include careful local adjustment in tower foundation placement (V1), minimizing access road construction (V7;W10), avoiding upland areas of desert tortoise habitat (W17), imposing seasonal limitations on construction activities to minimize impacts to bighorn sheep (W13), and possibly, transplanting cacti (particularly smaller saguaros) (V4). Potential impacts to desert tortoise could be reduced by identifying site-specific occurrences (W9) and by having an SCE contracted biological monitor certified by USFWS present during construction activities that involve earth-moving equipment (W5). The monitor would move any tortoises (in burrows, cover-sites, or free-roaming on the surface) that could be impacted (W5;8). An SCE contracted tortoise biologist would present a pre-construction class on tortoise ecology and mitigation to project personnel (W4). The first approximately 3 miles of this link cross agricultural lands where no impacts to any sensitive species would occur.

Link 2 - Potentially adverse impacts to wildlife are possible on this segment, primarily associated with the known and expected occurrences of desert bighorn sheep in the KOFA NWR. There is a known high-density bighorn population and movement corridor between the New Water Mountains and the KOFA Mountains through which a portion of this link would traverse (Milepost 18.0 and Milepost 34.0). Additionally, due to the presence of bighorn ewes throughout the year in the Livingston Hills, south of the corridor from Mileposts 29.0-34.0, it is assumed that the Livingston Hills are utilized as a lambing area (Henry 2003). However, mitigation measures would be effective in minimizing impacts. While this link lies in a BLM Category 2 area for desert tortoise, recent field observations indicate that actual densities of desert tortoise are low in this area. Highly diverse wash complexes (primarily at Alamo and Tyson washes), and other wash crossings that provide avian nesting habitat and resources for a variety of wildlife species, would not be substantially impacted by construction or operation of the proposed transmission line.

Direct temporary impacts could include disturbance to bighorn sheep from human presence and construction related noise, collapse of tortoise burrows, disturbance and removal of existing native vegetation that provides food and shelter for tortoises, and loss of some avian nesting habitat along washes. Impacts to native vegetation would include clearing of vegetation from tower sites and some disturbance of vegetation at wire-pulling and splicing sites. Direct permanent impacts would be limited to minor habitat loss from the placement of tower foundations, but would not exceed 0.01 acre per tower site and therefore would be less than significant.

Mitigation to reduce potential impacts could include imposing seasonal limitations on construction activities to minimize conflict with bighorn sheep, specifically during lambing season (January 1 through April 30) (W13). However, the lambing areas in the Livingston Hills are approximately 1 mile southwest of the proposed transmission line right-of-way, and should not be impacted by construction noise or human presence. Additionally, careful local adjustment in tower foundation placement (V1), minimizing access road construction (V7;W10), avoiding

upland areas of desert tortoise habitat (W17), and possibly, transplanting cacti (particularly smaller saguaros) (V4) would minimize impacts. Potential impacts to desert tortoise could be reduced by identifying site-specific occurrences (W9) and by having an SCE contracted biological monitor certified by USFWS present during construction activities that involve earth-moving equipment (W5). The monitor would move any tortoises (in burrows, cover-sites, or free-roaming on the surface) that could be impacted (W5;8). An SCE contracted tortoise biologist would present a pre-construction class on tortoise ecology and mitigation to project personnel (W4).

Additionally, within the KOFA NWR (Milepost 9.0 to Milepost 34.1), no destruction or damage would be allowed to any saguaro, barrel cacti, mesquite, or ironwood trees, either during construction or maintenance of the transmission line. Some clearing of vegetation, at the direction of the compliance officer, may require use of hand tools to protect resources (V6). Scalping of topsoil and removal of low-growing vegetation would be permitted only under the direction of the compliance officer (V6).

Link 6 - A potentially significant impact exists on this link, primarily associated with a low-density bighorn area at Copper Bottom Pass in the Dome Rock Mountains. Additionally, bighorn lambing areas are present between Milepost 0.0 through 6.0. Potential habitat for desert tortoise exists for approximately the first 8.4 miles of this link (Milepost 0.4 to Milepost 8.8). This area is designated a Category 3 area for desert tortoise by the BLM, but tortoise density in this area is very low. Vegetation is about equally divided between creosote bush-bursage scrub and mixed paloverde-creosote scrub.

Direct temporary impacts could include disturbance to bighorn sheep from human presence and construction related noise, collapse of tortoise burrows, disturbance and removal of existing native vegetation that provides food and shelter for tortoises, and loss of some avian nesting habitat along washes. Impacts to native vegetation would include clearing of vegetation from tower sites and some disturbance of vegetation at wire-pulling and splicing sites. Direct

permanent impacts would be limited to minor habitat loss from the placement of tower foundations, but would not exceed 0.01 acre per tower site.

Mitigation to reduce impacts could include imposing seasonal limitations on construction activities to minimize conflict with bighorn sheep, specifically during lambing season (January 1 through April 30) (W13). Additionally, careful local adjustment in tower foundation placement (V1), minimizing access road construction (V7;W10), and avoiding upland areas of desert tortoise habitat (W17) would reduce impacts. Potential impacts to desert tortoise could be reduced by identifying site-specific occurrences (W9) and by having an SCE contracted biological monitor certified by USFWS present during construction activities that involve earth-moving equipment (W5). The monitor would move any tortoises (in burrows, cover-sites, or free-roaming on the surface) that could be impacted (W5;8). An SCE contracted tortoise biologist would present a pre-construction class on tortoise ecology and mitigation to project personnel (W4). Direct permanent impacts would be limited to minor habitat loss from the placement of tower foundations, but would not exceed 0.01 acre per tower site.

Link 8 - This section of the line would cross the Colorado River. Wildlife present here would be limited primarily to some birds, principally waterfowl, which are attracted to the water in the river. However, at the crossing point, the river is channelized and lined with riprap. This has precluded the development of riparian and emergent vegetation that could provide nesting and cover for waterfowl species. Vegetation along this section consists of creosote-bursage scrub on the foothills east of the river, descending to medium height salt cedar and mesquite riparian thicket on the current floodplain, and continuing west of the river as agricultural fields in California.

Direct temporary impacts for this section of the transmission line would include clearing of vegetation from access, spur roads, and tower sites. Due to the short distance of this link, wire-pulling and splicing sites could be placed outside the area of influence to the Colorado River, and would not contribute to disturbance in this area. Some minor unavoidable long-term collision

hazard for birds (especially waterfowl) would be present where the line crosses the Colorado River. Direct permanent impacts would be limited to minor habitat loss from the placement of tower foundations, but would not exceed 0.01 acre per tower site. No impacts to aquatic species should occur from the construction or operation of this transmission line.

Mitigation to reduce potential impacts could include careful local adjustment in tower foundation placement (V1) and minimizing access road construction in riparian habitats (V7;W10). Due to the large size of the 500kV conductor wire bundles, the potential collision hazard this presents for birds is less than significant. Matching the spans and conductor heights between the proposed Devers-Harquahala towers and the existing DPV1 towers would reduce the potential for bird impacts (W1) at the river crossing. The Colorado River can be successfully spanned at this crossing due to its relatively narrow width at this point, and no mitigation for any aquatic species present would be required (V1;8;W2).

6.1.8.2 California

Impacts to sensitive plants and wildlife are expected to be less than significant. The application of appropriate mitigation measures as required by the BLM Right-of-Way Grant would provide additional reductions in impacts with construction of the proposed Devers-Harquahala transmission line in California. SCE will compensate for loss of tortoise habitat via monetary contribution to an appropriate fund.

Link 10 - The first 11 miles of this section traverse existing agricultural lands. This link crosses numerous irrigation canals in this area, some of which support permanent stands of cattail and other aquatic vegetation. The remaining portion of this section (Milepost 11.0 to 17.9) is through sandy soils in creosote bush-bursage scrub habitat. This latter section is potential habitat for the flat-tailed horned lizard.

Direct temporary impacts to wildlife in the agricultural lands portion of this link could occur where the line crosses irrigation canals. Impacts would be limited to disturbance of waterfowl by human presence and construction noise. Direct temporary impacts to flat-tailed horned lizard habitat would occur to approximately 31 acres from ground-disturbing activities at tower sites, and wire-pulling and splicing sites between Milepost 11.0 and Milepost 17.9 based on ground disturbance estimates noted in Table 3-5, Chapter 3. Direct permanent impacts would be limited to minor habitat loss from the placement of tower foundations, but would not exceed 0.01 acre per tower site.

Since the irrigation canals are no more than 20 feet in width, potential impacts to these areas would be avoided by siting towers to span the canals (V1;8;W2). The ground disturbance impacts to the creosote-bursage habitat in the western portion of this link are reversible by post-construction reseeding efforts and naturally occurring erosional process of wind and water on the sandy soils present in the area. The BLM has established planning boundaries for the flat-tailed horned lizard, but none of these are within the Devers-Harquahala study corridor, and do not require specific mitigation. The resulting level of impact for this link would be less than significant.

Link 12 – This short section (2.9 miles) of the transmission line traverses creosote-bursage habitat for its full length. Potential for significant impacts to wildlife species and habitat exist on this segment, and are associated with the presence of desert tortoise and its habitat, and potential flat-tailed horned lizard habitat.

This proposed transmission line could result in potentially significant impacts to the desert tortoise if impacts are not adequately mitigated. The transmission line passes through critical habitat for the Mojave desert tortoise in the Chuckwalla Desert Wildlife Management Area (DWMA) of the Eastern Colorado Recovery Unit established by the Desert Tortoise (Mojave Population) Recovery Plan (USFWS 1994). The entire Link 12 is considered Category 1 habitat for desert tortoise by the BLM.

Direct temporary impacts would occur primarily during construction and could result in the loss of habitat including collapse of tortoise burrows and disturbance and removal of existing native vegetation that provides food and shelter for tortoises. Loss of individual desert tortoises could also occur. However, because the proposed Devers-Harquahala transmission line would parallel the existing DPV1 line, no new access roads are expected to be created and, thus, no additional collection or mortality of desert tortoises by private individuals related to new access is expected. Since most operation and maintenance activities for the two lines would be performed concurrently, additional operations and maintenance impacts to the tortoise from the proposed transmission line are expected to be less than significant. A significant impact in the decline of the desert tortoise has been due to the increase in the presence of ravens in tortoise habitat. Although the proposed Devers-Harquahala transmission line would provide additional perch and nesting sites for ravens, raven predation of young desert tortoises should not be a significant problem in desert tortoise habitat along the line. Research has indicated that the largest concentrations of ravens occur in areas that provide food opportunities, such as sanitary landfills, sewage disposal facilities, agricultural fields, and along heavily used major roads. With the exception of I-10, the proposed Devers-Harquahala transmission line would not pass near any such facilities within desert tortoise habitat. No additional impacts are expected to occur, however, because studies indicate that desert tortoise populations are generally depleted within 1 mile of major, paved roads (Nicholson 1978) such as I-10, and the proposed Devers-Harquahala and existing DPV1 500kV lines are close to I-10.

Approximately 13 acres of this habitat would be impacted by ground-disturbing activities during construction of tower sites based on ground disturbance estimates noted in Table 3-5, Chapter 3. Because Link 12 is only 2.9 miles long, wire-pulling and splicing sites are unlikely to be needed along this transmission line link. Direct permanent impacts would be limited to minor habitat loss from the placement of tower foundations, but would not exceed 0.01 acre per tower site and therefore would be less than significant.

Potential impacts for Link 12 would be reduced by spanning washes (V1;8;W2), careful local adjustment in tower foundation placement (V1), minimizing construction access in xeroriparian wash woodlands (V7;W10), and identifying site-specific occurrences of sensitive species (W9). Potential impacts to desert tortoise could be reduced by identifying site-specific occurrences (W9) and by having an SCE contracted biological monitor certified by USFWS present during construction activities that involve the use of earth-moving equipment in desert tortoise habitat (W5). The monitor would move any tortoises (in burrows, cover-sites, or on the surface) that could be impacted (W5;8). An SCE contracted tortoise biologist would present a pre-construction class on tortoise ecology and mitigation to project personnel (W4). A maximum 25 mph speed limit would be in effect along all access roads associated with the project (W6).

The BLM has established planning boundaries for the flat-tailed horned lizard, but none of these are within the proposed Devers-Harquahala transmission line study corridor, and do not require specific mitigation. Mitigation for this section would be limited to post-construction reseeding of affected areas (W12).

Application of the mitigation measures as stated would reduce impacts for this link to less than significant.

Link 13 - Potentially significant impacts to plant and wildlife species and habitat may occur on this link, and are associated with the presence of desert tortoise and its habitat, flat-tailed horned lizard habitat, xeroriparian wash woodlands, wash crossings, and occurrences of Alverson's pincushion cactus, Coachella Valley milkvetch, California silverbush, and California barrel cactus. However, mitigation measures should be effective in reducing any impacts to these resources on this link to less than significant.

Potentially significant impacts to the desert tortoise may occur if impacts are not adequately mitigated. The proposed Devers-Harquahala transmission line passes through critical habitat for

the Mojave desert tortoise in the Chuckwalla DWMA of the Eastern Colorado Recovery Unit established by the Desert Tortoise (Mojave Population) Recovery Plan (USFWS 1994). The lands through which the proposed transmission line passes on this link are classified by the BLM as Category 1 desert tortoise habitat between approximately Milepost 0.0 to Milepost 7.0 and Milepost 23.0 to Milepost 69.5. Milepost 7.0 to Milepost 23.0 are placed in the BLM Category 3 habitat. Potential impacts to desert tortoise would be the same as discussed for Link 12 above.

Habitat for desert tortoise is present for the full length of this link, and approximately 310 acres of this habitat could be impacted by ground-disturbing activities during construction of tower sites, based on ground disturbance estimates noted in Table 3-5, Chapter 3. Direct permanent impacts would be limited to minor habitat loss from the placement of tower foundations, but would not exceed 0.01 acre per tower site.

Habitat for the flat-tailed horned lizard is present between Milepost 0.0 and Milepost 5.0, and Milepost 55.8 to Milepost 61.0 of this link. Direct temporary impacts to flat-tailed horned lizard habitat would occur to approximately 45 acres from ground-disturbing activities at tower sites, and wire-pulling and splicing sites. This assumes that neither a materials storage facility, nor a concrete batch plant would be placed within these short distances. There could be some minor loss of avian nesting habitat along washes due to the removal of trees and other vegetation. Impacts to Alverson's pincushion cactus, California silverbush, California barrel cactus, and other native vegetation would include clearing of vegetation from tower sites and crane pads, and some disturbance of vegetation at wire-pulling and splicing sites. Direct permanent impacts would be limited to minor habitat loss from the placement of tower foundations, but would not exceed 0.01 acre per tower site.

Potential impacts on this segment would be reduced by spanning washes (V1;8;W2), careful local adjustment in tower foundation placement (V1), minimizing construction access in xeroriparian wash woodlands (V7;W10), and identifying site-specific occurrences of sensitive species (W9). Potential impacts to desert tortoise could be reduced by identifying site-specific

occurrences (W9) and by having a SCE contracted biological monitor certified by USFWS present during construction activities that involve the use of earth-moving equipment in desert tortoise habitat (W5). The monitor would move any tortoises (in burrows, cover-sites, or on the surface) that could be impacted (W5;8). An SCE contracted tortoise biologist would present a pre-construction class on tortoise ecology and mitigation to project personnel (W4). A maximum 25 mph speed limit would be in effect along all access roads associated with the project (W6).

The BLM has established planning boundaries for the flat-tailed horned lizard, but none of these are within the proposed Devers-Harquahala study corridor, and do not require specific mitigation. However, ground-disturbance impacts to flat-tailed horned lizard are reversible by post-construction reseeding efforts (W12) and naturally occurring erosional process of wind and water on the sandy soils present in the area. Where applicable, impacts to California barrel cactus and Alverson's pincushion cactus would be reduced by transplanting in areas where these plants occur on tower sites or access roads (V4). In the case of California silverbush, it may be necessary to adjust tower site locations to avoid larger populations of this plant (V1). Direct permanent impacts would be limited to minor habitat loss from the placement of tower foundations, but would not exceed 0.01 acre per tower site.

Direct temporary impacts could include removal of plants and disturbance of habitat of the Coachella Valley milkvetch. The Coachella Valley milkvetch is known within the area of Mileposts 27.9-30.2, with additional habitat for the species present between Mileposts 26.5-27.9 and Mileposts 30.2-31.8. Additionally, ground-disturbing activities could encourage establishment of invasive non-native plants that could compete with the Coachella Valley milkvetch. However, the Coachella Valley milkvetch would probably benefit from the kinds of soil disturbance associated with the construction of a transmission line. Pre-construction surveys for Coachella Valley milkvetch would need to be completed prior to construction of towers to minimize impact to this species (V2). Post-construction reseeding efforts (W12), along with the naturally occurring erosional process of wind and water on the sandy soils present in the area, would help restore the habitat for this species.

Application of appropriate mitigation measures would reduce potentially significant impacts on this link to less than significant.

Link 14 - Potentially significant impacts to wildlife are possible on this segment, primarily associated with the known and expected occurrences of the Coachella Valley milkvetch, suitable habitat for the Coachella Valley fringe-toed lizard, and the presence of desert tortoise and its habitat. This segment of the line passes through suitable habitat for the Coachella Valley fringe-toed lizard in the Coachella Valley Preserve and other areas. Presence of desert tortoises and suitable tortoise habitat are present for approximately 7.5 miles of this segment (Milepost 0.0 to Milepost 7.5). There is potential habitat for the flat-tailed horned lizard in areas of creosote bush scrub. Suitable habitat for California barrel cactus is present for approximately the first 7 miles of this segment. Palm oases are located north of the centerline of the project, but are not close enough to be affected by the construction of the transmission line.

The Coachella Valley fringe-toed lizard could be impacted by taking of individuals and disturbance of habitat during construction operations. Other impacts could include collapse of tortoise burrows and disturbance and removal of existing native vegetation that provides food and shelter for tortoises. Additional concerns for the desert tortoise would be similar to those discussed for Link 13 above.

Direct temporary impacts could include removal of plants and disturbance of habitat of the Coachella Valley milkvetch. Impacts and mitigation would be similar to those discussed for Link 13 above.

Direct temporary impacts to flat-tailed horned lizard habitat would occur to approximately 108 acres from ground-disturbing activities at tower sites, and wire-pulling and splicing sites between Milepost 7.5 and Milepost 31.8, based on ground disturbance estimates noted in Table 3-5, Chapter 3. Impacts to California barrel cactus and other native vegetation would include clearing of vegetation from tower sites and crane pads, materials storage sites, and some disturbance of

vegetation at wire-pulling and splicing sites. Direct permanent impacts would be limited to minor habitat loss from the placement of tower foundations, but would not exceed 0.01 acre per tower site.

A qualified SCE contracted biological monitor certified by USFWS would be present with construction crews on a daily basis to clear areas for the Coachella Valley fringe-toed lizard, flat-tailed horned lizard, and other sensitive species in the Coachella Valley Preserve and other sand dune communities within this link between Milepost 7.6 and Milepost 31.8 (W11). Despite crossing designated critical habitat for the Coachella Valley fringe-toed lizard, construction impacts of this segment would be less than significant by avoiding habitat occupied by this species (W2;10). These areas would be delineated in pre-construction surveys (V2).

The USFWS issued a Section 10(a) incidental take permit in 1986 for the Coachella Valley fringe-toed lizard that allowed take of this species during land use development provided the requirements of the Coachella Valley Habitat Conservation Plan were met. The compensation for right-of-way take mitigation is currently $600/acre for previously undisturbed land that is cleared during land use development projects (California Regulatory Notice Register 2001; Barrows 2003).

The proposed California Desert Conservation Area Plan Amendment for the Coachella Valley and FEIS does not describe mitigation measures for any specific special status species other than desert bighorn sheep (BLM 2002a). This document states that the BLM will defer to recommendations from available recovery plans, research information and data, and other documents on special status species in establishing management prescriptions and guidelines for these species. The goal of the management prescriptions selected should be to prevent additional listings of sensitive species in the Coachella Valley. Because of the lack of specific mitigation guidelines in the Coachella Valley amendment, and the deference to existing plans and methods, the following mitigation measures from the Northern and Eastern Colorado Desert Coordinated

Management Plan FEIS, Appendix D (BLM 2002c), would be an appropriate application for the Coachella Valley region.

Mitigation measures for desert tortoise that apply to all construction and maintenance of power transmission lines are as follows:

- Surveys - When access along the utility corridor already exists, pre-construction surveys for transmission lines should provide 100 percent coverage for any areas to be disturbed and within a 100-foot buffer around the areas of disturbance. When access along the utility corridor does not already exist, pre-construction surveys for transmission lines should follow standard protocol for linear projects.

- Access - To the maximum extent possible, access for transmission line construction and maintenance should occur from public roads and designated routes.

- Disturbed Areas - To the maximum extent possible, transmission pylons and poles, equipment storage areas, and wire-pulling sites should be sited in a manner that avoids desert tortoise burrows.

- Restoration - Whenever possible, spur and access roads and other disturbed sites created during construction should be recontoured and restored.

- Ravens - All transmission lines should be designed in a manner that would reduce the likelihood of nesting by common ravens. Each transmission line company should remove any common raven nests that are found on its structures. Transmission line companies must obtain a permit from the USFWS's Division of Law Enforcement to take common ravens or their nests.

Potential impacts to desert tortoise could be reduced to less than significant by identifying site-specific occurrences (W9) and by having a SCE contracted biological monitor certified by USFWS present during construction activities that involve the use of earth-moving equipment in desert tortoise habitat (W5). The monitor would move any tortoises (in burrows, cover-sites, or on the surface) that could be impacted (W5;8). Additionally, careful local adjustment in tower foundation placement during construction could minimize impacts (V1). An SCE contracted tortoise biologist would present a pre-construction class on tortoise ecology and mitigation to project personnel (W4). A maximum 25 mph speed limit would be in effect along all access roads associated with the project (W6).

The BLM has established planning boundaries for the flat-tailed horned lizard, but none of these are within the Devers-Harquahala study corridor, and do not require specific mitigation. Other areas to be avoided are occurrences of California barrel cactus and desert tortoise habitat, which could be identified once tower sites and spur road alignments have been established in the field.

Application of the appropriate mitigation measures on this link would reduce impact levels to less than significant.

Link 16 - Potentially significant impacts to plants and wildlife are possible on this segment, and are associated with suitable habitat for Coachella Valley milkvetch, Coachella Valley fringe-toed lizard, and probable habitat for flat-tailed horned lizard. However, these impacts could be reduced to less than significant by implementation of the efforts discussed below. Vegetation is mostly creosote bush scrub with a sand dune community present between Milepost 1.2 and Milepost 2.4. Wash crossings are vegetated with white burrobrush, a few smoketrees, and other associated vegetation.

Direct temporary impacts could include removal of plants and disturbance of habitat of the Coachella Valley milkvetch. Additionally, ground-disturbing activities could encourage

establishment of invasive non-native plants that could compete with the Coachella Valley milkvetch. However, the Coachella Valley milkvetch would probably benefit from the kinds of soil disturbance associated with the construction of a transmission line. The Coachella Valley fringe-toed lizard could be impacted by crushing of individuals and disturbance of habitat during construction operations. Direct temporary impacts to flat-tailed horned lizard habitat would occur to approximately 13 acres from ground-disturbing activities at tower sites, and wire-pulling and splicing sites between Milepost 0.0 and Milepost 3.0, based on ground disturbance estimates noted in Table 3-5, Chapter 3. Direct permanent impacts would be limited to minor habitat loss from the placement of tower foundations, but would not exceed 0.01 acre per tower site.

Pre-construction surveys for Coachella Valley milkvetch would be completed prior to construction of towers to minimize impact to this species (V2). Post-construction reseeding efforts (W12), along with the naturally occurring erosional process of wind and water on the sandy soils present in the area, would help restore the habitat for this species. An SCE contracted biological monitor certified by USFWS would be present with construction crews on a daily basis to clear areas for the Coachella Valley fringe-toed lizard, flat-tailed horned lizard, and other sensitive species in sand dune communities in this link between Milepost 0.0 and Milepost 5.0 (W11). Despite crossing designated critical habitat for the Coachella Valley fringe-toed lizard, construction impacts of this segment would be minimized by avoiding habitat occupied by this species. These areas could be delineated in pre-construction surveys (V2). Reducing impacts to populations of the Coachella Valley fringe-toed lizard could be aided by avoiding any activities that would tend to create wind barriers that might result in sand stabilization and by spanning areas of windblown sand where possible (W18). The BLM has established planning boundaries for the flat-tailed horned lizard, but none of these are within the proposed Devers-Harquahala transmission line study corridor, and do not require specific mitigation. It is likely that avoidance of Coachella Valley fringe-toed lizard habitat would also avoid impacts to the flat-tailed horned lizard because of their similar habitat requirements.

Application of the appropriate mitigation measures on this link would reduce impact levels to less than significant.

In addition to significance determinations and mitigation measures to be developed through the Section 7 Consultation process and utilization of BLM measures from the Right-of-Way Grant, the following mitigation and minimization measures from the Coachella Valley Multiple Species Habitat Conservation Plan (California Department of Fish and Game, et al. October 15, 2004 – Public Review Draft) would be followed:

- Avoid the introduction of noxious weeds and/or other invasive species through standard noxious weed measures. This will benefit most of the species covered by the plan.

- Vehicular travel must be on established roads to the maximum extent practicable. Any off-road vehicle use should be strongly discouraged. This will benefit many of the species covered by the plan.

- Avoid sand compaction at all sites in the Coachella Valley. This will benefit such species as the giant sand treader cricket, Coachella Valley Jerusalem cricket, and Coachella Valley milkvetch.

- Avoid vehicular travel in washes to protect triple-ridged milkvetch.

- No activities whatever should occur in wetland areas.

- No clearing of or other disturbance to riparian habitats. If unavoidable, riparian habitats must be replaced or restored. This action will benefit several riparian bird species including summer tanager, yellow warbler, yellow breasted chat, least Bell's vireo, and southwestern willow flycatcher.

- Avoid impact to mesquite-dominated habitats to protect crissal thrasher.

- Minimize impact to or removal of creosote bush to benefit LeContes's thrasher.

- Avoid any alterations to the vegetation structure of Washington fan palm oases to benefit southern yellow bat.

- Avoid any alterations of mesquite hummock habitat to benefit the Coachella valley round-tailed ground squirrel.

6.1.9 Noise

Noise impacts expected to occur from construction or operation of the proposed Devers-Harquahala transmission line would be less than significant.

The proposed construction would comply with local noise ordinances. Typical municipal ordinances stipulate that activities producing ambient noise should not exceed 55-50 dBA during nighttime hours (10 p.m. to 7 a.m.) and 60-55 dBA during daytime hours (7 a.m. to 10 p.m.) at residential property lines or sensitive areas. However, exemptions include temporary construction during daytime hours except on Sundays and federal holidays. There may be a need to work outside of the aforementioned local ordinances in order to take advantage of low electrical draw periods during the nighttime hours. SCE would comply with variance procedures requested by local authorities if required.

6.1.10 Public Services and Utilities

No potentially significant impacts were identified for public services and utilities.

6.1.11 Visual Resources

Visual impacts are expected to be less than significant as a result of construction and operation of the proposed Devers-Harquahala 500kV transmission line.

Significant visual impacts can occur where the visual contrast resulting from construction disturbances (e.g., roads and vegetation clearing) and the presence of the transmission line would substantially alter the scenic quality of the landscape and dominate views from sensitive viewpoints resulting in high impacts to these viewers. These conditions occur in areas where the transmission line would be in the immediate foreground zone, with no existing transmission facilities obstructing or dominating views from sensitive viewpoints, in previously undisturbed landscapes. Other areas of potentially significant impact include locations where the transmission line would cross previously undisturbed, highly scenic landscape (Class A), or conflict with the existing or planned future image type(s). Because the proposed transmission line would be constructed within an existing utility corridor, impacts to highly scenic landscapes and sensitive viewers would be less than significant.

Following is a summary of potential impacts as defined by CEQA, and mitigation measures that would be effective in reducing impacts for the proposed transmission project.

6.1.11.1 Arizona and California

Substantially Degrade the Existing Visual Quality of the Site and its Surroundings

While the proposed 500kV transmission line crosses areas designated as Class A scenery, agricultural, and other developed lands (e.g., residential areas), the potential impacts to scenic quality visual image types and sensitive viewers are anticipated to be less than significant. The new facilities would be constructed and maintained within a modified utility corridor, requiring

no additional long-term disturbance outside of this corridor. Mitigation measures that avoid and minimize new access in the corridor would further reduce impacts.

Adversely Impact Scenic Vistas

There are no state-designated scenic vistas located within or adjacent to the Devers-Harquahala study corridor, and therefore no scenic vistas would be impacted by the proposed upgrade.

Adversely Affect State Scenic Roads

The proposed 500kV transmission line would not cross or be located adjacent to any state-designated scenic roads, and therefore no scenic road would be impacted.

Create a New Source of Substantial Light or Glare Adversely Impacting Views

Impacts resulting from the presence of conductors and transmission line towers will be less than significant, as non-specular conductors will be utilized and the finish on structures will be dulled.

Mitigation Measures

The following mitigation measures including those identified in the BLM Right-of-Way Grant Exhibit B, in Appendix B, would be implemented to reduce potential visual impacts:

1. Non-specular conductors will be used to reduce glare and visual contrast.

3. At all highway and recreation routes-of-travel crossings, including the Colorado River, towers will be placed at the maximum feasible distance, and when feasible, except in locations where matching existing tower spacing is deemed appropriate (see Mitigation Measure 2).

4. Improvements to existing access and new access will be accomplished according to Mitigation Measures 1 and 2 as identified under soils.

8a. Standard tower spacing would be modified to correspond with spacing of existing transmission line towers where feasible and within limits of standard tower design to reduce visual contrast.

8b. Towers would be placed so as to avoid features and/or to allow conductors to clearly span the feature (within limits of standard tower design) to minimize the amount of sensitive feature disturbed and/or reduce visual contrast (e.g., avoiding skyline situations through placement of tower to one side of a ridge or adjusting tower location to avoid highly visible locations and utilize screening of nearby landforms).

The following mitigation measure was also included in the BLM right-of-grant, Exhibit B Appendix B:

2. For the proposed alignment, tower spacing will correspond to the spacing of the existing transmission line structures. Additionally, new tower heights will be adjusted such that the top elevations of each set of towers (new and existing) are horizontal with each other. This will coordinate perceptions of towers and conductors as one element. Site-specific conditions will determine when such mitigation is feasible. Other exceptions to these two measures are where towers will be sited to avoid sensitive features and/or to allow conductors to clearly span features.

SCE will comply with the above mitigation measure to the extent possible. However, the ISO has specified that the capacity of the line be 2700 amps under normal conditions and 3600 amps under emergency conditions. This capacity rating is an increase from the 1988 DPV2 capacity rating. This capacity rating necessitates that the heights of some of the proposed Devers-Harquahala towers be slightly taller than, and in some locations tower spacing may not correspond to the adjacent DPV1 structures, to provide adequate ground clearance.

6.1.12 Cultural Resources

Cultural resource impacts are expected to be less than significant from construction and operation of the proposed Devers-Harquahala 500kV transmission line. The following sections describe potential impacts and mitigation measures that would be effective in minimizing impacts to archaeological, ethnographic, historic, and paleontological resources.

Impacts to significant or potentially significant cultural resources result from earth-disturbing effects of project construction and operation. The impacts are most likely associated with tower pad or access road grading, digging of tower footings, tower erection, or conductor pulling and splicing. As specified in the BLM Right-of-Way Grant, measures to mitigate these effects include:

1. Prior to construction and all other surface disturbing activities, the Holder shall have conducted and submitted for approval by the Authorized Officer an inventory of cultural resources within the project's APE. The nature and extent of this inventory shall be determined by the Authorized Officer in consultation with the appropriate State Historic Preservation Officer (SHPO) and shall be based upon project engineering specifications.

2. As part of the inventory, the Holder shall conduct field surveys of sufficient nature and extent to identify cultural resources that would be affected by tower pad construction,

access road installation, and transmission line construction and operation. At a minimum, field surveys shall be conducted along newly proposed access roads, new construction yards, and any other projected impact areas outside of the previously surveyed corridor. Site-specific field surveys also shall be undertaken at all projected areas of impact within the previously surveyed corridor that coincide with previously recorded cultural resource locations. The selected right-of-way shall be staked prior to the cultural resource field surveys.

3. As part of the inventory report, the Holder shall evaluate the significance of all affected cultural resources and provide recommendations with regard to their eligibility for the NRHP. Determinations of NRHP eligibility will be made by the Authorized Officer in consultation with the appropriate SHPO.

4. Upon approval of the inventory report by the Authorized Officer, the Holder shall prepare and submit for approval a cultural resource treatment plan for NRHP eligible cultural resources to mitigate identified impacts. Avoidance, recordation, and data recovery will be used as mitigation alternatives.

5. The Authorized Officer may require the relocation of the line, ancillary facilities, or temporary facilities or work areas, if any, where relocation would avoid or reduce damage to cultural resource values.

6. If avoidance of specific cultural resources is not feasible, treatment shall be carried out as determined by the Authorized Officer in consultation with the appropriate SHPO.

7. When necessary to relocate the proposed line, ancillary facilities, temporary facilities, or work areas as a result of inventory, on-site avoidance decisions, or the Holder's approved request for relocation, the Holder shall inventory the proposed new locations for cultural resources and provide inventory results to the Authorized Officer prior to construction.

Any mitigation deemed necessary by the Authorized Officer shall be completed prior to undertaking any surface disturbing activities.

8. All cultural resource work undertaken by the Holder on public lands shall be carried out by qualified professionals designated on a currently valid Cultural Resource Use Permit for the appropriate state.

9. Notices to proceed will be issued following completion, and approval by the Authorized Officer, of any fieldwork determined necessary through the inventory, evaluation, and consultation process described above.

10. Vehicles and equipment shall be confined and operated only within areas specified by the Authorized Officer.

11. Unauthorized collection of artifacts or other cultural materials on or off the right-of-way by the Holder, his representatives, or employees will not be allowed. Violators will be subject to prosecution under the appropriate state and federal laws. Unauthorized collection may constitute grounds for the issuance of a stop work order.

6.1.12.1 Arizona

Archaeology

No NRHP eligible or potentially eligible archaeological resources appear threatened by impact from the proposed project. Therefore, no mitigation measures are offered.

Ethnography

Because the project is proposed to be constructed adjacent to an existing high voltage transmission line, indirect effects to TCPs are considered negligible. No TCPs or potential TCPs have been identified within the project APE (defined as within 100 feet of project tower pads and access roads). Apart from archaeological sites within the APE, about which Native Americans have expressed a general concern, no significant ethnographic values have been identified that could be affected by the project. Therefore, no site specific mitigation is offered for ethnographic resources. As a generic mitigation measure, however, the applicant has, at the suggestion of BLM staff, agreed to undertake an appropriate update of the landmark ethnographic study Persistence and Power (Bean and Vane 1978), which was prepared for the DPV1 project.

History

No NRHP eligible or potentially eligible archaeological resources have been identified in the project APE. Therefore, no mitigation measures are offered.

Paleontology

Approximately 88.7 miles of high or undetermined areas of paleontological sensitivity are crossed by the proposed transmission line between Harquahala and the California border. Impacts to significant paleontological resources will be mitigated by conducting a preconstruction survey in areas of high or undetermined paleontological sensitivity to identify and collect surface specimens that could be affected by project construction. Paleontological monitoring of earth-disturbing construction activities and salvage of significant specimens will occur in areas of high sensitivity.

6.1.12.2 California

Archaeology

Eighteen NRHP eligible or potentially eligible archaeological resources have been identified within the project APE. These resources are designated RIV-53T(c), RIV-53T(d), RIV-250T, RIV-343T(b), RIV-343(c), RIV-650T, RIV-673T, RIV-1119, RIV-1383, RIV-1813, RIV-1814, RIV-1815, RIV-1816, RIV-1819, RIV-1821, RIV-1822, P33-13574, and P33-13576. These resources may be affected by project construction and operation. Project impacts to these resources can be mitigated to acceptable levels by avoiding these resources through minor adjustments to the location of earth-disturbing project activities, institution of protection measures, application of appropriate data recovery archaeological methods, or several of these methods combined. In accordance with federal regulations at 36 CFR 800, an Historic Properties Management Plan (HPMP) will be prepared for the project addressing resource management issues. The HPMP will be consummated by preparation and execution of a two-party agreement document between the BLM and California SHPO.

Ethnography

Because the proposed 500kV transmission line would be constructed adjacent to an existing high voltage transmission line, indirect effects to TCPs are considered negligible. Only one TCP or potential TCP has been identified with the project APE (defined as within 100 feet of the project tower pads and access roads). This resource is Edom Hill forming the northwestern end of the Indio Hills. Edom Hill is considered sacred to the Agua Caliente Indian Tribe. The project corridor crosses approximately 3 miles of the lower slopes of Edom Hill including 0.1 mile of Agua Caliente Indian Reservation land. Incremental effects to the Agua Caliente Native American belief system from construction and operation of the proposed project are thought to be minimal due to the presence of the DPV1 transmission line and a gas pipeline in the same

area. Native Americans also have expressed a general concern regarding archaeological sites within the APE.

No site specific mitigation has been identified for ethnographic resources in the project APE. As a generic mitigation measure, however, the applicant has at the suggestion of BLM staff agreed to undertake an appropriate update of the landmark ethnographic study Persistence and Power (Bean and Vane 1978), which was prepared for the DPV1 project.

History

Thirteen NRHP eligible or potentially eligible historic-era resources have been identified within the project APE. These resources are designated RIV-1117H(a), RIV-1117H(b), RIV-1809H, RIV-1818H, RIV-7489H, RIV-7490, P33-13588, P33-13596, P33-13598, P33-13600, P33-13601, P33-13602, P33-13603. These resources could be affected by project construction and operation. Project impacts to these resources could be mitigated to acceptable levels by avoiding these resources through minor adjustments to the location of earth-disturbing project activities, institution of protection measures, application of appropriate data recovery archaeological methods, or several of these mitigation measures combined. In accordance with federal regulations at 36 CFR 800, an HPMP would be prepared for the project addressing resource management issues. The HPMP would be consummated by preparation and execution of a two party agreement document between the BLM and California SHPO.

Paleontology

Between the California border and Devers, the proposed transmission line would traverse approximately 31 miles of high or undetermined areas of paleontological sensitivity. Project impacts to significant paleontological resources would be mitigated by conducting a

preconstruction survey in areas of high or undetermined paleontological sensitivity to identify and collect surface specimens that could be affected by project construction. Paleontological monitoring of earth-disturbing construction activities and salvage of significant specimens would occur in project areas of high sensitivity.

6.1.13 Public Health and Safety

No potentially significant impacts to public health and safety are anticipated.

6.2 WEST OF DEVERS 230kV TRANSMISSION UPGRADE

6.2.1 Introduction

Mitigation measures for the proposed west of Devers 230kV transmission upgrade would be similar to the measures previously listed under Section 6.1.

6.2.2 Land Use

Impacts to existing or planned land uses from construction and operation of the proposed west of Devers transmission upgrade would be less than significant.

Potential impacts where Link 102 crosses Summit Cemetery would be avoided by installation of new towers to match the spans with the existing towers within the existing utility corridor.

Two sand and gravel mines are crossed along Link 101, resulting in potential impacts. Impacts would be mitigated during construction to avoid critical mining periods and high volume earth-moving days. Operational mitigation would include spanning the mine.

Link 100 crosses the Pacific Crest National Trail, causing a potential temporary impact during construction. Temporary impacts also may occur where Link 102 crosses Noble Creek Regional Park and the Oak Valley Golf Course. Mitigation for construction includes avoiding high use periods and holidays. Mitigation for operation would require construction using structures placed parallel to existing structures to span and avoid displacement of recreational facilities.

6.2.3 Socioeconomics, Population, and Housing

No potentially significant impacts were identified for population and housing.

6.2.4 Geology and Soils

No potentially significant impacts were identified for geology and soils.

The following general mitigation measures would be applied to reduce impacts to geology and soils:

- The line would be located to minimize the disruption of any active mining operations.

- Appropriate tower design would be used to mitigate the potential for impacts from very strong seismic ground shaking. In general, an appropriate tower design which accounts for lateral wind loads and conductor loads during line stringing exceeds any credible seismic loading (ground shaking).

- Wherever possible to minimize the potential for slope instability, towers would be located to avoid gullies or active drainages, and over-steepened slopes.

New access roads, where required, would be designed to minimize ground disturbance from grading. They would follow natural ground contours as closely as possible and include specific features for road drainage, including water bars on slopes over 25 percent. Other measures could include drainage dips, side ditches, slope drains, and velocity reducers. Where temporary crossings are constructed, the crossings would be restored and repaired as soon as possible after completion of the discrete action associated with construction of the line. Side casting of soil during grading would be minimized. Excess soil would be properly stabilized or, if necessary, hauled to an approved disposal site.

6.2.5 Hydrology

No potentially significant impacts were identified for hydrological resources.

The following general mitigation measures would be applied to reduce impacts to hydrological resources:

- Construction equipment would be kept out of flowing stream channels except when absolutely necessary to construct crossings.

- Erosion control and hazardous material plans would be incorporated into the construction bidding specifications to ensure compliance.

- Appropriate design of tower footing foundations, such as raised foundations and/or enclosing flood control dikes, would be used to prevent scour and/or inundation by a 100-year flood.

- Towers would be located to avoid active drainage channels, especially downstream of steep hillslope areas, to minimize the potential for damage by flash flooding and mud and debris flows.

- Diversion dikes would be required to divert runoff around a tower structure if (a) the location in an active channel cannot be avoided, and (b) where there is a very significant flood scour/deposition threat.

- Runoff from roadways would be collected and diverted from steep, disturbed, or otherwise unstable slopes.

- Ditches and drainage concourses would be designed to handle the concentrated runoff, would be located to avoid disturbed areas, and would have energy dissipations at discharge points.

- Cut and fill slopes would be minimized by a combination of benching and following natural topography where possible.

6.2.6 Air Quality

Potentially significant impacts for air quality could occur depending on the phasing of the project construction. The following mitigation measures would be applied, where appropriate, to reduce impacts to air quality:

- Heavy duty off-road diesel engines would be properly tuned and maintained to manufacturers' specifications to ensure minimum emissions under normal operations.

- Apply water or chemical dust suppressants to unstabilized disturbed areas and/or unpaved roadways in sufficient quantity and frequency to maintain a stabilized surface.

- Water or water-based chemical additives would be used in such quantities to control dust on areas with extensive traffic including unpaved access roads; water, organic polymers, lignin compounds, or conifer resin compounds would be used depending on availability, cost, and soil type.

- Surfaces permanently disturbed by construction activities would be covered or treated with a dust suppressant after completion of activities at each site of disturbance.

- Vehicle speeds on unpaved roadways would be restricted to 15 miles per hour.

- Vehicles hauling dirt would be covered with tarp or other means.

- Site construction workers would be staged off-site at or near paved intersections and workers would be shuttled in crew vehicles to construction sites.

- As part of the construction contract, SCE would require bidders to submit a construction transportation plan describing how workers would travel to the job site.

- Emissions credits would be purchased to offset any emissions levels which are over the emissions thresholds.

6.2.7 Traffic and Transportation

No potentially significant impacts were identified for traffic and transportation.

6.2.8 Biology

Potentially significant impacts to desert tortoise, Coastal California gnatcatcher, least Bell's vireo, and Stephens' kangaroo rat were identified in Chapter 5, Section 5.2.8 with the indication that such impacts could be mitigated to less than significant with application of the appropriate mitigation measures.

For impacts to desert tortoise habitat affected by the proposed west of Devers transmission upgrade, the mitigation measures identified in Section 6.1.8.2, would be appropriate.

Mitigation for the coastal California gnatcatcher should include protocol-driven pre-construction surveys. If gnatcatchers are found to be present, suitable habitat should be avoided, including relocating towers and access. If habitat cannot be avoided, SCE should either restore damaged habitat, as at the Weapons Support Facility, Fallbrook Detachment, San Diego County (Soil Ecology and Research Group 2004), or participate in land set-aside programs such as the Natural Community Conservation Planning program (NCCP). Another potential mitigation action would be that of assisting in the provision of funding for monitoring programs that may be undertaken through the Western Riverside County Multiple Species Habitat Conservation Plan.

For least Bell's vireo, suitable habitat would be completely avoided by relocating tower sites and/or associated access roads. There would be approximately 0.8 acre of suitable habitat potentially affected by the proposed west of Devers 230kV upgrade; this small area should be entirely avoided. If avoidance is not possible and the habitat is damaged or lost, SCE should

participate in habitat banking programs or provide funding through the Western Riverside County Multiple Species Habitat Conservation Plan for plan-related monitoring of this species.

Stephens' kangaroo rat habitat would be avoided, where possible.

6.2.9 Noise

No potentially significant noise impacts are expected to occur from construction or operation of the proposed west of Devers 230kV transmission upgrade.

The proposed construction would comply with local noise ordinances. Typical municipal ordinances stipulate that activities producing ambient noise should not exceed 55-50 dBA during nighttime hours (10 p.m. to 7 a.m.) and 60-55 dBA during daytime hours (7 a.m. to 10 p.m.) at residential property lines or sensitive areas. However, exemptions include temporary construction during daytime hours except on Sundays and federal holidays. There may be a need to work outside of the aforementioned local ordinances in order to take advantage of low electrical draw periods during the nighttime hours. SCE would comply with variance procedures established by local authorities if a variance is needed.

6.2.10 Public Service and Utilities

No potentially significant impacts were identified for public service and utilities.

6.2.11 Visual Resources

Construction and operation of the proposed west of Devers 230kV transmission line upgrade would result in less than significant impacts to visual resources.

Significant visual impacts can occur where the visual contrast resulting from construction disturbances (e.g., roads and vegetation clearing) and the presence of the transmission line would substantially alter scenic quality and dominate views from sensitive viewpoints. For example, significant impacts could occur where the transmission line would be seen in the foreground to middleground distance zones in previously undisturbed landscapes, or where the transmission line would traverse previously undisturbed, highly scenic landscape (Class A), or conflict with the existing or planned future image type(s). Because the proposed 230kV upgrade would be limited to an existing, highly modified corridor, and the proposed transmission upgrade would result in a net decrease in the number of structures and conductors present in this existing corridor, visual impacts to visual quality, scenic vistas, and scenic roads are anticipated to be less than significant. In addition, the proposed upgrade would not create a new source of substantial light or glare.

Following is a discussion of potential impacts as defined by the CEQA significance criteria.

Substantially Degrade the Existing Visual Quality

The proposed 230kV transmission upgrade corridor does not cross areas designated as Class A scenery. Potential impacts to scenic quality visual image types and sensitive viewers are anticipated to be less than significant as new facilities would be constructed and operated within an existing, highly modified utility corridor, requiring no additional long-term disturbance outside of this corridor. Mitigation measures proposed for construction of the upgrade facilities would further minimize the potential for visual impacts, and are listed below.

Adversely Impact Scenic Vistas

There are no state-designated scenic vistas located within or adjacent to the west of Devers study corridor, and therefore no scenic vistas would be impacted by the proposed upgrade.

Adversely Affect State Scenic Roads

The proposed west of Devers transmission upgrade would be parallel to existing transmission facilities and span the roadway at the location where the corridor crosses CA 62, minimizing impacts. Therefore, impacts to scenic roads would be less than significant.

Create a New Source of Substantial Light or Glare Adversely Impacting Views

Impacts resulting from the presence of conductors and transmission line towers would be less than significant, as non-specular conductors will be utilized and the finish on structures would be dulled.

Implementing mitigation measures as proposed for construction of the upgrade facilities could reduce visual impacts that may result from the proposed west of Devers 230kV transmission upgrade. Visual mitigation would reduce the visibility of the proposed new transmission facilities from sensitive viewers and reduce visual contrast associated with the towers, conductors, and insulators. The following mitigation measures would generally apply for the proposed transmission upgrade, and would minimize impacts along the entire proposed transmission corridor to less than significant.

- The proposed steel lattice towers would be constructed using a dulled galvanized steel finish, which would result in visual contrast reduction.

- Non-specular conductors would be used to reduce glare and resulting visual contrast.

- Towers would be located adjacent to existing structures where feasible. Exceptions are at locations where the tower heights and/or spans would be modified based on terrain features allowing for adequate conductor clearance to ground and other facilities within the right-of-way.

- At all highway and recreation routes-of-travel crossings, including the I-10 crossing, towers would be placed at the maximum feasible distance, except in locations where matching existing tower spacing is deemed appropriate, and when feasible, at 90 degree angles from the crossing.

6.2.12 Cultural Resources

No potentially significant cultural resource impacts are expected to occur from construction and operation of the proposed west of Devers 230kV transmission upgrade. The following sections describe potential impacts and mitigation measures that would be effective in minimizing impacts to archaeological, ethnographic, historic, and paleontologic resources.

6.2.12.1 Archaeology

Class I records search data identified eight previously recorded prehistoric archaeological sites and one isolated occurrence potentially within the 1-mile-wide study corridor for the proposed west of Devers 230kV transmission upgrade. Two of these sites (RIV-179 and RIV-197), and one isolated occurrence, appeared to be potentially within the 300-foot-wide project APE. Based on the Class III archaeological survey of the 300-foot-wide project APE, RIV-179 could not be

relocated, RIV-197 was found to be outside the APE, and two new sites were recorded (P33-13429, and P33-13430) (Eckhardt and Walker 2004b).

6.2.12.3 Ethnography

Apart from the recorded archaeological sites and the portion of the proposed transmission upgrade that crosses the Morongo Indian Reservation, there are no known areas of ethnographic sensitivity with the project APE. In addition, Native American groups have an interest in the disposition of prehistoric archaeological sites as evidence of the presence of their ancestors. Construction and operation of the proposed project is not expected to have effects on Native American TCPs or other resources of cultural value. Therefore, impacts to traditional cultural properties would be less than significant, and no site-specific mitigation is offered.

6.2.12.4 History

The Class III archaeological survey of the 300-foot-wide project corridor resulted in the identification of nine historic-era sites in the APE (RIV-7462H/P33-13427, P33-13428, RIV-2262H, RIV-4768H/SBR-7168H/P36-007168, SBR-11624H/P36-011624, P33-13431, P33-13434, P33-007888, and P36-020240). Three of these resources (RIV-4768H/SBR-7168H/P36-007168, RIV-2262H, and P33-007888) are assessed potentially eligible for listing on the NRHP. These resources are subject to potential effects from project construction and operation.

Project effects to RIV-4768H/SBR-7168H/P36-077168, RIV-2262H, and P33-007888 could be mitigated to acceptable levels by avoiding these resources through minor adjustments to the location of earth-disturbing project elements, institution of protection measures, application of appropriate data recovery archaeological methods, or several of these methods combined. In accordance with federal regulations at 36 CFR 800, a HPMP would be prepared for the project

addressing resource management issues. The HPMP would be consummated by preparation and execution of a two-party agreement document between the BLM and California SHPO.

6.2.12.5 Paleontology

The proposed 230kV transmission upgrade corridor traverses approximately 26 miles of high or undetermined areas of paleontological sensitivity. The undetermined or high-sensitivity areas include Pleistocene older alluvium in Links 102 and 103, Canebrake Conglomerate or Palm Springs Formation in Link 102, and San Timoteo Formation in Links 102 and 103. Potentially significant paleontolgical specimens could be impacted by excavation of tower footings and grading of access spur roads in these areas.

Impacts to significant paleontological resources will be mitigated by conducting a preconstruction survey in areas of high or undetermined paleontological sensitivity to identify and collect surface specimens that could be affected by project construction. Paleontological monitoring of earth-disturbing construction activities and salvage of significant specimens will occur in project areas of high sensitivity.

6.2.13 Public Health and Safety

No potentially significant impacts were identified for public health and safety.

6.3 SUBALTERNATE TRANSMISSION LINE ROUTES

6.3.1 Introduction

Mitigation measures applied to the alternatives would be similar to those applied to the proposed Devers-Harquahala transmission line. Mitigation measures specific only to the subalternate routes are presented in the following sections.

6.3.2 Land Use

No potentially significant impacts were identified for land use on the Harquahala-West and Palo Verde subalternate routes. Potential impacts could occur to agricultural land affected by the Harquahala-West Subalternate Route. Tubular steel poles would be placed adjacent or parallel to agricultural field boundaries where possible to minimize ground disturbance.

Other mitigation measures to be applied to the subalternate routes are described in Section 6.1.2.

6.3.3 Socioeconomics, Population, and Housing

No potentially significant impacts to the subalternate routes were identified for socioeconomics, population, and housing.

6.3.4 Geology and Soils

No potentially significant impacts to the subalternate routes were identified for geology and soils.

Mitigation measures to be applied to the subalternate routes are described in Section 6.1.4.

6.3.5 Hydrology

No potentially significant impacts to the subalternate routes were identified for hydrology.

Mitigation measures to be applied to the subalternate routes are described in Section 6.1.5.

6.3.6 Air Quality

No potentially significant impacts to the subalternate routes were identified for air quality.

Mitigation measures to be applied to the subalternate routes are described in Section 6.1.6.

6.3.7 Traffic and Transportation

No potentially significant impacts to the subalternate routes were identified for traffic and transportation.

6.3.8 Biology

6.3.8.1 Harquahala-West Subalternate Route

Potential impacts to vegetation and wildlife on the Harquahala-West Subalternate Route would be less than significant. The corridor bypasses Category 2 desert tortoise habitat in the Eagletail Mountains and vegetation types likely to be affected are not sensitive. Some vegetation removal would probably occur between the Harquahala switchyard and CAP lateral canal, since access would be constructed or upgraded.

Mitigation actions that would be effective include careful tower placement to avoid large, mature trees and cacti, similar placement of new access and spur roads, spanning xeroriparian habitat along washes, and transplanting rather than bulldozing small saguaro cacti.

6.3.8.2 Palo Verde Subalternate Route

Potentially significant impacts on the Palo Verde Subalternate Route could occur to Sonoran desert tortoise as a result of construction. Impacts could take the form of tortoise burrow crushing, crushing of tortoises themselves, and loss of habitat via vegetation removal. There are also habitat components present for cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*) in the form of saguaro cacti, ironwood, mesquite, and paloverde trees. Surveys for cactus ferruginous pygmy-owl conducted for the Harquahala-Hassayampa 500kV transmission line proved negative, however. Although there are habitat components present for this species, it is highly unlikely that the area is occupied by this species.

Mitigation to reduce potential impacts includes pre-construction tortoise surveys and monitoring of construction activities within Category 2 Desert Tortoise habitat. Mitigation for cactus

ferruginous pygmy-owl habitat would include careful tower and construction access placement to avoid removal of potential owl habitat components.

6.3.9 Noise

No potentially significant impacts to the subalternate routes were identified for noise.

Mitigation measures to be applied to the subalternate routes are described in Section 6.1.9.

6.3.10 Public Services and Utilities

No potentially significant impacts to the subalternate routes were identified for public services and utilities.

6.3.11 Visual Resources

6.3.11.1 Harquahala-West Subalternate Route

Significant impacts to residential viewers would occur within the Harquahala-West Subalternate corridor. Mitigation of potentially significant impacts to residential viewers, as described in Section 4.2.11, would not be adequate to reduce the impacts.

6.3.11.2 Palo Verde Subalternate Route

There would be no potentially significant impacts to viewers or scenic quality for this subalternate route.

6.3.12 Cultural Resources

6.3.12.1 Harquahala-West Subalternate Route

Archaeology

In addition to the records search, only a Class II sample archaeological survey was conducted for the Harquahala-West Subalternate Route. No NRHP eligible or potentially eligible archaeological resources were identified in the 300-foot-wide study area corridor. The discovery of only two isolated archaeological occurrences in the areas of the 2-mile-long survey transects suggests that the archaeological sensitivity of this area is only moderate, and potential impacts to NRHP eligible resources are minimal.

Prior to construction of the Harquahala-West Subalternate Route, a Class III archaeological survey would be conducted of the project tower sites, access roads, pull sites, laydown areas, and any other ground-disturbing activities. If NRHP eligible archaeological resources are identified in the project APE, impacts to these resources would be mitigated to acceptable levels by avoiding these resources through minor adjustments to the location of earth-disturbing project elements, institution of protection measures, application of appropriate data recovery archaeological methods, or several of these methods combined. In accordance with federal regulations at 36 CFR 800, a HPMP would be prepared for the project addressing resource management issues. The HPMP would be consummated by preparation and execution of a two-party agreement document between the BLM and the Arizona SHPO.

Ethnography

No TCPs or potential TCPs have been identified within the project APE (defined as the 300-foot-wide study corridor for the Class II study). Apart from archaeological sites that may occur within the APE, about which Native Americans have expressed a general concern, no significant ethnographic values have been identified that could be affected by the project. Therefore, no site specific mitigation is offered. As a generic mitigation measure for Native American resources, the applicant has, at the suggestion of BLM staff, agreed to undertake an appropriate update of the landmark ethnographic study Persistence and Power (Bean and Vane 1978), which was prepared for the DPV1 project.

BLM staff has indicated that they will consult with appropriate Native American groups regarding project effects on traditional cultural values within the context of the BLM's government-to-government responsibility with Native American tribes (personal communication, Wanda Raschkow 2004).

History

The Class I records search and Class II sample survey of the Harquahala-West Subalternate Route resulted in the identification of no historic-era sites and one isolated historic-era occurrence (a rock cairn that may be associated with a mining claim) within the 300-foot-wide project corridor. At this time there are no known historic-era resources in the project area that are listed on or potentially eligible for listing on the NRHP. Therefore, there are no known NRHP eligible historic-era resources in the APE threatened by potential project construction and operation effects.

Prior to construction of this subalternate route, a Class III archaeological survey would be conducted of the project tower sites, access roads, pull sites, laydown areas, and any other

ground-disturbing activities. If NRHP eligible historic-era resources are identified in the project APE, impacts to these resources would be mitigated to acceptable levels by avoiding these resources through minor adjustments to the location of earth-disturbing project elements, institution of protection measures, application of appropriate data recovery archaeological methods, or several of these methods combined. In accordance with federal regulations at 36 CFR 800, a HPMP would be prepared for the project addressing resource management issues. The HPMP would be consummated by preparation and execution of a two party agreement document between the BLM and Arizona SHPO.

Paleontology

Virtually the entire length of the Harquahala-West Subalternate Route crosses undifferentiated Pleistocene older alluvium and Holocene alluvium in the Harquahala Plain. The Pleistocene older alluvium has a high paleontological sensitivity ranking.

Impacts to significant paleontological resources would be mitigated by conducting a preconstruction survey in areas of high or undetermined paleontological sensitivity to identify and collect surface specimens that could be affected by project construction. Paleontological monitoring of earth-disturbing construction activities and salvage of significant specimens would occur in project areas of high sensitivity.

6.3.12.2 Palo Verde Subalternate Route

Archaeology

Four of the seven archaeological sites identified within the project APE (AZ T:9:12 [ASM], AZ T:9:13 [ASM], AZ T:9:21 [ASM], and AZ T:9:64 [ASM]) are assessed NRHP eligible or

potentially eligible, and the portion of AZ T:9:64 (ASM) that contains the important data does not appear to be located within the project APE. All four sites appear NRHP eligible or potentially eligible.

Project impacts to these resources could be mitigated to acceptable levels by avoiding these resources through minor adjustments to the location of earth-disturbing project elements, institution of protection measures, application of appropriate data recovery archaeological methods, or several of these methods combined. In accordance with federal regulations at 36 CFR 800, a HPMP would be prepared for the project addressing resource management issues. The HPMP would be consummated by preparation and execution of a two party agreement document between the BLM and Arizona SHPO.

Ethnography

Because the project is proposed to be constructed adjacent to an existing high voltage transmission line, indirect effects to TCPs or potential TCPs are considered negligible. No TCPs or potential TCPs have been identified within the project APE (defined as within 100 feet of project tower pads and access roads). Apart from archaeological sites within the APE, about which Native Americans have expressed a general concern, no significant ethnographic values have been identified that could be affected by the project. Therefore, no site-specific mitigation is offered. As a generic mitigation for Native American resources, the applicant has, at the suggestion of BLM staff, agreed to undertake an appropriate update of the landmark ethnographic study Persistence and Power (Bean and Vane 1978), which was prepared for the DPV1 project.

BLM staff has indicated that they will consult with appropriate Native American groups regarding project effects on traditional cultural values within the context of the BLM's

government-to-government responsibility with Native American tribes (personal communication, Wanda Raschkow 2004).

History

Three historic-era sites were identified in the Class III survey as occurring within or immediately adjacent to the project APE. These resources are recorded as AZ T:9:65 (ASM), AZ S:12:32 (ASM), and AZ S:12:36 (ASM), and not recommended eligible for NRHP listing.

Paleontology

Approximately 8 miles of the 15-mile Palo Verde Subalternate Route traverses areas of high paleontological sensitivity. Potentially significant paleontological specimens may be impacted by excavation of tower footings and grading of access spur roads in these areas.

Impacts to significant paleontological resources would be mitigated by conducting a preconstruction survey in areas of high or undetermined paleontological sensitivity to identify and collect surface specimens that could be affected by project construction. Paleontological monitoring of earth-disturbing construction activities and salvage of significant specimens would occur in project areas of high sensitivity.

6.3.13 Public Health and Safety

No potentially significant impacts would occur as a result of construction and operation of the Harquahala-West or Palo Verde subalternate routes.

6.4 MIDPOINT SUBSTATION ALTERNATIVES

6.4.1 Introduction

Mitigation measures that may be applied to the construction and operation of the Midpoint Substation at the preferred site, or either of the alternative sites, would be similar to those applied to the proposed Devers-Harquahala 500kV transmission line with respect to construction on BLM lands. Site-specific mitigation measures also are described for specific resources as follows.

6.4.2 Land Use

No potentially significant impacts were identified for land use.

Mitigation measures to be applied to the alternatives are described in Section 6.1.2.

6.4.3 Socioeconomics, Population, and Housing

No potentially significant impacts were identified for socioeconomics, population, and housing.

Mitigation measures to be applied to the alternatives are described in Section 6.1.3.

6.4.4 Geology and Soils

No potentially significant impacts were identified for geology and soils.

Mitigation measures to be applied to the alternatives are described in Section 6.1.4.

6.4.5 Hydrology

No potentially significant impacts were identified for hydrology as a result of construction and operation of the Midpoint Substation at the preferred or alternative sites.

Mitigation measures to be applied to the alternatives are described in Section 6.1.5.

6.4.6 Air Quality

No potentially significant impacts were identified for air quality as a result of construction and operation of the Midpoint Substation at the preferred or alternative sites.

Mitigation measures to be applied to the alternatives are described in Section 6.1.6.

6.4.7 Traffic and Transportation

No potentially significant impacts were identified for traffic and transportation as a result of construction and operation of the Midpoint Substation at the preferred or alternative sites, and no mitigation would be offered.

6.4.8 Biology

Potential impacts to vegetation and wildlife on the preferred or alternative sites would be less than significant. Surveys for desert tortoise would be conducted on site prior to initiating any construction activities. Depending on survey results, additional mitigation may be required. It also is possible that surveys for flat-tailed horned lizards would have to be conducted. Mitigation to compensate for impacts to Harwood's milkvetch could include purchasing land to set aside for conservation purposes based upon a percentage of land disturbed.

6.4.9 Noise

No potentially significant impacts were identified for noise as a result of construction and operation of the Midpoint Substation at the preferred or alternative sites.

Mitigation measures to be applied to the alternatives are described in Section 6.1.9.

6.4.10 Public Services and Utilities

No potentially significant impacts would occur to public services and utilities as a result of construction and operation of the Midpoint Substation at the preferred or alternative sites.

6.4.11 Visual Resources

6.4.11.1 Preferred Site

Construction and operation of the Midpoint Substation at the preferred site would result in less than significant impacts to visual resources.

Mitigation measures are described in Section 6.1.11.

6.4.11.2 Mesa Verde Alternative

Construction and operation of the Midpoint Substation at the Mesa Verde alternative site would result in less than significant impacts to visual resources.

Landscape screening could reduce the visibility of this alternative, thus lowering potentially adverse impacts to sensitive viewers.

6.4.11.3 Wiley Well Alternative

Construction and operation of the Midpoint Substation at the Wiley Well alternative site would result in potentially significant impacts to viewers, primarily travelers on I-10.

Landscape screening could reduce the visibility of the substation at this alternative site, thus lowering potentially adverse impacts to sensitive viewers.

6.4.12 Cultural Resources

6.4.12.1 Preferred Site

Archaeology

Archaeological surveys identified three archaeological sites within the preferred substation site boundaries (RIV-775T, P33-13659, and P33-13660), and all of these resources appear potentially eligible to the NRHP. Earth-disturbing project construction and operation activities, such as site preparation grading and digging, could result in impacts to these resources. Project impacts to RIV-775T, P33-13659, and P33-13660 could be mitigated to acceptable levels by avoiding these resources through minor adjustments to the location of earth-disturbing project activities, institution of protection measures, application of appropriate data recovery archaeological methods, or several of these methods combined. In accordance with federal regulations at 36 CFR 800, a HPMP would be prepared for the project addressing resource management issues. The HPMP would be consummated by preparation and execution of a two party agreement document between the BLM and California SHPO.

Ethnography

Apart from archaeological sites within the preferred site boundaries, about which Native Americans have expressed a general concern, no significant ethnographic values have been identified that could be affected by construction and operation of the substation. Therefore, no site-specific mitigation is offered. As a generic mitigation for Native American resources, the applicant has, at the suggestion of BLM staff, agreed to undertake an appropriate update of the landmark ethnographic study Persistence and Power (Bean and Vane 1978), which was prepared for the DPV1 project.

History

No historic-era resources have been identified on the preferred site, and therefore no historic-era resources are subject to project impacts. No mitigation is therefore offered.

Paleontology

No potentially fossil-bearing lithic units have been identified at the preferred site, and no potentially significant paleontological specimens are expected to be affected by project construction or operation in this location. No mitigation is therefore offered.

6.4.12.2 Mesa Verde Alternative

Archaeology

Archaeological survey of the Mesa Verde alternative site resulted in the discovery of one previously unrecorded archaeological resource within the alternative switching station site boundaries (P33-13672). P33-13672 is a lithic scatter of petrified wood flakes and is potentially eligible to the NRHP. Earth-disturbing project construction and operation activities, such as site preparation grading and digging, could result in impacts to this resource. These impacts could be mitigated to acceptable levels by avoiding P33-13672 through minor adjustments to the location of earth-disturbing project activities, institution of protection measures, application of appropriate data recovery archaeological methods, or several of these mitigation measures combined. In accordance with federal regulations at 36 CFR 800, a HPMP would be prepared for the project addressing resource management issues. The HPMP would be consummated by preparation and execution of a two party agreement document between the BLM and California SHPO.

Ethnography

Apart from the archaeological site identified within the Mesa Verde alternative site boundaries, about which Native Americans have expressed a general concern, no significant ethnographic values have been identified that could be affected by construction and operation of the switching station. Therefore, no site-specific mitigation is offered. As a generic mitigation for Native American resources, the applicant has, at the suggestion of BLM staff, agreed to undertake an appropriate update of the landmark ethnographic study Persistence and Power (Bean and Vane 1978), which was prepared for the DPV1 project.

History

No historic-era resources have been identified on the Mesa Verde alternative site, and therefore no historic-era resources are subject to project impacts. No mitigation is therefore offered.

Paleontology

No potentially fossil-bearing lithic units have been identified at the Mesa Verde alternative site, and no potentially significant paleontological specimens are expected to be affected by project construction or operation in this location. No mitigation is therefore offered.

6.4.12.3 Wiley Well Alternative

Archaeology

No archaeological resources have been identified on the Wiley Well alternative site, and therefore no archaeological resources are subject to project impacts. No mitigation is therefore offered.

Ethnography

No significant ethnographic values have been identified that could be affected by construction and operation of the Midpoint Substation at the Wiley Well site. Therefore, no site-specific mitigation is offered. As a generic mitigation for Native American resources, the applicant has, at the suggestion of BLM staff, agreed to undertake an appropriate update of the landmark ethnographic study Persistence and Power (Bean and Vane 1978), which was prepared for the DPV1 project.

History

No historic-era resources have been identified on the Wiley Well alternative site, and therefore no historic-era resources are subject to project impacts. No mitigation is therefore offered.

Paleontology

No potentially fossil-bearing lithic units have been identified at the Wiley Well alternative site, and no potentially significant paleontological specimens are expected to be affected by project construction or operation in this location. No mitigation is therefore offered.

6.4.13 Public Health and Safety

No significant impacts to public health or safety are expected to occur with construction or operation of the Midpoint Substation at the preferred or either of the alternative sites.

CHAPTER 7.0
CUMULATIVE IMPACTS OF THE PROPOSED PROJECT

7.1 INTRODUCTION

Cumulative impact is the incremental impact on the environment that results from the impact of the proposed action when added to other past, present, and reasonably foreseeable future actions, regardless of which agency or person undertakes them. Cumulative impacts are interdisciplinary, multi-jurisdictional, and usually do not conform to political boundaries. When cumulative significant impacts on the environment are anticipated, CEQA requires that such impacts be described. These potential cumulative impacts are discussed in detail in the following section.

To determine the cumulative effects in the analysis area, past, present, and future actions within the same geographic region were evaluated. These actions predominantly include transmission lines and other utilities and future development projects.

7.2 EXISTING AND PROPOSED ELECTRICAL FACILITIES

7.2.1 Existing Facilities

Numerous existing transmission lines, power distribution lines, and other linear facilities are located throughout the project area. The existing transmission lines of most significance are located in the utility corridor that contains the proposed Devers-Harquahala 500kV transmission line and west of Devers 230kV transmission upgrade route and are listed in Table 7-1 and summarized below:

- DPV1 500kV transmission line (Arizona and California)
- Harquahala-Hassayampa 500kV transmission line (Arizona)

- Various 230kV transmission lines (California)
- Various 115kV transmission lines (California)

7.2.2 Proposed Electrical Facilities

The BLM has designated utility corridors in Arizona and California through its RMP process. The proposed Devers-Harquahala transmission line would cross BLM, state, and private land and be located within a 1-mile-wide BLM-designated utility corridor for approximately 110 miles of the route. The west of Devers portion is a rebuild of existing 230kV transmission lines in an existing utility corridor.

The STEP group, CAISO, as well as various merchant power plant and transmission line representatives, have included in their preliminary screening studies a second 500kV line from Harquahala to Devers.

The DSWTP is a proposed 500kV or 230kV transmission line that would be constructed from the Blythe Power Plant substation west of Blythe, California, to the Devers Substation northwest of Palm Springs within the proposed Devers-Harquahala transmission line corridor.

In addition to the existing DPV1 and the proposed Devers-Harquahala 500kV lines, the proposed APS Palo Verde Hub to TS-5 500kV transmission line would add a third line for approximately 5.5 miles within the eastern portion of the BLM-designated utility corridor, crossing I-10 west of Tonopah. The Palo Verde Subalternate Route addressed in this study, if utilized, would potentially add a fourth 500kV transmission line for a distance of about 9 miles of that corridor from PVNGS to the junction at the existing Harquahala-Hassayampa line, the DPV1 line, and the proposed APS Palo Verde Hub to TS-5 500kV transmission line.

SCE also is planning to construct the Oak Valley System Project in northern Riverside County, which would include a 220/115/12kV substation and four 115kV transmission lines. A specific

location for the substation has not been identified, although the substation site and transmission lines would be located in the vicinity of SCE's existing Devers-Vista utility corridor between San Timoteo Road, in Calimesa, and a point about 1.7 miles east of Highland Springs Road in Beaumont. The project would be needed by 2008.

7.2.3 Summary of Cumulative Impacts

The discussion of potential cumulative impacts of the electrical facility projects by resource category is provided below.

7.2.3.1 Land Use

Most cumulative impacts to land uses are not expected to be significant with the addition of DPV2. Small areas of rangeland used for grazing and forage and agricultural land would be permanently removed from production by tower foundations and spur roads, where necessary. These impacts would accumulate with construction of a third 500kV transmission line west of Blythe, California (i.e., the proposed DSWTP), although the total area lost from production would be small in the context of the region. The Devers-Harquahala 500kV transmission line would be installed within the designated 1-mile-wide utility corridor on lands administrated by BLM, thus consolidating transmission lines in a planned location, which is consistent with the RMP.

7.2.3.2 Socioeconomics

Cumulative impacts to socioeconomics are generally only a concern if they would overextend public services and accommodations in the project area. Construction and operation of the proposed Devers-Harquahala transmission line would be a beneficial cumulative impact to the

southern California region, including increased availability of lower cost electricity. Beneficial cumulative impacts also include revenues realized due to construction activities, and potential property tax revenues received by the affected counties in Arizona and California.

7.2.3.3 Geology, Soils, Hydrology, and Minerals

It is anticipated that the cumulative effects on earth resources would not be measurably different than the additive effects of the proposed DPV2 project. The potential for soil erosion, stream-bank degradation, and sedimentation in water bodies, dependent on the mitigation implemented, could be increased with the construction of the DSWTP in some areas. Ground disturbance would be, in general, incrementally less for the Devers-Harquahala transmission line or a third line. Ground disturbance is generally low for DPV2 since the majority of the proposed route parallels an existing transmission line(s) and associated access roads. The cumulative effects of two or three transmission lines would likely be somewhat more than any single project.

7.2.3.4 Air Quality

It is anticipated that the power transmitted over the proposed DPV2 would come from existing capacity generated in the PVNGS region. A potential indirect cumulative impact associated with the transmission line is increasing emissions from natural gas fueled power generation, such as those facilities listed in Section 7.3. The change could be additive or may decrease in Arizona or California, depending on the location of the sources and direction of power flow.

Cumulative air quality impacts also would result from construction activities for the proposed electrical facilities identified above. The incremental effects of vehicular emissions would be expected to increase, generally according to the number of transmission line miles constructed during the same period, but it is unlikely that more than one major construction project would take place simultaneously in the same location. If concurrent construction of more than one

project was to occur, the amount of airborne particulates resulting from construction vehicle use on unpaved roads could be reduced where existing access or spur roads are used for multiple projects within the same corridors. In most cases, mitigation measures to control emissions would be effective in reducing emissions, and cumulative impacts would be temporary and not significant.

7.2.3.5 Traffic and Transportation

Cumulative impacts to traffic and transportation are not anticipated to be permanent, but rather temporary, occurring during construction. If the construction of both the DSWTP and DPV2 projects, for example, overlap or occur in the same time frame, the potential for traffic impacts would increase, but would result in less than significant impacts.

7.2.3.6 Biology

Cumulative biological impacts would be generally additive, and usually be directly proportional to the amount of ground disturbed. Cumulative effects also depend, to some extent, on whether or not DPV2 construction activities are concurrent or overlapping in a given area. If construction is occurring concurrently, a higher volume of traffic may result and possibly greater amounts of ground disturbance (erosion, etc.) would occur. Overlapping activity, on the other hand, may create disturbance to wildlife for a longer period of time, resulting in prolonged or permanent displacement of wildlife from crucial habitats. Where designated corridors are used, access roads may serve more than one line and would therefore minimize ground disturbance and the amount of increased access in some areas.

A third line in the proposed Devers-Harquahala corridor would likely produce similar impacts. Cumulative impacts associated with the existing DPV1, DPV2, and either the DSWTP or Palo

Verde Hub to TS-5 500kV lines in one corridor would likely produce impacts that are of a slightly higher degree and possibly longer duration, but would be less than significant.

7.2.3.7 Noise

With the addition of the Devers-Harquahala line, cumulative impacts associated with corona-generated audible noise would be additive, but is expected to be less than double the existing levels of noise caused by operation of the existing DPV1 line due to the use of polymer insulators on the proposed Devers-Harquahala line. The increased noise level at the edge of the right-of-way may be discernible or audible during wet-weather conditions, although line noise would most often be masked by naturally occurring sounds at locations beyond the right-of-way, and would not be significant.

7.2.3.8 Visual

Cumulative visual impacts would increase with effects to views from highways, residences, recreational areas, and on natural scenic quality. The first transmission line built in a natural setting usually would cause the most noticeable incremental change because of the contrast of form, line, color, and texture to the surroundings. Each successive change, when added in an existing corridor, would be less noticeable than the first. However, the new combination of all the changes (e.g., form, line, color, and texture) is more evident. With the addition of a third or fourth transmission line, such as the proposed DSWTP or Palo Verde Hub to TS-5, the resulting multi-line corridor would be more visible than two transmission lines at greater distances because of the cumulative contrast with the natural landscape. Where existing access could be utilized for both the proposed Devers-Harquahala line and the DSWTP, it would avoid exposing lighter colored surface and vegetative removal. In areas where new access and vegetative removal are required, mitigation that would be effective in reducing visual impacts would include the reclamation of areas disturbed by construction-related activities. Therefore, the effect

of the proposed Devers-Harquahala transmission line would contribute a small increment of visual impact that would be less than significant.

Cumulative visual impacts that would be likely to result from the west of Devers 230kV transmission upgrade would be beneficial. Because approximately two structures would be removed for every new structure installed in the existing utility corridor, and the new double-circuit towers would be compatible with the existing 230kV double-circuit towers, an overall reduction in visual contrast would result in the majority of locations.

7.2.3.9 Cultural Resources

Cumulative impacts to cultural resources could result over time from repeated incremental damage caused by motorized vehicles. Indirect impacts on cultural resources can result from degrading the setting of a significant cultural feature, and incidental destruction of cultural sites or traditional cultural properties by motorized vehicles, due to new access roads. However, the proposed DPV2 project would not require a substantial level of new access, therefore reducing cumulative impacts to cultural resources. The presence of multiple transmission lines would not likely contribute measurably to this type of a cumulative effect more so than a new single transmission line. Therefore, impacts to cultural resources would be less than significant.

7.2.4 Conclusions

Based on this analysis, the incremental impact of the proposed action would be minimal when added to other past, present, and reasonably foreseeable future actions. Construction and operation of the proposed Devers-Harquahala transmission line and west of Devers upgrade would not cause significant cumulative impacts on the environment.

7.3 FUTURE DEVELOPMENT

The proposed DPV2 project crosses primarily rural, undeveloped areas within four counties in California and Arizona. As addressed in the socioeconomics, population, and housing sections of Chapter 4 (4.1.3 and 4.2.3), portions of the route are experiencing substantial growth, while others are not. Population growth is a good indicator of the level of current and planned land development, which contributes to cumulative impact.

In Arizona's Maricopa County, for example, the projected population increase from 2002 to 2025 is 50 percent. (It is noted that the proposed route is located in the far western portion of a very large county that contains the rapidly growing Phoenix metropolitan area.) Growth in La Paz County, Arizona, is similar with projections of 51 percent population growth in the same time frame, though the county is substantially less populated.

The two towns in Arizona closest to the proposed route are Buckeye, located approximately 25 miles to the east of the Harquahala Switchyard, and Quartzsite farther to the west and approximately 8 miles to the north of the proposed Devers-Harquahala line. Buckeye is a rapidly growing town to the west of Phoenix projected to more than triple in population between 2000 and 2010. Also, Buckeye has continued to annex land to the west. The population of Quartzsite is projected to increase by 9 percent from 2000 to 2010.

The third county crossed by the proposed Devers-Harquahala transmission line is Riverside, California, which has a projected population increase of 71 percent from 2002 to 2020. There are 10 cities/towns in Riverside County close to the proposed Devers-Harquahala and west of Devers corridors. Their projected population increases for 2002 to 2020 range from 15 to 35 percent. Population growth in the fourth county, San Bernardino County, California, was 20 percent between 1990 and 2000, much lower than the 56 percent growth in the previous decade.

General plans for the various counties and municipalities within or near the project area are summarized in Tables 4-4, 4-10, and 4-42.

Table 7-1 describes activities (existing and proposed, or future) that may cumulatively affect resources of concern for the project.

TABLE 7-1
ACTIVITIES LIST - CUMULATIVE EFFECTS

Activities	Location/Description	Status
Proposed Action – DPV2 Transmission Project		
Devers-Harquahala 500kV Transmission Line	The 500kV transmission line would connect at the Harquahala Switchyard located 60 miles west of Phoenix, Arizona, and continue to the Devers Substation, located 10 miles northwest of Palm Springs, California, a distance of approximately 230 miles.	Future
West of Devers 230kV Transmission Line	The upgrade of a 230kV line from single to double circuit from the Devers to Vista substations, with an interconnection at the San Bernardino Generating Station Switchyard.	Future
Utilities/Public Services		
Arizona-California		
DPV1 Transmission Line	A 500kV line that connects at the PVNGS Switchyard 60 miles west of Phoenix, Arizona, and terminates at the Devers immediately north of the Palm Springs, California, city limits.	Existing
Southwest Powerlink Transmission Line	A 500kV line that begins at PVNGS, connects to the North Gila Substation in Yuma and Imperial Valley Substation near El Centro, California, and terminates at the Miguel Substation in San Diego, California.	Existing
I-10	This major interstate highway lies in an east-west direction in both Arizona and California.	Existing
Pipelines	Numerous pipelines occur along and near the proposed corridor.	Existing
Arizona		
Harquahala Generating Station and 500kV Transmission Line	The Harquahala Station is located approximately 17 miles northwest of the PVNGS. A 500kV transmission line connects the Harquahala Power Plant and the Hassayampa Switchyard.	Existing
Hassayampa 500kV Switchyard	Located south of the PVNGS. Numerous 500kV lines interconnect at this switchyard.	Existing
PVNGS Switchyard	Located near PVNGS with numerous 500kV lines interconnecting at this switchyard.	Existing
PVNGS-Kyrene 500kV Transmission Line	PVNGS-Kyrene 500kV transmission line originates at the PVNGS Switchyard, ending at the Kyrene Substation in Tempe.	Existing
Palo Verde Hub to TS-5 500kV Transmission Line (APS)	Proposed 500kV transmission line from Hassayampa Switchyard, or other Palo Verde Hub switchyard, to a planned substation northeast along the CAP Canal.	Future
Planned PVNGS to Saguaro 500kV Transmission Line	The 500kV transmission line would start at PVNGS and terminate at the Saguaro Power Plant, paralleling the existing PVNGS-Kyrene 500kV line.	Future
Proposed Sonora-Arizona Interconnection 345kV(two) transmission lines	The two 345kV transmission lines would start at either PVNGS or Hassayampa Switchyard and terminate in Sonora, Mexico.	Future

TABLE 7-1 ACTIVITIES LIST - CUMULATIVE EFFECTS		
Activities	**Location/Description**	**Status**
Planned Hassayampa to Jojoba 500kV Transmission Line	The 500kV transmission line would connect the Hasssayampa Switchyard near PVNGS to the Jojoba Switchyard south of Buckeye, Arizona, a distance of approximately 20 miles.	Future
Southwest Valley Transmission Line	A 500kV transmission line that originates at the PVNGS Switchyard and terminates at the Rudd Substation in Avondale, Arizona.	Present
Proposed Hassayampa to Pinal West 500kV Transmission Line	The Hassayampa to Pinal West 500kV transmission line is proposed to connect at the Hassayampa Switchyard south of PVNGS and terminate at a proposed new substation near Mobile, Arizona.	Future
PVNGS to West Wing	A 500kV transmission line from PVNGS to the West Wing Substation.	Existing
Pipelines	El Paso Natural Gas pipelines connect to the various gas-fired generation facilities in the region around PVNGS as well as Haraquahala.	Existing
Palo Verde Nuclear Generating Station	Located in the unincorporated Arlington Valley, Arizona. Numerous 500kV lines interconnect at the PVNGS Switchyard.	Existing
Mesquite Power Plant and 500kV Transmission Line	The Mesquite Power Plant is located south of PVNGS and west of the Hassayampa Switchyard. The transmission line starts at the plant and connects at the Hassayampa Switchyard.	Existing
Redhawk Power Plant and 500kV Transmission Line	The Redhawk Power Plant is located south of PVNGS and southeast of the Hassayampa Switchyard. The transmission line starts at the plant and terminates at the Hassayampa Switchyard.	Existing
La Paz Power Plant	The proposed La Paz Power Plant would be located in La Paz County approximately 70 miles west of PVNGS.	Future
Arlington Power Plant	Arlington Power Plant is located south of PVNGS and west of the Mesquite Power Plant. A 500kV transmission line connects the Arlington Power Plant and the Hassayampa Switchyard.	Existing
I-10 and Highway 95	I-10 is both paralleled and crossed by the proposed project in Arizona. Highway 95 is crossed by the proposed project	Existing
Canals	The CAP Canal and various other canals are located in the project area.	Existing
California		
Proposed Desert Southwest 500/230kV Transmission Project	The DSWTP is a proposed 500/230kV transmission line project from the Blythe Power Plant Substation west of Blythe, California, to the Devers northwest of Palm Springs.	Future
North Baja Pipeline Project	A gas pipeline from the California-Mexico border to the Blythe, California/Ehrenberg, Arizona, area for a distance of approximately 80 miles.	Future
Blythe Energy 1 Generating Station	The Blythe Power Plant is located approximately 4.5 miles west of Blythe, California.	Existing
Blythe Energy 2 Generating Station	The Blythe Energy 2 would be a proposed 520 MW plant.	Future
Wildflower-Indigo Power Plant	The Wildflower-Indigo Power Plant is located north of Palm Springs and the existing corridor.	Existing
Ocotillo Peaker Power Plant	The proposed Ocotillo Peaker Power Plant of 450 MW is located north of Palm Springs and the existing corridor.	Future
West of Devers		
Inland Empire Energy Center	The Inland Empire Energy Center is a proposed 670 MW plant located south of the Vista Substation.	Future

TABLE 7-1 ACTIVITIES LIST - CUMULATIVE EFFECTS		
Activities	**Location/Description**	**Status**
Mountainview Power Project	The Mountainview Power Project (1,056 MW) is an expansion project approved by the CEC in 2001, located in San Bernardino County, now under construction.	Future
Oak Valley System Project	SCE is proposing a new 230/115/12kV substation and associated 115kV transmission lines in northern Riverside County.	Future
Residential		
Rural and suburban residential development	Throughout project area.	Existing, Future
Agriculture and Grazing		
Farming	Cultivated private land throughout the project area.	Existing
Grazing	Throughout project area.	Existing
Parks, Preservation, Recreation		
Arizona		
KOFA NWR	The KOFA NWR is crossed by the proposed Devers-Harquahala segment and is located east of U.S. Highway 95 between the town of Quartzsite and the city of Yuma.	Existing
California		
Coachella Valley National Wildlife Refuge and Fringe-toed Lizard Preserve	The USFWS and The Nature Conservancy preserve is crossed by the proposed Devers-Harquahala segment and located southeast of the Devers.	Existing
Chuckwalla Desert Wildlife Management Area (DWMA) and Desert Tortoise Critical Habitat	The DWMA and Critical Habitat is crossed by the proposed Devers-Harquahala segment south of I-10 and east of Devers.	Existing

CHAPTER 8.0
GROWTH INDUCING EFFECTS

CEQA requires the analysis of a proposed project's potential to induce growth. Specifically, Section 15126.2(d) requires that environmental documents "...discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment..." Growth inducing impacts can occur if a project would induce growth either directly or indirectly in the surrounding environment. Section 15126.2(d) also states that it cannot be assumed that growth in an area is necessarily beneficial, detrimental, or of little significance to the environment.

A project's potential to induce growth does not automatically mean that it will result in growth. This potential growth-inducing effect is regulated by local governments in California through the development, adoption, and implementation of land use plans and policies intended to avoid or minimize the growth inducing potential or pressure created by projects, both individually or cumulatively. Growth occurs through capital investment in new economic opportunities from both public and private entities. Development occurs as a result of economic investment in a particular region. New economic (i.e., employment) opportunities will naturally create the need for infrastructure to support an increased population.

The DPV2 project could be considered growth inducing if growth results from the direct and indirect employment needed to construct, operate, and maintain the project, and/or if growth results from the electric power that would be transmitted by the proposed project.

As documented in the project description (Chapter 3), the construction and operation of the proposed project would not significantly affect employment in the project area. SCE anticipates that contract workers would construct the project. Contract workers would not cause growth in the area due to the temporary nature of their employment. Operation of the proposed DPV2 project would require no additional full time personnel. Routing inspection and maintenance activities would occur periodically and would involve two patrols per year.

Typically, the growth inducing potential of a project would be considered significant if it fosters growth or a population concentration above what is assumed in local and regional land use plans or in projections made by regional planning groups such as the SCAG. Significant growth impacts also could occur if the project provides infrastructure or service capacity to accommodate growth levels beyond those permitted by local plans and/or policies.

However, the proposed project is not anticipated to induce growth. The project would not materially increase electrical consumption in California. Rather, it will allow SCE to provide lower cost electric service and to displace higher cost generation in California. Construction of the project may also encourage the displacement of older, less-efficient generation in the Southwest. These impacts are not expected to be growth inducing. For a further discussion of the purpose of the project, see Chapter 2.

CHAPTER 9.0
INDIRECT EFFECTS

CEQA Guidelines (Section 15358(a)(2)) and PEA Guidelines require discussion of potential indirect impacts of a proposed project. Indirect impacts, also referred to as secondary impacts, are impacts caused by a project that occur later in time or are farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth-inducing impacts and the impacts that result from this growth related to a change in the pattern of land use, population density, or growth rate and the resulting effects on air and water and other natural systems. Specific examples of an indirect impact are the traffic, air quality, and noise impacts of an automobile traveling to and from the project construction site for which no significant impacts would result.

As noted in Chapter 8, the proposed project is not anticipated to induce growth. Rather, it will allow SCE to reduce costs to customers and provide increased reliability of supply, insurance value against extreme events, and flexibility in operating California's transmission grid. Because the proposed DPV2 project would be constructed within established utility corridors and utilize existing generating sources and substations, land use patterns would not be affected by construction and operation of the project.

CHAPTER 10.0
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http://www.ci.beaumont.ca.us/
www.ecopac.org
www.cityofgrandterrace.org
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CHAPTER 11.0
LIST OF PREPARERS

11.1 SOUTHERN CALIFORNIA EDISON

Name	Responsibility
Marco Ahumada	Project Manager
Daniel Pearson	Manager, Natural and Cultural Resources, Environment, Health, and Safety
Gary Dudley	Project Coordinator
Thomas Taylor	Cultural Resources, Paleontology
Andrew Wiederin	Transmission Engineer
Alicia Lopez	Project Engineer
Stuart Hemphill	Director, Resource Planning & Strategy
Darell Holmes	Transmission Planning Manager, Resource Planning & Strategy
Michael Whatley	Integrated Planning Manager, Resource Planning & Strategy
Gil Tam	Director, Grid Contracts
Brian Frazee	Manager of Projects and Programs, Transmission and Distribution Business Unit
Dana Cabbell	Manager of Regional Transmission Planning, Transmission and Distribution Business Unit

11.2 CONSULTANTS

Name	Responsibility
EPG, Inc.	
Garlyn Bergdale	Principal-in-Charge
Michael Siegel	Project Manager
Newton DeBardeleben	Project Coordinator; Geology, Soils, Hydrology, Land Use
Paul Trenter	Visual Resources
Marc Schwartz	Visual Resources, Simulations
Randall Palmer	Visual Resources
Michael Doyle	Land Use
Matt Militello	Land Use, Air Quality, Noise
E. Linwood Smith, PhD	Biology
Robert Pape	Biology
Locana de Souza	Biology
Glenn Darrington, PhD	Cultural Resources
Kris Dobschuetz	Cultural Resources
Robert Mott	Socioeconomics
David C. Clark	Socioeconomics
Lauren Weinstein	Cumulative Impacts
Scott Woods	GIS and Information Technology

Name	Responsibility
Rasmuss Hansen	GIS
Joe Dickinson	GIS
Lyndy Long	Population Housing, Traffic and Transportation, QA/QC; Technical Editing
Kristie James	Document Production, QA/QC
Shirley Wiley	Technical Editing
Anna Franz	Graphics
Sarah Homuth	Graphics and CAD
ALICE KARL AND ASSOCIATES	
Alice Karl	Biology
BIORESOURCE CONSULTANTS	
Carl Thelander	Biology

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE

STATE OF CALIFORNIA

In the Matter of the Application of SOUTHERN CALIFORNIA EDISON COMPANY (U 338-E) for a Certificate of Public Convenience and Necessity Concerning the Devers-Palo Verde No. 2 Transmission Line Project	)))))))	Application No. 05-04-015 (Filed April 5, 2005)

PROPONENT'S ENVIRONMENTAL ASSESSMENT

DEVERS-PALO VERDE NO. 2 TRANSMISSION LINE PROJECT

VOLUME II - APPENDICES

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SOUTHERN CALIFORNIA EDISON COMPANY

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Dated: April 5, 2005

APPENDIX A
CEQA INITIAL STUDY CHECKLIST

From Appendix G of CEQA Guidelines

APPENDIX A
CEQA INITIAL STUDY CHECKLIST
FROM APPENDIX G, CEQA GUIDELINES

1. Project title:

Devers-Palo Verde No. 2 Transmission Line Project (DPV2)

2. Lead agency name and address:

California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102-3298

3. Contact person and phone number:

Mr. Thomas Burhenn
Manager of Regulatory Operations
Southern California Edison Company
(626) 302-9652

Mr. Daniel C. Pearson
Manager, Natural and Cultural Resources
Environment, Health & Safety
Southern California Edison Company
(626) 302-9562

4. Project location:

Southern California Edison Company (SCE) proposes to construct a new high-voltage electric transmission line between California and Arizona known as the Devers-Harquahala 500 kilovolt (kV) transmission line. The proposed line would extend from Devers Substation (Devers), located near Palm Springs, California to the Harquahala Generating Station switchyard (Harquahala), west of Phoenix, Arizona. The proposed line would extend for 230 miles, of which 102 miles would be located in Arizona and 128 miles would be located in California. The majority of the proposed route would parallel SCE's existing Devers-Palo Verde No. 1 (DPV1) 500kV transmission line. Two subalternate routes were identified for the termination point in Arizona.

Operation of the proposed line would require that upgrades be made to certain of SCE's existing electrical transmission facilities, west from Devers to the Vista and San Bernardino substations

in the City of Redlands. The upgrades would involve approximately 47 miles of existing transmission lines. The proposed Devers-Harquahala line and associated transmission facility upgrades are referred to as the Devers-Palo Verde No. 2 project (DPV2).

SCE is considering an interconnection request that would include the construction of a 500kV substation called the Midpoint Substation. The preferred location for Midpoint Substation is about 10 miles southwest of Blythe. Two alternative sites for the substation have been identified and are evaluated in this PEA: the Mesa Verde site is located 4.5 miles northwest of the preferred location; and the Wiley Wells site is located 17 miles west of Blythe.

5. Project sponsor's name and address:

Southern California Edison Company
2244 Walnut Grove Avenue
Rosemead, CA 91770

6. General plan designations:

In California, the proposed DPV2 project occurs within the general plan areas of the following jurisdictions:

City of Banning
City of Beaumont
City of Calimesa
City of Cathedral City
City of Coachella
City of Colton
City of Desert Hot Springs
City of Grand Terrace
City of Indio
City of Loma Linda
City of Palm Springs
City of Redlands
City of San Bernardino
Riverside County
San Bernardino County

These planning areas contain numerous land use designations, which are summarized below in item 9.

7. Zoning:

The proposed DPV2 project would be constructed within existing utility corridors. The majority of the proposed transmission line project construction would be located within SCE fee-owned rights-of-way or easements granted to SCE. The proposed DPV2 project would not conflict with any existing zoning designations.

8. **Description of project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)**

Construction of the proposed Devers-Harquahala 500kV transmission line would utilize the same four types of structures as the existing DPV1 and Harquahala-Hassayampa 500kV transmission lines. Of the approximately 784 structures required, approximately 709 would be four-legged, single-circuit lattice steel towers. To reduce potential impacts to agricultural operations, approximately 39 two-legged (or H-frame) single-circuit towers would be used in the Palo Verde Valley south of Blythe, California. Where feasible, structures would be constructed next to the existing DPV1 towers. In anticipation of the eventual construction of DPV2, during construction of DPV1 conductors for a 3-mile portion of the DPV2 line were installed on 13 double-circuit towers constructed for the DPV1 line to minimize impact to bighorn sheep habitat in the Copper Bottom Pass of the Dome Rock Mountains in Arizona. Approximately 23 new tubular steel poles would be constructed parallel to the existing Harquahala-Hassayampa 500kV line east of Harquahala, in Arizona.

Because the majority of the Devers-Harquahala line would be constructed within the utility corridor that contains the existing DPV1 line and existing access for line maintenance, construction of new main access roads would not be needed in most locations. Spur roads would be extended from the existing DPV1 main access roads to provide construction access for the proposed Devers-Harquahala 500kV line.

The existing 230kV transmission line system west of Devers consists of one set of double-circuit tower lines and two separate sets of single-circuit lines between Devers and San Bernardino Junction. San Bernardino Junction is the intersection of 230kV transmission line corridors located 3.4 miles south of the San Bernardino Substation. The proposed 230kV system upgrade would require the following activities between Devers and San Bernardino Junction: removal of an existing single-circuit 230kV tower line on wood H-frame structures, removal of an existing single-circuit 230kV tower line on lattice steel structures; replacement with a new double-circuit 230kV line; and reconductoring and modification of the existing double-circuit 230kV tower line.

Also, the 230kV system upgrade would require reconductoring of both circuits on an existing double-circuit 230kV tower line between Vista Substation and San Bernardino Junction. In addition, one circuit on each of the two existing double-circuit 230kV tower lines between San Bernardino Junction and San Bernardino Substation would be reconductored. Intersetting structures, or raising existing structures, would be necessary at some locations. Existing access roads would be utilized wherever possible for construction and line maintenance.

Construction of new support facilities would include: a new Optical Repeater facility located approximately 3 miles west of Blythe within the DPV2 right-of-way; a proposed California series capacitor bank located just north of and adjacent to the existing DPV1 series capacitor bank, approximately 64 miles east of Devers and 0.4 mile south of I-10; and a 500kV shunt line reactor bank and associated disconnect switches within Devers Substation. A 500kV Static VAR Compensation (SVC) would terminate into the 500kV switchrack.

9. Surrounding land uses and setting: Briefly describe the project's surroundings.

Along the proposed Devers–Harquahala 500kV transmission line, federal land and associated uses dominate the study corridor. Areas designated by federal agencies for preservation, conservation, and/or recreation include wilderness areas (WAs), areas of critical environmental concern (ACECs), Joshua Tree National Park and the Coachella Valley NWR/Preserve. The Agua Caliente Indian Reservation is the only Native American land in the study corridor located near the proposed DPV2 route.

Private land can be found primarily within the Coachella Valley north of Palm Springs and south of Blythe. Other existing and future land uses within the study corridor include vacant/undeveloped and grazing, agriculture, open space, recreation, rural residential, low- and medium-density residential, industrial/commercial, energy related industrial, utility and transportation infrastructure, and extraction/mining.

Along the proposed 230kV system upgrades west of Devers, private land predominates. A small amount of BLM land is present, including the Whitewater Canyon Area of Critical Environmental Concern. The Morongo Indian Reservation is within the west of Devers study corridor. The proposed route involves ten incorporated areas. Other population centers include unincorporated communities (White Water, Cabazon, and Cherry Valley), and large-lot rural residential areas.

Existing and future land uses within the proposed upgrade corridor include vacant/undeveloped and grazing, agriculture, open space, recreation, rural residential, low-, medium-, and high-density residential, industrial/commercial, energy related industrial, transportation and utility infrastructure, and extraction/mining.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)

Encroachment permits, and notifications and letters of permission, may be required for crossings over water-supply features, utility corridors, and transportation corridors. California Department of Fish and Game Section (CDFG) 1600-1616 et seq. notification and permitting (stream and lake alteration agreement), and Corps of Engineers Section 404 notification and permitting,

respectively, may be required for potential direct affects to State and federal jurisdictional waters. If endangered species issues arise during project implementation, incidental take permitting through coordination with the U.S. Fish and Wildlife Service, and Memorandum of Understanding permitting through coordination with the CDFG, may become necessary.

SCE will submit an application to the BLM for an Amended Right-of-Way Grant and, if approved, the BLM would issue a Notice to Proceed, allowing construction to be administered by the BLM in California and Arizona. The Arizona Power Plant and Transmission Line Siting Committee (Siting Committee) and the Arizona Corporation Commission (ACC) are responsible for the environmental review on state-jurisdictional land in Arizona; and the BLM has jurisdiction for environmental review for federal land. The ACC siting process in Arizona is comparable to CEQA review, and thus, pursuant to Arizona Revised Statute 40-360, et. seq., the ACC will conduct the environmental review of the Arizona portion of the project.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by the project, involving at least one impact that is a "Potentially Significant Impact" are:

__ Aesthetics	__ Agriculture Resources	__ Air Quality
__ Biological Resources	__ Cultural Resources	__ Geology /Soils
__ Hazards & Hazardous Materials	__ Hydrology / Water Quality	__ Land Use / Planning
__ Mineral Resources	__ Noise	__ Population / Housing
__ Public Services	__ Recreation	__ Transportation/Traffic
__ Utilities / Service Systems	__ Mandatory Findings of Significance	

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

— I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

— I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

— I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

— I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

— I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

_____ _____

Signature Date

_____ _____

Signature Date

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   a) Earlier Analysis Used. Identify and state where they are available for review.

   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures, which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:

   a) The significance criteria or threshold, if any, used to evaluate each question; and
   b) The mitigation measure identified, if any, to reduce the impact to less than significance

Sample Question	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS – Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐
II. AGRICULTURE RESOURCES – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impact on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☒	☐	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐
c) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☒	☐
III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☒	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?	☐	☒	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐

Sample Question	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒
IV. BIOLOGICAL RESOURCES- Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means/	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☒	☐	☐
V. CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐
VI. GEOLOGY AND SOILS – Would the project?				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				

Sample Question	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on an expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
VII. HAZARDS AND HAZARDOUS MATERIALS – Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) 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?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) 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 it create a significant hazard to the public or the environment?	☐		☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working the project area?	☐	☐	☐	☒

Sample Question	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) 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?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) 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?	☐	☐	☒	☐
VIII. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?	☐	☐	☒	☐
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Sample Question	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. LAND USE AND PLANNING – Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☒	☐	☐
X. MINERAL RESOURCES – Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☒	☐
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☒	☐
XI. NOISE – Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working the project area to excessive noise levels?	☐	☐	☒	☐
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐
XII. POPULATION AND HOUSING – Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Sample Question	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
XIII. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:	☐	☐	☐	☒
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒
XIV. RECREATION –				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒
XV. TRANSPORTATION/TRAFFIC – Would the project:				
a) Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☒	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Result in inadequate parking capacity?	☐	☐	☐	☒

Sample Question	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☒	☐
XVI. UTILITIES AND SERVICE SYSTEMS – Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐
XVII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects?)	☐	☐	☒	☐

Sample Question	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

SOURCES AND EXPLANATIONS OF ANSWERS:

Sources and explanations of answers in the checklist regarding the DPV2 project are included below.

I. AESTHETICS

The existing visual conditions include the presence of the DPV1 500kV transmission line that would be paralleled by the proposed Devers-Harquahala 500kV line (DPV2). West of Devers, the existing conditions include four lines of transmission structures from Devers–San Bernardino Junction. The proposed upgrades would remove one line of existing wooden H-frame structures and another line of existing steel lattice structures and replace those two lines with a new double-circuit line on steel lattice structures that would match the existing structure line.

The west of Devers transmission upgrade corridor crosses a state scenic highway, but would not impact resources within the scenic highway. The proposed existing and new tower lines would span the roadway at all highway crossings, and actually reduce the number of transmission line structures within the existing utility corridor. No state-designated scenic vistas would be affected by the proposed project.

Construction and operation activities for the DPV2 project would occur within an existing utility corridor and would not damage any scenic resources.

As a result of the existence of parallel transmission line(s), the DPV2 project would have a Less Than Significant Impact on the existing visual character or quality of the project corridor. The new line would have a Less Than Significant Impact regarding new sources of substantial light or glare.

II. AGRICULTURE RESOURCES

Construction and operation of the proposed DPV2 project would have an impact of Less Than Significant With Mitigation Incorporated on state-designated or locally important farmlands. Within the Palo Verde Valley, 39 new two-legged single-circuit towers, also referred to as H-frames, would be used to cross farmland to minimize impacts to farming operations. There would be Less Than Significant Impacts on zoning for agricultural use, Williamson Act contracts, or conversion of farmland to non-agricultural use due to the minimal amount of farmland that might be affected.

III. AIR QUALITY

The proposed DPV2 project would have an impact of Less Than Significant With Mitigation Incorporated regarding implementation of air quality plans, existing air quality standards and non-attainment areas. Mitigation measures are described in Section 6.1.6 in the PEA. During construction, potentially significant impacts for air quality could occur from fugitive dust and vehicles emissions. Currently, all of Riverside County is identified as non-attainment for particulate matter based on California Air Resources Board Standards. The Federal EPA also identifies the Coachella Basin and South Coast Air Basin as non-attainment for particulate matter. Best Available Controls Measures would be used to control dust and vehicle emissions; emissions credits would be purchased to offset any emissions levels that exceed the emissions thresholds.

The project would have a Less Than Significant Impact on exposing sensitive receptors to substantial pollutant concentrations and will not create objectionable odors.

IV. BIOLOGICAL RESOURCES

Construction and operation of the DPV2 project would have an impact of Less Than Significant with Mitigation Incorporated upon sensitive species, riparian habitats, or other sensitive natural communities. A discussion of mitigation measures is found within Sections 6.1.8.2 and 6.2.8 of the PEA. Possible impacts to cushion foxtail cactus, desert tortoise, Coachella Valley fringe-toed lizard and Palm Springs round-tailed ground squirrel are considered to be potentially significant and would have to be mitigated in order to reduce them to less than significant. Impacts to sensitive reptile species are also considered potentially significant and would have to be mitigated to reduce them to less than significant levels. It is anticipated that the USFWS would provide mitigation recommendations as part of the Section 7 Consultation process for the DPV2 project.

Specific strategies for mitigating impacts to desert tortoise include identifying site-specific occurrences and having an SCE contracted biological monitor, certified by the USFWS, present during construction activities that include the use of earth-moving equipment in desert tortoise habitat. The monitor would remove any tortoises (in burrow, cover-sites, or on the surface) that could be impacted. An SCE contracted tortoise biologist would present a pre-construction class on tortoise ecology and mitigation to project personnel. A maximum 25 mph speed limit would be in effect along all access roads associated with the project. Other practices would be implemented to mitigate impacts to desert tortoise, including surveys, use of existing access routes, avoidance of burrows in disturbed areas, restoration, and discouraging/removing raven nests. SCE would compensate for loss of tortoise habitat through monetary contributions to an appropriate fund.

Potentially significant impacts to riparian and sensitive communities are associated with xeroriparian wash woodlands, wash crossings, and occurrences of Alverson's pincushion cactus, Coachella Valley milkvetch, California silverbush and California barrel cactus. These impacts would be reduced to Less Than Significant With Mitigation Incorporated, by spanning washes, careful local adjustment in tower foundation placement, minimizing construction access in xeroriparian wash woodlands, and identifying site-specific occurrences of sensitive species. Where applicable, impacts to plants located on tower sites or access roads would be reduced either by transplanting plants or by adjusting tower site locations.

Within the Coachella Valley Preserve and other sand dune communities, a qualified SCE contracted biological monitor certified by the USFWS would be present with construction crews on a daily basis to clear areas for sensitive species. Impacts would also be reduced by avoiding: habitat occupied by sensitive lizard communities; activities that tend to create wind barriers that might result in sand stabilization; and by spanning areas of windblown sand where possible.

West of Devers, potential impacts to the California Coastal gnatcatcher, least Bell's vireo and Stephens' kangaroo rat are Less Than Significant With Mitigation Incorporated. Mitigation activities would include avoidance of habitat, including relocation of tower sites and/or access roads. In those situations where loss or damage to habitat cannot be avoided, off-site restoration activities would be undertaken or funding would be provided for monitoring programs.

DPV2 project impacts to protected wetlands, species' migrations, wildlife corridors, or local policies and ordinances protecting biological resources would be Less Than Significant.

Project impacts on established or pending conservation plans would be Less Than Significant With Mitigation Incorporated. Specific mitigation measures would include those identified within the Coachella Valley Multiple Species Habitat Conservation Plan.

V. CULTURAL RESOURCES

Within the preferred DPV2 corridor, twenty-one National Register of Historic Places eligible or potentially eligible archaeological resources have been identified, along with thirteen National Register of Historic Places eligible or potentially eligible historic-era resources. The project corridor passes along three miles of the lower slopes of Edom Hill, which is an existing or potential traditional cultural property. The proposed project traverses approximately 27 miles of high or undetermined areas of paleontological sensitivity.

During construction of the proposed DPV2 project, impacts would be Less Than Significant with Mitigation Incorporated, as described in Section 6.1.12 of the PEA. For archeological and historic-era resources, mitigation efforts would include minor adjustments to the locations of

earth-disturbing project activities, implementation of protection measures, and/or application of appropriate data recovery archeological methods. As a general mitigation measure for ethnographic resources, the applicant would undertake an appropriate upgrade of the landmark ethnographic study Persistence and Power (Bean and Vane 1978). For paleontological resources, mitigation would include a preconstruction survey in areas of high or undetermined paleontological sensitivity to identify and collect surface specimens that could be affected by project construction, as well as paleontological monitoring of earth-disturbing construction activities and salvage of significant specimens.

VI. GEOLOGY AND SOILS

Project construction and operation would have a Less Than Significant Impact upon people and structures regarding the effects of earthquake fault rupture, strong seismic ground shaking, ground failure, erosion, expansive and collapsible soils, subsidence, or landslides.

VII. HAZARDS AND HAZARDOUS MATERIALS

Project construction activities would involve the operation of heavy equipment and support vehicles. The presence of hazardous materials or wastes within the project area could pose a threat to the environment only if substances were improperly stored or handled, if construction equipment were to leak or spill petroleum or hydraulic fluids, or if hazardous materials were encountered during excavation of foundations resulting in inadvertent releases to the environment.

Regarding the possibility of site locations on hazardous material sites, impacts would be Less Than Significant, as described in Section 5.1.13.1 of the PEA. The majority of the proposed transmission line project construction would be located within SCE fee-owned rights-of-way or easements granted to SCE. Within areas subject to new right-of-way acquisition, SCE will conduct an Environmental Site Assessment (ESA). The ESA (also known as a Phase I review) includes a review of published information, aerial photographs, and environmental databases; interviews with persons knowledgeable about the area; and site inspections to identify sites located within or near the designated area of construction that have a potential to release hazardous materials to the subsurface in actionable concentrations. Further investigation in the form of a Preliminary Site Investigation would be performed within areas of concern, if and where warranted by the findings of the ESA.

Project construction and operation would have a Less Than Significant Impact regarding: hazards associated with the transport, use, and disposal of hazardous materials; reasonably foreseeable upset and accident conditions causing the release of hazardous materials; emitting or

handling hazardous materials within one-quarter mile of an existing or proposed school; residing or working in the project area within the vicinity of a private airstrip; or causing wildland fires or urban interface fires.

There would be no project impacts associated with residing or working in the project area within two miles of a public or public use airstrip, or impairing an adopted emergency response or evacuation plan.

Measures to avoid and/or minimize impacts from hazards and hazardous materials would be included as part of the project design or would be incorporated per regulation and SCE standard construction, operation, and maintenance procedures. A hazardous substance management, handling, storage, disposal, and emergency response plan would be prepared, implemented, and kept on site (or in vehicles) during construction and maintenance of the project. To minimize, avoid and/or clean up any hazardous material, should an unforeseen spill occur, SCE and its contractors would be responsible for following SCE's Storm Water Pollution Prevention Plan.

VIII. HYDROLOGY AND WATER QUALITY

The construction and operation of the proposed DPV2 project would have Less Than Significant Impacts regarding violation of water quality standards or waste discharge requirements, increased erosion and/or siltation, increased surface water runoff, other degradation of water quality, or placement of structures within a mapped 100-year flood hazard area. Erosion and flood control measures, required by the BLM Right-of-Way Grant, would be implemented during construction of the transmission line on public lands to reduce impacts to hydrological resources.

The project would have No Impact regarding placement of housing within a mapped 100-year flood hazard area, flooding as a result of structural failure, or inundation by seiche, tsunami, or mudflow.

IX. LAND USE AND PLANNING

The proposed DPV2 project would not physically divide an established community. Project construction and operation would have a Less Than Significant Impact regarding conflicts with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. Project impacts upon established or pending conservation plans would be Less Than Significant with Mitigation Incorporated, as described in Section 6.1.8.2. of the PEA. Specific mitigation measures would include those identified within the Coachella Valley Multiple Species Habitat Conservation Plan.

X. MINERAL RESOURCES

Impacts from the DPV2 project on the availability of mineral resources would be Less Than Significant.

XI. NOISE

Noise levels associated with construction activities within the project corridor would be Less Than Significant and would vary according to the type and number of machinery and vehicles used. Typical noise levels associated with construction equipment fall in the range of 80 to 100 dBA, at a range of 50 feet from the active construction site.

Construction of the proposed project would comply with local noise ordinances. Typically, these stipulate that activities producing ambient noise should not exceed 55-50 dBA during nighttime hours (10 p.m. to 7 a.m.) and 60-55 dBA during daytime hours (7 a.m. to 10 p.m.), at residential property lines or sensitive areas. However, exemptions are allowed for temporary construction except on Sundays and federal holidays. There may be a need to work outside of the local ordinance standards in order to take advantage of low electrical draw periods during the nighttime hours. SCE would comply with variance procedures established by local authorities, if a variance is required.

XII. POPULATION AND HOUSING

The DPV2 project would have a Less Than Significant Impact on population and housing, and would not induce substantial population growth. No residents or existing housing would be displaced as a result of the project.

XIII. *PUBLIC SERVICES*

The proposed project would have no adverse impacts on public services.

XIV. *RECREATION*

The DPV2 project would neither increase use of local and regional parks or other recreational facilities nor would it include or require the construction or expansion of recreational facilities.

XV. TRANSPORTATION/TRAFFIC

Project construction activities would involve the operation of heavy equipment and support vehicles. This would result in Less Than Significant Impacts regarding increases in traffic, exceeding a level of service standard for designated roads or highways, increases in hazards, inadequate emergency access, and conflicts with alternative transportation programs. The project would result in No Impacts to changes in air traffic patterns or levels of parking capacity.

XVI. UTILITIES AND SERVICE SYSTEMS

Construction and operation of the DPV2 project would have a Less than Significant Impact in regards to new storm water drainage facilities, landfill capacity for solid waste disposal, and compliance with federal, state, and local regulations related to solid waste disposal. The proposed project would have no impacts pertaining to wastewater treatment requirements, facilities or existing capacity, and water supply.

XVII. MANDATORY FINDINGS OF SIGNIFICANCE

The proposed DPV2 project is located within an existing utility corridor, parallel to one or more existing transmission lines. The project is not expected to substantially degrade the environment. Any Potentially Significant Impacts associated with project construction and operation would be addressed with mitigation measures that reduce the impact to Less Than Significant with Mitigation Incorporated. These impacts and mitigation measures are identified and described in the preceding sections addressing air quality, biological resources, cultural resources, hazardous materials and wastes, and land use planning.

Based on the analysis provided in Chapter 7.0, the incremental impact of the proposed DPV2 project would be minimal when added to other past, present and reasonably foreseeable future actions. Construction and operation of the proposed Devers-Harquahala transmission line and west of Devers transmission upgrade would not cause significant cumulative impacts on the environment.

The proposed project would not have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly. As described in preceding sections, impacts to agriculture, air quality, hazardous materials and wastes, and land use planning, would be Less Than Significant With Mitigation Incorporated.

APPENDIX B
RECORD OF DECISION AND RIGHT-OF-WAY GRANT

Record of Decision approving the BLM preferred alternative (proposed action) for the Devers-Palo Verde No. 2 Transmission Line Project (February 21, 1989)

BLM Right-of-Way Grant
BLM California State Office (August 11, 1989)

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
CALIFORNIA STATE OFFICE
2800 Cottage Way
Sacramento, California 95825

179
CA-930.1

MAR 6 1989

Mike Spear, Regional Director
US Fish and Wildlife Service
PO Box 1306
Albuquerque, NM 87103

Dear Mr. Spear:

Please find enclosed the Record of Decision approving the BLM preferred alternative (proposed action) on the Devers-Palo Verde No. 2 Transmission Line Project.

Sincerely,

Ed Hastey
State Director

Enclosure
As Stated

cc: SCE (Chuck Richards)
SD, Arizona
DM, CDD
OEPR (Libby Stone)
WO (200), Room 5454, MIB

RECORD OF DECISION
DEVERS-PALO VERDE NO. 2 TRANSMISSION LINE PROJECT

Southern California Edison Company (SCE) in concert with other western utility companies proposes to construct a 500 kV transmission line from the vicinity of the Palo Verde Nuclear Generating Station (PVNGS), about 40 miles west of Phoenix, Arizona to the Devers Substation, near Palm Springs, California. The project participants includes SCE, members of the Southern California Public Power Authority (SCPPA) and the Modesto-Santa Clara-Redding Public Power Agency (M-S-R). The SCPPA has entitlements in PVNGS and M-S-R has entitlements in San Juan Unit 4, located in New Mexico. Both SCPPA and M-S-R need transmission line from the Phoenix area to California to deliver power from the two out-of-state energy resources.

The proposed transmission line was analyzed in a Supplemental Environmental Impact Statement (SEIS). A draft supplemental EIS was released for 60-day public review on May 8, 1987 and ended July 8, 1987. A complete description of the proposed project, including maps and diagrams of proposed facilities such as transmission lines and towers were included in that document and are included in this Record of Decision (ROD) by reference.

The Final SEIS was published and made available to the public on December 16, 1988 by a Notice of Availability published in the Federal Register. A thirty day period ended January 16, 1989.

The SEIS evaluated five alternatives, one of which included a no-action alternative:

1. Proposed Project: The proposed route would parallel SCE's existing 238-mile 500 kV Devers-Palo Verde No. 1 transmission line of which 112 miles is in Arizona and 126 miles is located in California.

2. Northern Alternative 1: This alternative's alignment parallels the proposed project and is parallel to DPV No. 1, for the first 51 miles in Arizona. From the proposed route (about 12 miles east of the Kofa National Wildlife Area), it turns northwesterly towards the town of Brenda, and through the Plomosa Mountains. The route then turns westerly through the southern portions of the Colorado Indian Reservation. Crossing the Colorado River, the route skirts the northern edge of Palo Verde Valley and rejoins the proposed route 12 miles west of Blythe. The remainder of the route is the same as proposed project.

3. Northern Alternative 2: This alternative departs the proposed alignment about 12 miles east of the Kofa NWR and proceeds towards Brenda. Southeast of Brenda, the route parallels I-10 through the Plomosa Pass. Then the alignment turns southwesterly along the edge of the mountains to a point about nine miles southwest of Quartzite where it rejoins the proposed route.

4. Southern Alternative: This alternative leaves the proposed route east of the Colorado River and turns southwest and crosses the river and lower Palo Verde Valley about 15 miles southwest of Blythe; it then heads northwest and rejoins the proposed route about 15 miles west of Blythe.

The no-action alternative considered the consequences of denying the proposa entirely.

The route alignment proposed by SCE is the preferred route of the Bureau of Land Management. It is also the environmentally preferred alternative for the following reasons. The route is utilized for interstate pipelines and transmission lines; impacts are confined to a utility corridor where environmental disturbances have already taken place. The original decision to route Devers-Palo Verde (DPV) No. 1 transmission line, which DPV No. 2 parallels, through the Kofa NWR was based on the greater potential for significant impact to bighorn sheep along the other alternatives. Detailed studies before, during and after construction of DPV No. 1 have not identified any significant adverse effect, and DPV No. 2 is expected to result in a similar negligible effects.

U.S. Fish and Wildlife Service is preparing a compatibility statement on the Kofa NWR segment, and has concurred with the Bureau's proposed action.

Northern Alternative 1, Northern Alternative 2, and Southern Alternative routes would require an additional 74 miles, 47 miles, and 32 miles, respectively, of new rights-of-way. The new and additional surface disturbance would involve greater environmental impact than the proposed route, particularly in soil disturbance, biological resources, visual quality, cultural resources, Native American cultural values and land

All practical means to avoid adverse impact have been adopted. Construction monitoring will be conducted by the appropriate District Office in each stat to ensure compliance with the mitigation measures identified in Appendix A the SEIS. The U.S. Fish and Wildlife Service will monitor the Kofa NWR segment.

The right-of-way grant will be given a different serial number for Californ and Arizona. The term of the grant will be perpetuity and will be renewabl

Ed Hastey
California State Director

Feb 21 1989
Date

ENTAL

For and in consideration of the rights granted, the Holder agrees to pay the Bureau of Land Management fair market value rental as determined by the authorized officer. Provided, however, that the annual rental may be adjusted by the authorized officer, whenever necessary, to reflect changes in the fair market rental value as determined by the application of sound business management principles, and so far as practicable and feasible, in accordance with comparable commercial practices. The estimated rental for the public lands in California for eight (8) months in the 1989 calendar year is $5,703.00 subject to final determination of length as derived from as-built drawings. For the public lands in Arizona, the estimated rental for eight (8) months in the 1989 calendar year is $5,518.00 subject to final determination of length as derived from as-built drawings.

TERMS AND CONDITIONS

A. This grant is issued subject to the holder's compliance with all applicable regulations contained in 43 CFR 2800.

B. Upon grant termination by the authorized officer, all improvements shall be removed from the public lands within 90 days, or otherwise disposed of as provided in the attached stipulations or as directed by the authorized officer.

C. Each grant issued pursuant to Title V of the Act (FLPMA) and 43 CFR 2800 for a term of 20 years or more shall, at a minimum, be reviewed by the authorized officer at the end of the 20th year and at regular intervals thereafter not to exceed 10 years. Provided however, that a right-of-way granted herein may be reviewed at any time deemed necessary by the authorized officer.

D. The stipulations, plans, maps, or designs set forth in Exhibits A, B, and C, attached hereto, are incorporated into and made a part of this grant instrument as fully and effectively as if they were set forth herein in their entirety.

E. The holder shall perform all operations in a good and workmanlike manner so as to ensure protection of the environment and the health and safety of the public.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The following documents are by this reference incorporated into and made a part of this grant:

A. The stipulations set forth in Exhibits A and B attached.

B. The route's legal description in Exhibit C attached.

VAULT COPY

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
E-2841 Federal Office Building
2800 Cottage Way
Sacramento, California 95825

RIGHT-OF-WAY GRANT

Serial Number: CA-17905 / AZ-23805

Pursuant to Title V of the Federal Land Policy and Management Act of 1976, 43 U.S.C. 1761, and the regulations in Part 2800, Title 43, Code of Federal Regulations, the United States of America hereby grants to Southern California Edison Co. a right-of-way across Federal lands for the construction, operation, maintenance, and termination of one 500 kV Transmission Line and its Appurtenances. The location of the transmission line is indicated in Exhibit C.

NATURE OF THE GRANT

By this instrument, Holder receives a nonpossessory, nonexclusive right to use certain Federal lands as depicted in the legals referred to in Exhibit C, for the limited purpose of construction, operation, maintenance and termination of a 500 kV Transmission Line and its Appurtenances specified in this instrument.

WIDTH OF RIGHT-OF-WAY

The nominal width of the right-of-way is 130 feet. The right-of-way contains 57.2 miles of public land in California and 92.7 miles of public land in Arizona.

DURATION OF GRANT

A. The grant hereby made shall be in perpetuity from the effective date hereof, at noon, California time, unless it is relinquished, abandoned, modified or otherwise terminated pursuant to the provisions of this grant or of any applicable Federal law or regulation.

B. Not withstanding the expiration of this grant, its earlier relinquishment, abandonment, or other termination, the provisions of this grant, to the extent applicable, shall continue in effect and shall be binding on the Holder, its successors or assigns, until they have fully performed their respective obligations and liabilities occuring before or on account of the expiration, or the prior termination, of the grant.

VAULT COPY

AUTHORITY TO ENTER AGREEMENT

The Holder represents and warrants to the United States that it is duly authorized and empowered under the applicable laws of the State of its incorporation and by its charter and by-laws to enter into and perform this agreement in accordance with the provisions hereof.

IN WITNESS WHEREOF,

The parties hereto have duly executed this agreement as of the date written.

UNITED STATES OF AMERICA

State Director, Arizona
Bureau of Land Management

AUG 1 1989
Date

Ed Hastey
State Director, California
Bureau of Land Management

8/11/89
Date

Southern California Edison Co

Title
Manager of
Real Properties and
Administrative Services

7/14/89
Date

APPROVED AS TO FORM:
JOHN R. BURY
Vice President General Counsel
By
Attorney

1989

APPROVED	
BY	DATE
WRO	5/1/89
JK	5/3/89
JMC	7/3/89
SE	7-5
DB	7/11
DRD	7/12
JAL	7/14

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EXHIBIT A

GENERAL STIPULATIONS

A-1. Definitions

As used in these stipulations and elsewhere in this grant, the following terms have the following meanings:

A. "Authorized Officer" means the State Director, District Manager and his field compliance officer.

B. "Line" means the electrical transmission line.

C. "Holder" means: Southern California Edison Co. and its successors and assigns.

D. "Notice to Proceed" means an authorization to initiate the transmission line construction.

E. "Cultural Resources" means those fragile and nonrenewable remains of human activity, occupation, and endeavor as reflected in district, sites, structures, artifacts, objects, ruins, works of art, architecture, and natural features that were of importance in human events.

F. "Natural Resources" means all remains of natural origin including wildlife, vegetation, fish, geologic remains, paleontological fossils and remains, soil aesthetics, and open space values.

G. "Waste" means all discarded matter, including but not limited to human waste, trash, garbage, refuse, barrels and drums, petroleum products, ashes and equipment.

Responsibilities

Holder shall ensure full compliance with the terms and conditions of this grant, including these stipulations, (Exhibits A,B,C), by its agents, employees and contractors (including subcontractors at any level), and the employees of each of them. Failure or refusal of Holder's agents, employees, contractors, subcontractors, or their employees to comply with said stipulations shall be deemed to be the failure or refusal of Holder.

Notices to Proceed

A. Holder shall not initiate any construction on the Federal land in each respective state without the prior written authorization of the respective Authorized Officer in California and Arizona. Such authorization shall be given solely by means of a written Notice to Proceed issued by the respective Authorized Officer.

B. The Holder shall contact the authorized officer at least 15 days prior to the anticipated start of construction and/or any surface disturbing activities. The authorized officer may require and schedule a preconstruction conference with the Holder prior to the holder's commencing construction and/or surface disturbing activities on the right-of-way. The Holder and/or his representative shall attend this conference. The Holder's contractor, or agents involved with construction and/or any surface disturbing activities associated with the right-of-way, shall also attend this conference to review the stipulations of the grant including the plan(s) of development.

C. The Authorized Officer may revoke in whole or in part any Notice to Proceed which has been issued when unforeseen conditions arise

D. Each application for a Notice to Proceed shall be supported by:

Construction specifications.

A detailed network analysis diagram for the construction segment will be provided to the Authorized Officer, including: Holder's work schedules; permits required by State and Federal agencies and their interrelationships; design and review periods; data collection activities; and construction sequencing. The detailed network analysis diagram shall be updated by Holder as required to reflect current status of the project.

Thirty (30) days will be allowed for field review of any dat or plans prior to the issuance of a Notice to Proceed.

Centerline surveys of the route location.

A-4. Liabilities of Holder

A. The Holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2803.1-4. The Holder shall be held to a standard of strict liability for damage or injury to the United States resulting from fire or soil movement (including landslides and slumps, as well as wind and water-caused movement of particles) caused or substantially aggravated by any of the following within the right-of-way or permits area:

1. Activities of the Holder including, but not limited to, construction, operation, maintenance, and termination of the transmission line.

2. Activities of other parties including, but not limited to:

a. Land clearing and logging.

b. Earth-distrubing and earth-moving work.

c. Blasting.

d. Vandalism and sabotage.

The maximum limitation for such strict liability damages shall not exceed one million dollars ($1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from the negligent acts or omissions of the United States.

A-5. Reservation of Certain Rights to the United States

The United States reserves and shall have a continuing right of access to any part of the lands (including the subsurface of, and the air space above, such lands) that are subject to the right-of-way, and reserves the right to issue additional use authorization to third parties for compatible uses on, over, under or adjacent to the lands subject to the right-of-way.

A-6. Reimbursement of Department Expenses

A. Holder shall reimburse the United States for all costs incurred by the BLM for monitoring the construction, operation, maintenance, and termination of authorized facilities on the right-of-way and for the protection and rehabilitation of the lands involved. Such reimbursement shall be made as follows:

1. At least 30 days before the beginning of each quarter of each Federal fiscal year, the Authorized Officer shall submit an itemized statement of projected costs to Holder of the reimbursable work to be performed by the United States during the ensuing quarter, together with a bill for payment of the cost of such work. Holder shall pay the billed amount in full no later than 15 days from receipt of the bill. If the advance payment for a quarter exceeds the actual cost of the work performed during that quarter, the overpayment shall be credited to Holder in the next billing after the Authorized Officer has determined the amount of the overpayment. If the advance payment for a quarter is less than the actual cost of the work performed during that quarter, the amount of the difference shall be included in the amount due in the next billing after the Authorized Officer has determined the amount of underpayment.

2. If Holder decides to dispute any item of a statement that shall be rendered in accordance with this section, Holder shall so notify the Authorized Officer within 15 days of receipt of the statement. If the dispute involves only the amount owed the United States but not the need for the work to be done, Holder shall not withhold payment of the disputed amount, but shall pay it under protest. If the dispute pertains to the need for, or relevance to the project of the work, proposed work to be undertaken by the Authorized Officer, such work shall not be initiated until the dispute is resolved. The Authorized Officer shall meet with Holder promptly in an effort to resolve the dispute and shall thereafter rule on the matter and make appropriate adjustment of Holder's account.

B. The Holder shall have the right to conduct, at its own expense, reasonable audits by auditors or accountants, designated by the Holder, of the books, records, and documents of the Department and of its independent consultants and/or contractors relating to the items on any particular statement that shall be submitted, at the places where such books, records, and documents are usually maintained, and at reasonable times; provided, however, that written notice of a desire to conduct such an audit must be given the Authorized Officer:

1. At least fifteen (15) days prior to such audit.

2. By not later than the 75th day after the close of the quarter for which the books, records, and documents are sought to be audited, and provided further, that any such audits shall be completed within ninety (90) days after receipt by the Holder of the statement containing the items to be audited.

A-7. Right of United States to Perform

If, after thirty (30) days, or in an emergency such shorter period as shall be reasonable, following the making of a demand therefore by the Authorized Officer, Holder, or its agents, employees, contractors, or subcontractors, shall fail or refuse to perform any of the actions required by Section A-4.A of this grant, the United States shall have the right, but not the obligation, to perform any or all of such actions at the sole expense of Holder.

A-8. Liens

The Holder shall, with reasonable diligence, discharge any lien against Federal lands that results from any failure or refusal on its part to pay or satisfy any judgment or obligation that arises out of or is connected in any way with the construction, operation, maintenance, or termination of all or any part of the line.

A-9. Transfer

Holder shall not, without obtaining the prior written consent of the Authorized Officer transfer in whole or in part any right, title, or interest in this right-of-way grant.

A-10. Nondiscrimination and Equal Employment Opportunity

In the construction, operation and maintenance of the line and its appurtenances there shall be no discrimination against any employee or applicant for employment because of race, creed, color, sex or national origin and all subcontractors shall include an identical provision.

A-11. Partial Invalidity

If any part of this grant is held invalid or unenforceable, the remainder of this grant shall not be affected and shall be valid

A-12. Termination of Use

Upon revocation or termination of this grant or termination of use of any part of the transmission line located on Federal lands, Holder shall remove all improvements and equipment, except as otherwise approved in writing by the Authorized Officer, and shall restore the land to a condition that is satisfactory to the Authorized Officer.

A-13. Improvements

Holder shall protect existing telephone, telegraph, and transmission lines, roads, trails, fences, ditches, and like improvements during construction, operation, maintenance, and termination of the line. Holder shall not permanently obstruct any road or trail without the prior approval of the Authorized Officer. Damage permanently caused by Holder to public utilities and improvements shall be promptly repaired by Holder to a condition which is satisfactory to the Authorized Officer.

A-14. Survey Maps

Ninety (90) days after completion of construction the Holder shall furnish as-built centerline survey plats showing the location of the transmission line and its appurtenances, furnish a statement stating all restoration stipulations have been complied with, and provide proof of construction on forms approved by the Director, to the Authorized Officer.

A-15. General Requirements

A. The Holder shall place slope stakes, culvert location and grade stakes, and other construction control stakes as deemed necessary by the Authorized Officer or his delegate to ensure construction in accordance with the plan of development. If stakes are disturbed, they shall be replaced before proceeding with construction.

B. The Holder shall survey and clearly mark the centerline and/or exterior limits of the right-of-way, as determined by the authorized officer.

C. The Holder shall conduct all activities associated with the construction, operation, and termination of the right-of-way within the authorized limits of the right-of-way.

A-16. Construction Requirements

A. At least 30 calendar days in advance of beginning construction activities on the public lands, the Holder shall submit in writing a timetable of construction to the Authorized Officer. (If construction is to begin upon receipt of the permit, the Holder shall immediately contact the District Manager to advise him of the immediate construction, and to discuss the timetable of construction).

B. The Holder will assume all liabilities including, but not limited to, soil and geologic stability, design, operations thereto, and maintenance liable for identifying, prior to construction, all activities that may jeopardize human welfare or equipment that can be rectified through coordination with the Authorized Officer.

C. The Authorized Officer reserves the right to approve, disapprove, limit, or specify given types of motorized equipment to be used within the right-of-way per se, or access roads, for the purpose of construction, restoration, or maintenance.

D. No preconstruction, construction, post-construction, or maintenance activities shall commence on public lands or lands that may have archaeological, cultural or paleontological values without prior approval of the Authorized Officer.

E. Only certified employees shall use explosives or explosive materials and the transportation and use of explosives shall be in compliance with local, State and Federal regulations.

A-17. Roads and Access Requirements

A. Holder shall permit free unrestricted public access to and upon the right-of-way for all lawful purposes except for those specific areas designated as restricted by the Authorized Officer to protect the public, wildlife, livestock, or construction of the right-of-way.

B. The Holder shall provide for the safety of the public entering the right-of-way. This includes, but is not limited to, barricades for open trenches, flagmen/women with communication systems for single-lane roads without intervisible turnouts, and attended gates for blasting operations.

C. Construction-related traffic shall be restricted to routes approved by the Authorized Officer. New access roads or cross-country vehicle travel will not be permitted unless prior written approval is given by the Authorized Officer. Authorized roads used by the Holder shall be rehabilitated or maintained when construction activities are complete as approved by the Authorized Officer.

D. The Holder shall construct waterbars on all disturbed areas to the spacing and cross sections specified by the Authorized Officer. Waterbars are to be constructed to: (1) simulate the imaginary contour lines of the slope (ideally with a grade of one or two percent); (2) drain away from the disturbed area; and (3) begin and end in vegetation or rock whenever possible.

E. Existing roads and trails on public lands that are blocked as the result of the construction project shall be rerouted or rebuilt as directed by the Authorized Officer.

F. The Holder shall construct low-water crossings in a manner that will prevent any blockage or restriction of the existing channel. Material removed shall be stockpiled for use in rehabilitation of the crossings.

A-18. Air Quality and Noise

A. Dust control measures, such as watering, will be implemented on road-distrubed areas as determined by the Authorized Officer, during periods of heavy vehicular traffic, and in areas identified as powdery soil conditions.

B. Holder will use fugitive dust control measures during construction, which may include water spraying with dust suppression additives, as determined by the Authorized Officer.

A-19. Use of Pesticides and Disposal of Waste Material

A. Use of pesticides shall comply with the applicable Federal and State laws and regulations concerning the use of pesticides and other toxic substances (i.e., insecticides, herbicides, fungicides, rodenticides and other similar substances) in all activities/operations under this grant. Pesticides shall be used only in accordance with their registered uses and within limitations imposed by the Secretary of the Interior. Prior to the use of pesticides, the Holder shall obtain from the Authorized Officer written approval of a plan showing the type and quantity of material to be used, pest, insect, fungus, etc., to be controlled; the method of application; the location for storage and disposal of containers; and any other information deemed necessary by the Authorized Officer. The plan should be submitted no later than December 1 of any calendar year that covers the proposed activities for the next fiscal year (i.e., December 1 1989, deadline for a fiscal year 1990 action). Emergency use of pesticides shall be approved in writing by the Authorized Officer prior to such use. Pesticides shall not be permanently stored on public lands authorized for use under this grant.

B. Construction sites shall be maintained in a sanitary condition at all times; waste materials at those sites shall be disposed of (contained and hauled away to approved disposal areas) promptly at an appropriate waste disposal site.

C. A litter policing program shall be implemented by the Holder and approved in writing by the Authorized Officer, covering all roads and sites associated with the right-of-way.

D. If facilities authorized for construction under this right-of-way grant use Polychlorinated Biphenyls (PCBs), such use shall be in a totally enclosed manner in accordance with provisions of the Toxic Substances Control Act of 1976 as amended (see 40 CFR Part 761). Additionally, any release of PCBs (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by law. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any hazardous material shall be furnished to the Authorized Officer within 5 working days of the occurrence of the spill or release.

A-20. Survey Monuments

The Holder shall protect all survey monuments found within the right-of-way. Survey mounments include, but are not limited to, General Land Office and Bureau of Land Management Cadastral Survey Corners, reference corners, witness points, U.S. Coastal and Geodetic benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments. In the event of obliteration or disturbance of any of the above, the Holder shall immediately report the incident, in writing, to the Authorized Officer and the respective installing authority if known. Where General Land Office or Bureau of Land Management right-of-way monuments or references are obliterated during operations, the Holder shall secure the services of a registered land surveyor or a Bureau cadastral surveyor to restore the disturbed monuments and references using surveying procedures found in the Manual of Surveying Instructions for the Survey of the Public Lands of the United States, latest edition. The Holder shall record such survey in the appropriate county and send a copy to the Authorized Officer. If the Bureau cadastral surveyors or other Federal surveyors are used to restore the disturbed survey monument, the Holder shall be responsible for survey costs.

A-21. Miscellaneous

Within ninety (90) days of completion of construction of the line, holder shall submit a maintenance plan to the Authorized Officer for approval. The plan shall specify the types and frequency of recurring activities to be conducted by Holder within and along the right-of-way. Either party may request that the maintenance plan be updated to meet changing conditions. Amendments and revisions of the maintenance plan shall be approved by the Authorized Officer.

EXHIBIT B

MITIGATION MEASURES

B-1. Access Roads

1. Although the holder may restore and maintain existing access roads, they cannot be either widened or upgraded without approval of the Authorized Officer.

2. New access road construction will be kept to a minimum.

B-2. Geology

1. The line will be located to minimize the disruption of any active mining operations.

2. Transmission towers will not be sited on nor straddle the mapped traces of any known fault that has been designated active or potentially active (see Figure 4.2-1 in the CPUC Draft EIR). In areas where known faults are present the holder will visually check the tower site area before clearing, and will check the tower footing holes for any trace of a previously unmapped fault. If manifestations of a fault are found, construction will immediately stop at that site and the holder will consult with the BLM Authorized Officer. The BLM Authorized Officer will determine if it is a fault trace and if so, will ascertain if it is active, potentially active, or inactive.

3. Towers will be located so that the line will span the surface traces of active and potentially active faults such that a relative lateral surface displacement would shorten the span between towers, and thus avoid potential line breaks. Where this is not feasible, the holder will incorporate slack spans to bridge the fault(s) such that the projected lateral surface displacement, as forecast by the holder's geologist and accepted by the BLM Authorized Officer, will not structurally affect the associated towers.

4. Appropriate tower design will be used to mitigate the potential for very strong seismic ground shaking. In general, an appropriate tower design which accounts for lateral wind loads and conductor loads during line stringing exceeds any credible seismic loading (ground shaking).

5. Towers will be located to avoid areas of highly sensitive dune sand (see Map 10-AZ in the Draft EIS and Figure 4.5.1 in the CPUC Draft EIR). Where these areas cannot be avoided, towers will be located to minimize disturbance to the deposits at a site approved by the BLM Authorized Officer.

6. Wherever possible to minimize the potential for slope instability, towers will be located to avoid gullies or active drainages, and oversteepened slopes .

7. The Authorized Officer will require, on a site specific basis, helicopter assisted construction in sensitive areas. Sensitive areas are those that exhibit both: 1) High erosion potential and/or slope instability; and 2) A lack of existing access roads within a reasonable distance of the tower site (generally no more than 1/4 mile), or existing access that is not suitable for upgrading to accommodate conventional tower construction or line stringing equipment, and where it is determined that after field review the issues of erosion and/or slope instability cannot be successfully mitigated through implementation of accepted engineering practices.

8. Mitigation of potentially significant impacts to the western end of the proposed transmission line due to (1) potential surface fault rupture along the Banning, Mission Creek, and Mecca Hills faults, and (2) potential for severe seismic shaking can be achieved by standard design methods listed below:

   a. Towers will be sited so as not to straddle active fault traces

   b. The alignment will be designed to cross an active fault such that future rupture on the fault would not cause excessive stress on the line or the towers.

   c. Standard foundation and structural design measures will be utilized to minimize the impact from severe seismic shaking.

9. Appropriate design of tower foundations will be used to reduce the potential for settlement and compaction.

B-3. Soils

Mitigation measures to reduce adverse impacts on soil resources are:

1. New access roads and soil disturbance will be avoided or minimized in all areas designated as having high erosion hazards or potential slope instability (see Map 9-AZ, Appendix F in the Draft EIS; and Figures 4.2-1 and 4.3-1 in the Devers-Palo Verde #2 EIR). If the Authorized Officer, after consultation and review of alternatives (including helicopter or helicopter assisted construction) deems the proposed new access road feasible, design plans must be submitted for approval, in writing, prior to construction.

2. New access roads which are required will be designed to minimize ground disturbance from grading. They will follow natural ground contours as closely as possible and include specific features for road drainage, including water bars on slopes over 25 percent. Other measures could include drainage dips, side ditches, slope drains, and velocity reducers. Where temporary crossings are constructed, the crossings will be restored and repaired as soon after completion of the discrete action associated with construction of the line in the area as possible.

3. Side casting of soil during grading will be minimized. Excess soil will be properly stabilized or, if necessary, end-hauled to an approved disposal site.

B-4. Hydrology

1. During the first year following construction, potential soil erosion sites will be inspected by the holder after each major rain storm as access permits. For the purpose of this measure, a major rain storm is defined as any singular storm where the total precipitation exceeds the arithmetic mean for similar events in the area and results in flooding. Examples include cloudburst (high quantity - short duration) or storms where saturated soils produce runoff (high quantity - long duration).

2. Construction equipment will be kept out of flowing stream channels except when absolutely necessary to construct crossings.

3. Erosion control and hazardous material plans will be incorporated into the construction bidding specifications to insure compliance

4. Appropriate design of tower footing foundations, such as raised foundations and/or enclosing flood control dikes, will be used to prevent scour and/or inundation by a 100-year flood.

5. Towers will be located to avoid active drainage channels, especially downstream of steep hillslope areas, to minimize the potential for damage by flash flooding and mud and debris flows

6. Diversion dikes will be required to divert runoff around a tower structure if: a) the location in an active channel cannot be avoided; and b) where there is a very significant flood scour/deposition threat, unless specifically exempted by the BLM Authorized Officer.

7. Runoff from roadways will be collected and diverted from steep, disturbed, or otherwise unstable slopes.

8. Ditches and drainage concourses will be designed to handle the concentrated runoff, will be located to avoid disturbed areas, and will have energy dissipations at discharge points.

9. Cut and fill slopes will be minimized by a combination of benching and following natural topography where possible.

B-5. Biological Resources

Vegetation.

1. Avoid direct disturbance of highly sensitive features (as identified in E. Linwood Smith's [1985] Impact Assessment/Mitigation Planning Chart; see Appendix E) with spanning and careful local adjustment in tower footing placement.

2. Provide additional detailed surveys and tower-specific adjustment as needed prior to construction for major sensitive feature sites (e.g., concentrations of sensitive plants, individual palm trees, woody dune or wash communities) which cannot be easily avoided by spanning. (See appendix B of the Devers-Palo Verde #2 EIR and Appendix E of the SEIS.) The methodologies and results of these surveys must be submitted to and approved in writing by the BLM Authorized Officer.

3. Minimize the area needed for equipment operation and material storage and assembly.

4. Initiate transplant efforts for Ferocactus and Coryphantha as soon as probable losses can be determined. Any plans for transplanting must be developed in consultation with a BLM botanist and approved in writing by the BLM Authorized Officer.

5. The right-of-way Holder will have the Arizona State Department of Agriculture and Horticulture identify native plants that would otherwise be destroyed by construction and sell them to the Holder.

6. The Authorized Officer may require vegetation in certain areas be cleared by hand tools. Scalping of top soil and removal of low growing vegetation will not be allowed unless authorized by the Authorized Officer.

7. Where possible, towers or access roads will be located so as to avoid sensitive plants or plant communities. Where this is not feasible, affected individual plants will be transplanted. Towers will also be placed so that the lines will span critical wildlife habitat.

8. Tower sites will be selected to allow maximum spanning of sensitive features.

Wildlife.

1. In the vicinity of the Colorado River, existing tower spacings and conductor heights will be matched to the extent practical. This would reduce the potential for bird collisions with the powerline.

2. Wash communities along the entire route and sand dune communities in the Coachella Valley (see Map 10-AZ in the Draft SEIS and Figure 4.5-1 in the CPUC Draft EIR) will be spanned to the extent possible.

3. The Holder will be required to purchase lands to compensate or enhance lands or conduct studies for the disturbance of public lands that are within areas of moderate to high value desert tortoise habitat. This will include disturbance caused by tower pad clearance and new access roads. Acquired lands will be in a nearby area of good tortoise density, within tortoise crucial habitat, and within an area where tortoise conservation is a priority (e.g., Chuckwalla Bench ACEC). Compensation utilizing land acquisition will be for disturbance of desert tortoise habitat in California only. The land to be acquired is estimated to be between 92 acres and 197 acres based upon a pre-construction review. BLM and the Holder will conduct a field inspection of the disturbed areas after completion of construction of the transmission line to determine the exact acreage. The Department of Fish and Game and the Desert Tortoise Council must also be consulted. The lands purchased will be transferred to the United States and be administered by the BLM.

4. Prior to construction activites, the Holder shall have a qualified tortoise biologist present a class or briefing to construction workers. Subjects addressed shall include tortoise sensitivity to human disturbance, daily and seasonal activity patterns, and proper handling for removal from roadways.

5. The Holder shall hire a qualified tortoise biologist to conduct daily inspections of roads and work areas within tortoise habitat during the tortoise season of activity (February 15 to June 15, July 15 to October 15). Tortoises found to be in jeopardy will be removed to a nearby site. Tortoises may be held for short periods, if judged necessary, to allow construction crews to pass through an area. The Holder will provide proper facilities for such temporary holding.

6. The Holder shall restrict the speed on all roads within tortoise habitat to a maximum of 25 miles per hour. The Holder is responsible for ensuring compliance with this limit by its employees.

7 Within tortoise habitat in California, spur roads shall not be bladed except where necessary to allow access for construction vehicles. Required vehicles shall enter on one pathway which is flagged and developed only by the passage of vehicles crushing vegetation. The spur shall be flagged by a qualified tortoise biologist prior to use. The spur shall avoid tortoise burrows and large perennial plants, yet be as short as possible within these requirements. Due to the presence of silty soils in Arizona, blading may occur.

8. Any desert tortoise observed on access roads or work areas will be moved immediately 100 yards away from the roadway into safe areas.

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- In areas considered to comprise suitable tortoise habitat, or other areas where tortoise are observed, all access roads and tower construction sites will be surveyed by a qualified biologist to delineate burrows or individuals for protection. Burrows near construction sites will be clearly delineated on the ground. Road, footing, and work area alignments should be modified to the extent possible to avoid adversely affecting any tortoise burrows encountered during these surveys. Where tortoise burrows will be unavoidably destroyed, they should be excavated carefully using hand tools, under the supervision of a field biologist with demonstrated prior experience with this species. See Map 11-AZ in Appendix F in the Draft EIS and Figure 4.5-2 in the Devers-Palo Verde #2 EIR. Also see Appendix E for link and milepost descriptions and mitigation measures.

10. If possible, no new roads, tower sitings, or spur roads will be built in blow sand areas. However, if new spur roads are required through wind-blown sand habitat, the road will be returned to natural conditions and effectively closed (gated or bermed) following construction. Pre-construction surveys will identify wind-blown sand dune habitats.

11. Where the project crosses through the Coachella Valley Preserve, the Holder will cooperate with the preserve in closing (gating) existing access roads. a) A qualified biologist will also be present with work crews to survey and clear work areas daily for Coachella Valley fringe-toed lizard (CVFTL), flat-tailed horned lizard (FTHL), and other sensitive species in the Preserve and sand dune communities from Link 14 (milepost 7.6) to Link 16 (milepost 5.0) to identify if any additional areas of occupied CVFTL and FTHL habitat are present along the route or at construction staging areas. b) This survey will be conducted during appropriate seasons (March 15 to May 15) and conditions for species identification. For any areas of suitable habitat, mitigation measure number 11 will apply.

    In the Coachella Valley, compacted soils should be scarified and seeded with a mix of native plant seeds, including bugseed (Dicoria canescens), to promote revegetation of plant species valuable to the lizard.

    Construction activity and surface disturbance will be prohibited during the period from January 1 to March 31 for the protection of the bighorn sheep lambing areas. These areas along the proposed route include link 2 (milepost 29.0 to 34.0) and link 6 (milepost 0.0 to 6.0).

5. Interstate 10 Crossing (Link 13, Milepost 65). Where feasible, new towers will be aligned such that the top alignment of the towers is horizontal to the eye. To the extent possible, towers immediately adjacent to the highway at the crossing will be placed at right angles to the existing towers and as parallel to the Interstate as possible to avoid a "scalloping" effect of the conductors crossing over the highway.

6. Holder shall provide for the protection and enhancement of aesthetic values in the planning, construction, and maintenance of the line. Support facilities will be constructed in a manner that harmonizes with their natural setting or as otherwise approved by the Authorized Officer.

7 The Authorized Officer may require any additional reasonable measures he deems necessary to protect the aesthetic values in critical areas.

8. Several general mitigation measures to reduce the visual impact of the proposed project have been suggested by the holder in the PEA. These measures are listed below:

   a. Standard tower spacing would be modified to correspond with spacing of existing transmission line towers where feasible and within limits of standard tower design to reduce visual contrast.

   b. Towers would be placed so as to avoid features and/or to allow conductors to clearly span the feature (within limits of standard tower design) to minimize the amount of sensitive feature disturbed and/or reduce visual contrast (e.g., avoiding skyline situations through placement of tower to one side of a ridge or adjusting tower location to avoid highly visible locations and utilize screening of nearby landforms).

   c. Conductors will be nonspecular.

9. Where the existing corridor crosses Interstate 10, or where the line is close to residential areas, non-specular wire would be used to decrease the visibility of the conductors. In the few locations where new construction access may be required, grading would be done to minimize visual impacts; and where roads are not required for maintenance, they would be returned to pre-construction conditions.

B-7. Park and Recreation Area

1. Construction will be curtailed during heavy recreational use periods, including major holidays, at the discretion of the Authorized Officer. The Holder will be notified by the Authorized Officer 30 days in advance of construction curtailment.

2. Schedule construction activities to avoid major holiday periods where the route crosses Indio Palm's State Park in Link 14.

15. Holder shall take all necessary precautions to protect wildlife species. By advance written notice from the Authorized Officer, key wildlife areas may be closed to construction activities for specified periods of time to protect designated wildlife species. No firearms shall be allowed on the project under any circumstance(s), and employees shall be instructed to refrain from needlessly harming wildlife. The advance written notice to the Holder shall be within 30 days after submittal by the Holder of the final preconstruction wildlife surveys.

16. The Holder, its contractors or employees are requested to report to the District Biologist observations of any threatened or endangered animals, through the Holder's biologist.

17. Avoid upland areas where desert tortoises might occur and/or have a biologist present during construction activities that involve earth moving in order to move any tortoises (in burrows or cover-sites, or on the surface) that would likely be impacted.

18. Avoid construction activities that would tend to create wind barriers that might result in sand stabilization in order to minimize impacts to populations of the Coachella Valley fringe-toed lizard.

B-6. Visual

1. Nonspecular conductors will be used.

2. For the proposed alignment, tower spacing will correspond to the spacing of the existing transmission line, except where other resource concerns warrant. Additionally, new tower heights will be adjusted such that the top elevations of each set of towers (new and existing) are horizontal with each other. This will visually coordinate perceptions of towers and conductors as one element. Site specific conditions will determine when such mitigation is feasible. Other exceptions to these two measures are where towers will be sited to avoid sensitive features and/or to allow conductors to clearly span the features.

3. At all highway and recreation routes-of-travel crossings, including the Colorado River, towers will be placed at the maximum feasible distance, and when feasible at right angles, from the crossing.

4. Orocopia Mountains (Link 13, Milepost 52 to 53.5). As depicted in Figure 5.7-4 of the Devers-Palo Verde #2 EIR, existing access road and fill areas which create a significant visual impact will be treated with Eonite or similar treatments. This will reduce the visual contrast created by the light-valued disturbed soils with the darker-valued, vegetated surroundings. The Holder will consult with the Authorized Officer on a site by site basis for the use of Eonite. No new access roads will be constructed or upgraded. No widening or upgrading of existing roads will be undertaken. New towers in this section will ideally be constructed downhill from existing towers to avoid the potential for skylining. Towers will be placed to avoid sensitive features.

B-8. Acoustic Considerations

Construction Noise. To substantially reduce the short-term noise impacts during construction, the mitigatiion measures are as follows:

1. Limit the hours of construction occurring within 500 feet of noise sensitive receptors (human occupied facilities such as residences and hospitals) to between 7:00 am and 5:00 pm during weekdays.

2. Locate construction yards at least 500 feet away from residences

3. Minimize the use of helicopters within 500 feet of residences

4. Notify residents within 500 feet of any upcoming noisy construction activities and schedule the activities, when possible, to minimize conflicts with the neighbors.

B-9. Cultural Resources

The following tasks shall be carried out to ensure compliance with applicable laws and regulations in accordance with Programmatic Memoranda of Agreement for California and Arizona among the BLM, the State Historic Preservation Officers (SHPO) and the Advisory Council on Historic Preservation (ACHP).

1. Prior to construction and all other surface disturbing activities, the Holder shall have conducted and submitted for approval by the Authorized Officer an inventory of cultural resources within the project's area of potential effects. The nature and extent of this inventory shall be determine by the Authorized Officer in consultation with the appropriate SHPO and shall be based upon project engineering specifications.

2. As part of the inventory, the Holder shall conduct field surveys of sufficient nature and extent to identify cultural resources that would be affected by/from tower pad construction, access road installation, and transmission line construction and operation. At a minimum, field surveys shall be conducted along newly proposed access roads, new construction yards, and any other projected impact areas outside of the previously surveyed corridor. Site-specific field surveys shall also be undertaken at all projected areas of impact within the previously surveyed corridor that coincide with previously recorded cultural resource locations. The selected right-of-way shall be staked prior to the cultural resource field surveys.

3. As part of the inventory report, the Holder shall evaluate the significance of all affected cultural resources and provide recommendations with regard to their eligibility for the National Register of Historic Places. Determinations of National Register eligibility will be made by the Authorized Officer in consultation with the appropriate SHPO.

4. Upon approval of the inventory report by the Authorized Officer, the Holder shall prepare and submit for approval a cultural resource treatment plan for National Register-eligible cultural resources to mitigate identified impacts. Avoidance, recordation and data recovery will be used as mitigation alternatives.

5. The Authorized Officer may require the relocation of the line, ancillary facilities, or temporary facilities or work areas, if any, where relocation would avoid or reduce damage to cultural resource values.

6. If avoidance of specific cultural resources is not feasible, treatment shall be carried out as determined by the Authorized Officer in consultation with the appropriate SHPO.

7. When necessary to relocate the proposed line, ancillary facilities, temporary facilities, or work areas as a result of inventory, on-site avoidance decisions, or the Holder's approved request for relocation, the Holder shall inventory the proposed new locations for cultural resources and provide inventory results to the Authorized Officer prior to construction. Any mitigation deemed necessary by the Authorized Officer shall be completed prior to undertaking any surface disturbing activities.

8. All cultural resource work undertaken by the Holder on public lands shall be carried out by qualified professionals designated on a currently valid Cultural Resource Use Permit for the appropriate state.

9. Notices to proceed will be issued following completion, and approval by the Authorized Officer, of any field work determined necessary through the inventory, evaluation and consultation process described above.

10. Vehicles and equipment shall be confined and operated only within areas specified by the Authorized Officer. Off-road travel by employees will not be allowed except in areas previously approved by the Authorized Officer.

11. Unauthorized collection of artifacts or other cultural materials on or off the right-of-way by the Holder, his representatives or employees will not be allowed. Violators will be subject to prosecution under the appropriate State and Federal laws. Unauthorized collection may constitute grounds for the issuance of a stop work order.

B-10. Paleontological Resources.

1. Prior to construction and all other surface-disturbing activities, the Holder shall have conducted and submitted for approval an inventory of paleontological resources within highly sensitive areas that will be affected by the project as determined by the Authorized Officer.

2. As part of the inventory report, the Holder will evaluate the significance of the paleontological resources that will be affected

3. Upon approval of the inventory report by the Authorized Officer, the Holder shall prepare and submit for approval a plan to mitigate identified impacts. Avoidance, recordation and data recovery will be used as mitigation alternatives.

4. If avoidance of significant paleontological resources is not feasible or appropriate, treatment shall be carried out as determined by the Authorized Officer.

5. All paleontological work undertaken by the Holder on public lands shall be carried out by qualified professionals designated on a currently valid Paleontological Collecting Permit for the appropriate state.

6. Notices to Proceed will be issued following completion, and approval by the Authorized Officer, of any field work determined necessary through the inventory and evaluation process described above.

EXHIBIT "C"
Legal Description

PALM SPRINGS QUADRANGLE

T. 3 S., R. 5 E.
Sections: 30, 34; PORTION OF
T. 5 S., R. 7 E.
Sections: 2, 12; PORTION OF
T. 5 S., R. 8 E.
Sections: 22, 24; PORTION OF
T. 5 S., R. 9 E.
Sections: 28, 30, 34 ; PORTION OF

EAGLE MOUNTAIN QUADRANGLE

T. 6 S., R. 10 E.
Sections: 4, 6 ; PORTION OF
T. 6 S., R. 11 E.
Sections: 14, 18, 20, 22, 24 ; PORTION OF
T. 6 S., R. 12 E.
Sections: 12, 13, 14, 15, 18 ; PORTION OF
T. 6 S., R. 13 E.
Sections: 8, 10, 11, 12 ; PORTION OF
T. 6 S., R. 14 E.
Sections: 2, 3, 4, 6; PORTION OF
T. 5 S., R. 15 E.
Sections: 32, 33, 34, 35 ; PORTION OF
T. 5 S., R. 16 E.
Sections 31, 32, 33, 34, 35; PORTION OF
T. 6 S., R. 16 E.
Sections: 1, 2, 3; PORTION OF
T. 6 S., R. 17 E.
Sections: 6, 7, 8, 9, 10, 14, 15, 24; PORTION OF
T. 6 S., R. 18 E.
Sections: 19, 29, 30, 32, 33, 34 ; PORTION OF
T. 7 S., R. 18 E.
Sections: 2, 3 ; PORTION OF
T. 7 S., R. 19 E.
Sections: 4, 6 ; PORTION OF

BLYTHE QUADRANGLE

T. 7 S., R. 19 E.
Sections: 1, 2, 3, 4; PORTION OF
T. 7 S., R. 20 E.
Sections: 1, 2, 3, 4, 5, 6; PORTION OF
T. 7 S., R. 21 E.
Sections: 7, 8, 17, 21, 22, 25, 26; PORTION OF
T 7 S., R. 23 E.
Sections: 27, 28, 29; PORTION OF

BLYTHE

T. 2 N., R. 22 W.
Sections: 1, 2, 3, 4, 5, 6; PORTION OF
T. 3 N., R. 21 W.
Sections: 11, 13, 14, 15, 16 20, 21, 29, 30, 31; PORTION OF
T. 3 N., R. 20 W.
Sections: 18, 19, 20, 28, 29, 33, 34, 35, 36; PORTION OF
T. 3 N., R. 19 W.
Sections: 31, 32; PORTION OF
T. 2 N., R. 19 W.
Sections: 2, 3, 4, 5, 11, 12 ; PORTION OF

SALOME QUADRANGLE

T. 2 N., R. 14 W.
Sections: 10, 11, 12, 15, 16, 17, 18 PORTION OF
T. 2 N., R. 13 W.
Sections: 1, 7, 8, 9, 10, 11, 12; PORTION OF
T. 2 N., R. 12 W.
Sections: 1, 2, 3, 4, 5, 6, 7; PORTION OF
T. 2 N., R. 11 W.
Section: 6; PORTION OF
T. 3 N., R. 10 W.
Section: 24; PORTION OF
T. 3 N., R. 9 W.
Sections: 19, 20, 21, 22, 23, 25, 26; PORTION OF
T. 3 N., R. 8 W.
Sections: 30, 31, 32, 33, 34, 35; PORTION OF
T. 2 N., R. 8 W.
Sections: 2, 11, 12, 13, 24; PORTION OF

LITTLE HORN MOUNTAINS

T. 2 N., R. 8 W.
Sections: 24, 25; PORTION OF
T. 2 N., R. 7 W.
Section: 31; PORTION OF
T. 1 N., R. 7 W.
Sections: 6, 7, 8; PORTION OF

PHOENIX SOUTH

T. 1 N., R. 7 W.
Sections: 8, 16, 17, 21, 27, 28, 34, 35; PORTION OF
T. 1 S., R. 7 W.
Section: 1; PORTION OF
T. 1 S., R. 6 W.
Section: 4; PORTION OF

REVISED 7/3/89

DEVERS-PALO VERDE #2
TRANSMISSION LINE PROJECT
Southern California Edison Company

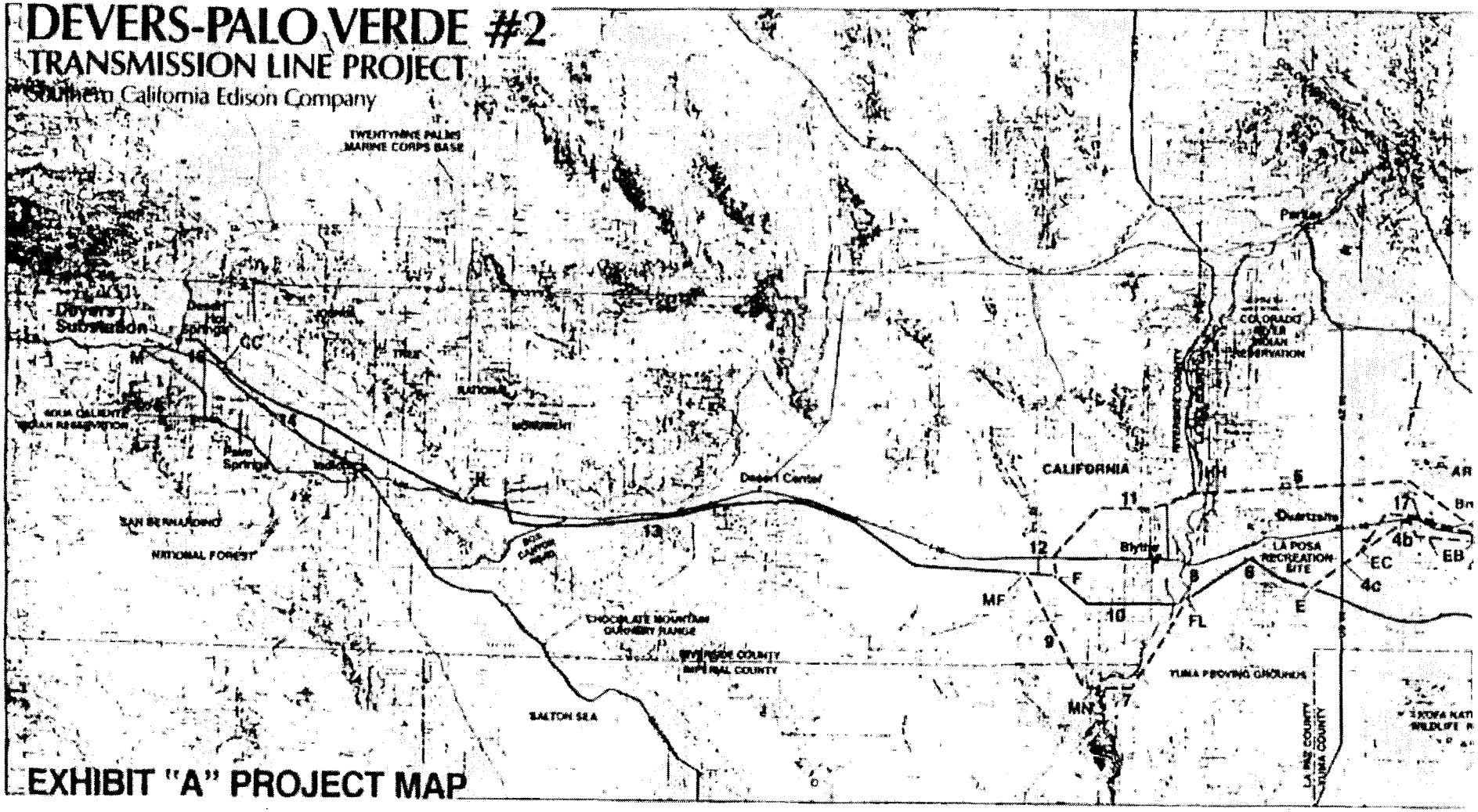
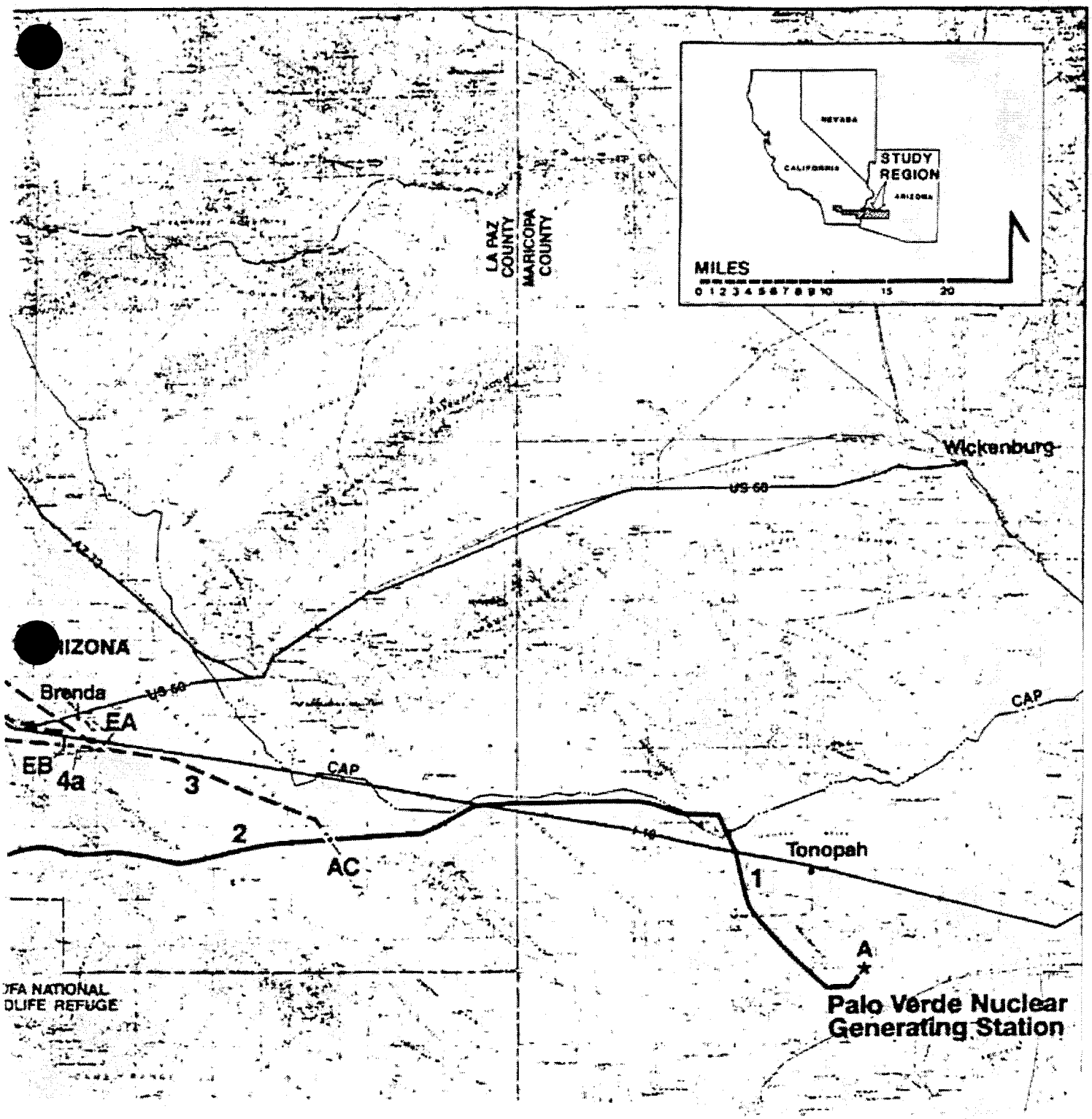


EXHIBIT "A" PROJECT MAP

Preferred Route

Subalternate Routes



FOR CALIFORNIA PUBLIC UTILITIES COMMISSION
FILING — GENERAL ORDER 131-B

DEVERS-PALO VERDE #2
500kV TRANSMISSION LINE PROJECT

Southern California Edison Company

APPENDIX C
CERTIFICATE OF RIGHT-OF-WAY COMPATIBILITY

KOFA National Wildlife Refuge

U.S. Fish and Wildlife Service (March 1, 1989)

LA-Arizona
Kofa NWR

CERTIFICATE OF RIGHT-OF-WAY COMPATIBILITY

WHEREAS, the U.S. Fish and Wildlife Service has received an application from Southern California Edison Company for a 500kV electrical transmission line across lands of the Kofa National Wildlife Refuge, Yuma County, Arizona.

WHEREAS, this Service is in the process of issuing a permit or easement for this right-of-way under the authority contained in the National Wildlife Refuge System Administration Act of October 15, 1966 (80 Stat. 926; 16 USC 668dd) as amended, and

WHEREAS, Section 4(d)(2) of this Act requires a determination (attached) "that such uses are compatible with the purposes for which these areas are established.

I, THEREFORE, NOW certify that this non-programmed use of the above area is compatible with the purpose for which the land was acquired subject to established mitigation measures and to the stipulation that no further above-ground utility development of this corridor be permitted after construction of this transmission

March 1, 1989
Date

Regional Director

Attachment

CERTIFICATE OF RIGHT-OF-WAY (ROW) COMPATIBILITY
KOFA NATIONAL WILDLIFE REFUGE

The proposed ROW under consideration for permit is the designated preferred alternative route for the Devers-Palo Verde #2 500kV Transmission Line depicted in the Supplementary Environmental Impact Statement prepared by the Bureau of Land Management, Riverside, California office. We have reviewed this ROW to determine its compatibility with the purposes for which the Kofa National Wildlife Refuge (Refuge) was established. These purposes, as set for in the Refuge's executive order of establishment, include "the conservation and development of natural wildlife resources...and natural forage resources." With emphasis given to the conservation and protection of the desert highorn sheep Ovis canadensis mexicana, management of the Kofa Refuge also encompasses the similar conservation and protection of all flora and fauna of the desert community lying within its boundaries. The analysis of the ROW has found that, with certain stipulations, it would be compatible with those purposes. The following facts form the basis for our findings:

-- Since 1950, the proposed route has been used for interstate pipelines and transmission lines. These have been constructed both prior to and after the designation of the Kofa Refuge as a unit of the National Wildlife Refuge System with sole jurisdiction by the U.S. Fish and Wildlife Service. There are currently three natural gas pipelines and the initial 500kV transmission line occupying the proposed route traversing the Refuge. Therefore impacts of the proposed power line would be confined to an established ROW where environmental disturbances have already occurred.

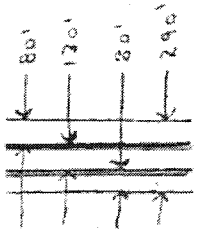
-- Previous findings of non-compatibility for the initial transmission line and the line currently under consideration were based on assumptions that a more northerly (off-refuge) route would be a feasible alternative. Because such a route would impact lands and resources contained within the Bureau of Land Management's New Waters Mountains Wilderness Study Area, it cannot be deemed a feasible alternative and has been eliminated from any further consideration.

-- Although the existing and proposed Devers-Palo Verde transmission lines are routed adjacent to proposed wilderness areas on the Kofa Refuge, they remain within the Crystal Hill-Coyote Peak Exclusion, an area specifically eliminated from consideration for wilderness designation because of its utility ROW development. As stated in the Environmental Impact Statement prepared for the 1974 wilderness proposal, wilderness designation would provide for continuation of existing rights-of-way, easements, and permits, and would not preclude additional routes on those lands excluded from wilderness designation if authorized under permit from this agency.

-- Construction of the transmission line facilities will be prohibited in or near bighorn sheep lambing areas from January 1 to March 31.

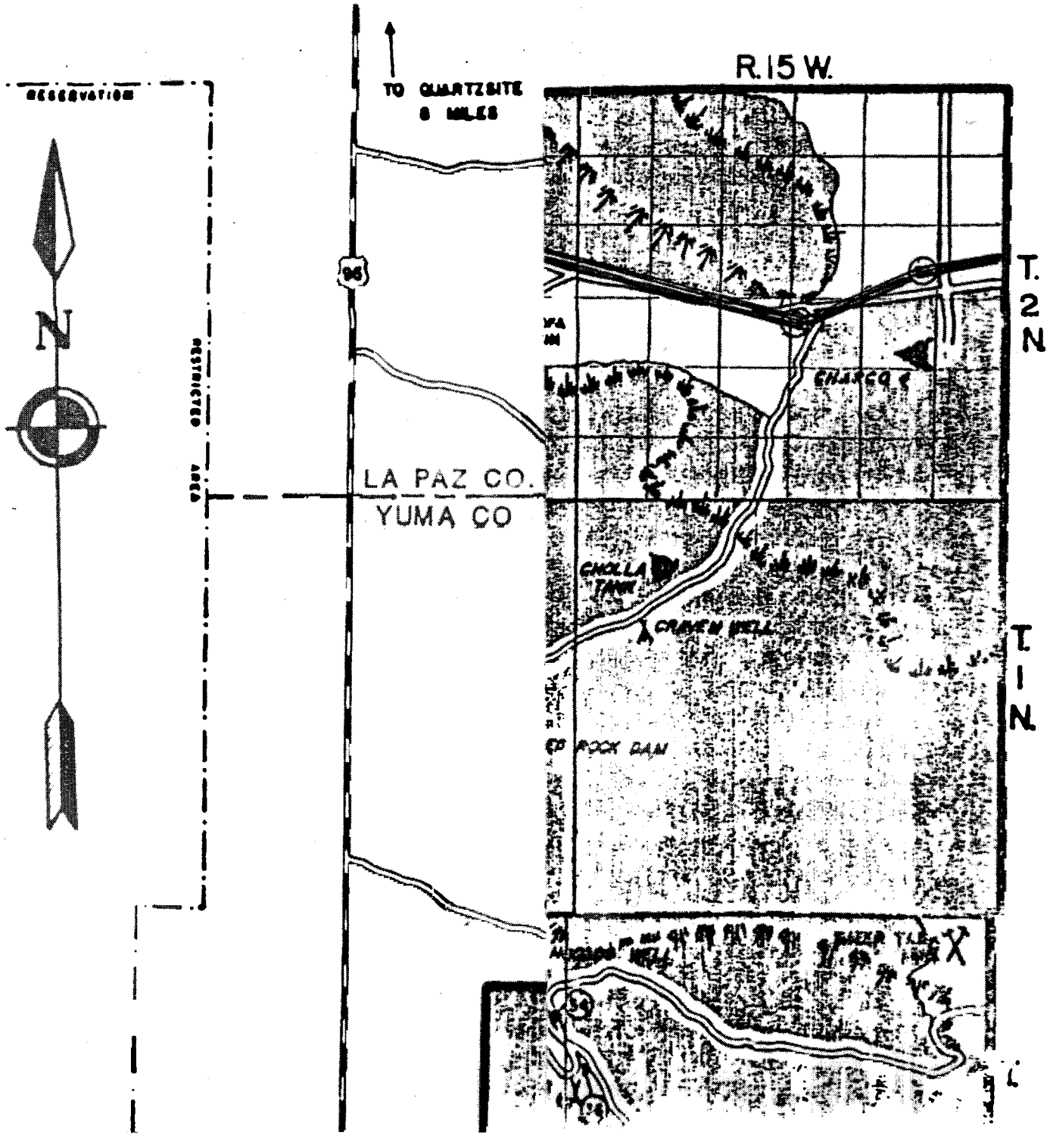
-- Determination of specific tower site and spur road locations will be coordinated with Refuge personnel in order to minimize habitat disturbance and/or the loss of valuable habitat features.

-- Data currently available do not indicate any discernable impact on movement of bighorn sheep across the existing single transmission line ROW. However, of critical importance to the herd integrity of the sheep population is the avoidance of any barrier across movement corridors and the fragmentation of sheep habitat. The bighorn sheep study conducted for the initial power line ROW documented the fact that sheep on the Refuge and north of the Refuge are components of the same population. There is considerable movement of these animals between the Kofa Mountains-Livingston Hills on the Refuge and the Plomosa Mountains lying to the immediate north. Sheep moving between these areas must cross the ROW occupied by the Devers-Palo Verde No. 1 and the proposed line. It is not known, nor can anyone predict, how many such parallel transmission lines would constitute a barrier to sheep movement. Nor is it known if detrimental impacts would be manifested only by restricting movement. Behavioral modification, hesitation, or increases in physiological stress prior to actual crossing may be detrimental factors resulting from increases in numbers of transmission lines. For this reason, in addition to spatial considerations to restrict development impinging on lands of the Kofa Refuge, we consider this second line to be the upper limit of utility development in this area. Maintenance and upgrading of facilities would be permitted, but, following the construction of Devers-Palo Verde No. 2 Transmission Line, no further above-ground utilities would be constructed in this area.



EXISTING 500 KV TRANSMISSION LINE

PROPOSED 500 KV TRANSMISSION LINE



APPENDIX D
DPV2 AMENDED PEA
ALTERNATIVES ANALYSIS

Devers-Palo Verde No. 2 500kV Transmission Line
Amended Proponent's Environmental Assessment (August 1988)
Chapter 10, Section 10.4

DEVERS-PALO VERDE #2

500 kV TRANSMISSION LINE

AMENDED PROPONENT'S ENVIRONMENTAL ASSESSMENT

AUGUST 1988

SOUTHERN CALIFORNIA EDISON

CHAPTER 10, SECTION 10.4

however, foregone benefits from additional transmission service sales to others impose an enormous penalty on this strategy. The annual net benefits of these two strategies are compared on Figure 10-6.

10.4 ROUTING ALTERNATIVES

10.4.1 Route Selection Study Process

Studies leading to the determination of the preferred transmission line route were conducted utilizing a systematic consideration of engineering, right of way, and environmental parameters. Optimally, the route selected would be one which can be constructed and reliably operated and maintained at an acceptable cost to the consumer, result in minimal adverse environmental and social impact, and meet the constraints and planning requirements of all affected governmental agencies. Toward this end, the following study goals were established:

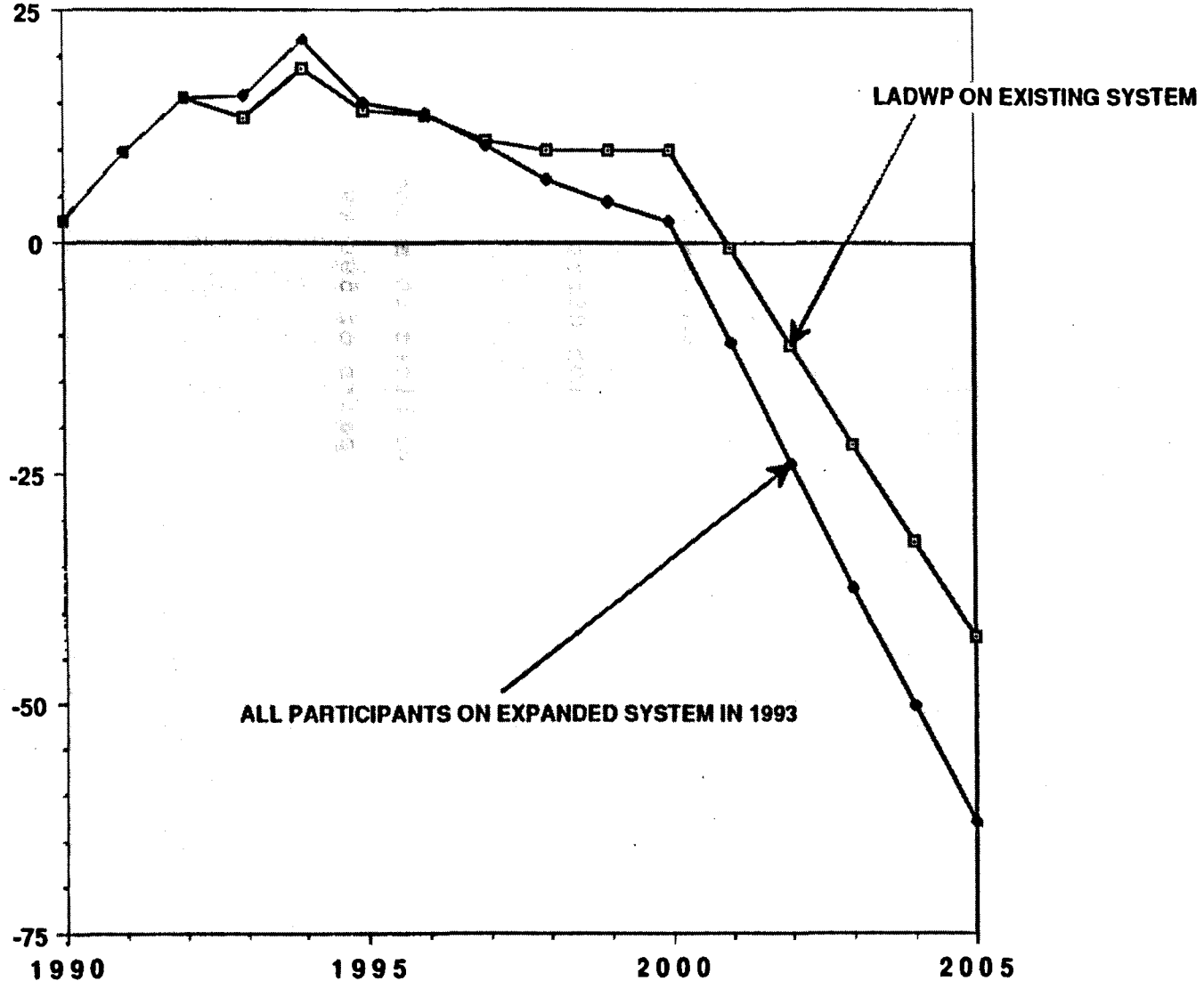
1. The studies should provide an environmental framework within which engineering and right of way decisions can be made.

2. The studies should quantify the environmental consequences of certain engineering decisions, identify areas of important environmental concern, and direct attention toward mitigation of sensitive problems and significant impacts identified in the study effort.

3. The studies should include inputs from local, state and federal agencies and appropriate private entities to augment the compatability of engineering decisions with overall resource planning and management within the study area.

NET BENEFITS - EXISTING VS. EXPANDED SYSTEM

FIGURE 10-6



4. The environmental studies should represent a comprehensive data base and evaluation system for governmental bodies to utilize in their decision-making processes.

Also, the studies were conducted utilizing general engineering and environmental guidelines as follows:

Engineering Guidelines

1. The transmission system would be designed to meet Western Systems Coordinating Council (WSCC) reliability criteria for system design.

2. Minimum centerline separation distances for 500 kV lines would be:

   a 130 feet between two lines in a common corridor.

   b 2,000 feet between pairs of 500 kV transmission lines

Environmental Guidelines

1. Maximum utilization would be made of existing, approved, or proposed transmission corridors and utility right of way and access roads in the

selection and routing of the transmission line, subject to reliability considerations

2. Crossings of, and routings parallel to, major or scenic highways will be avoided or minimized.

3. Population centers will be avoided, where practicable.

4. The study will be conducted in accordance with the requirements of the National Environmental Policy (NEPA), the National Historic Preservation Act of 1966, Executive Order 11593, Title 36 CFR Part 800 et. seq., the California Environmental Quality Act (CEQA), State of California Public Utilities Commission Rules of Practice and Procedure, as well as the WSCC, and the U.S Interior and Agriculture Departments Environmental Criteria for Electric Transmission Systems.

Given the transmission system described in Chapter 3, it was necessary to locate the best route for a transmission line from the PVNGS switchyard to the Devers Substation. An acceptable route was defined as the shortest route between the points of

origin and termination that meets all applicable regulations, avoids major constraints, and protects inherent environmental values.

Since the line had the same start and end points as existing Devers-Palo Verde #1 transmission line, it was decided to (1) review the siting studies that were conducted for the existing line in 1976 and 1977; (2 update important siting information to the present; (3) identify currently existing sensitivities; and 4 develop preferred and alternate routes for the proposed Devers-Palo Verde #2 line

The methodology utilized in data collection and other pertinent information for the study process was comprised of the following:

1. A literature and site records search.

2. Limited field studies.

3. Low level helicopter reconnaissance.

4. Utilization of data previously collected for the Devers-Palo Verde #1, Kaiparowits, Vidal, Eagle Mountain-Hobson and Mohave-Red Lake Canyon projects.

5. Interviews with and data acquisition from applicable federal and Arizona and California state and local agency representatives and special interest and environmental groups.

The conclusions of this assessment of the potential transmission line routes is based on a synthesis of data gathered by these methods.

The data clearly indicated the most environmentally acceptable route between Devers and the PVNGS switchyard was one that paralleled the existing Devers-Palo Verde #1 line as much as possible, thus maximizing the use of existing access. However, it was also clear that there were several areas along the Devers-Palo Verde #1 line route that may be sensitive to the construction of a second line. These sensitive areas are the KOFA National Wildlife Refuge in Arizona and the Palo Verde Valley near Blythe, California. Therefore, the siting study focused on identifying routing options in these areas if sensitivities associated with current environmental conditions prove greater than they were when the Devers-Palo Verde #1 line was approved by the Bureau of Land Management (BLM), the California Public Utilities Commission (CPUC and the Arizona Transmission Line Siting Commission

Devers-Palo Verde #1 line route follows an El Paso Natural pipeline through the KOFA National Wildlife Refuge in Arizona in a corridor that divides two areas administratively endorsed as suitable for Wilderness Designation. The U.S. Fish Wildlife Service USFWS), who administers the KOFA, opposed the Devers-Palo Verde #1 line route through the KOFA. Their concerns were related to land use conflicts with the proposed wilderness area and scenic visual impacts to users of the KOFA. However, based on the evaluation of data presented in the BLM's Environmental Impact Statement (EIS) for the Devers-Palo Verde #1 line, the Arizona Transmission Line Siting Committee and subsequently the BLM approved the route through the KOFA. The USFWS has indicated opposition to the proposed project through the KOFA on the existing route

Sensitivities near Blythe, California within the Palo Verde Valley area are associated with crossing of farmlands by the proposed line. The Devers-Palo Verde #1 line route through the Valley was selected after an intensive study of a number of subalternate routes. The tower locations were selected to minimize loss of cropland. The line was placed on section lines to minimize potential conflicts with cropdusting activities. The BLM and the CPUC approved the route based on the results of a lengthy EIS/EIR process which included public hearings.

As stated before, initially, subalternate routing options identified in the Devers-Palo Verde #1 line siting studies were selected for the Devers-Palo Verde #2 line. Information on the #1 line subalternate routes was updated to include current uses and identify potential conflicts. Route modifications were investigated to improve subalternate suitability for location of the proposed project. As a result of these analyses, four subalternate routes were identified as follows:

- Subalternate 1: Points AC-EA-E; Links 3, 4a, 4b, and 4c

  Subalternate 2: Points AC-EA-HH-F; Links 3, 5, and 11
- Subalternate 3: Points FL-MN-MF; Links 7 and 9
- Subalternate 4: Points AC-EA-EB-EC-E; Links 3, 4a, 17, and 4c.

Numerous governmental agencies, groups, and persons were contacted (see Appendix G) by Edison representatives and the study team to collect information on the subalternates. Also, public information meetings were held in various communities see Appendix F Potential routing alignments within the study area were presented at the meetings and resource information and comments were requested. The intention of the public participation program was to contact all who might wish to have input to the proposed action. Several factors

identified in those contacts contributed to the early deletion of two other subalternate routes, shown on Map 19, as viable alternatives.

One of these eliminated routes would have proceeded north from the PVNGS switchyard. The route would traverse 186 miles before connecting with the preferred route approximately 4 miles west of Desert Center, California, at the base of the Eagle Mountains. The area through which the alignment would traverse contains several Wilderness Study Areas. Residents of the Tonopah Valley expressed strong opposition to this route at a public information meeting held on July 15, 1985 in Tonopah (See Appendix F The environmental costs associated with constructing over 22 miles of new access roads is a major constraint to the selection of this route as a viable subalternate when compared to the other routing options. Although this subalternate avoids both the KOFA and the Palo Verde Valley it appears to have significant sensitivities and disadvantages that the preferred route and Subalternates 1, 2, 3, and 4 do not have. Therefore it was eliminated from further study.

The second eliminated subalternate (points CC-K, Link 15 was selected to provide an alternate approach to the Devers Substation. However the route is highly visible to residents of Sky Valley and is not within the designated BLM transmission

corridor. Residents of Desert Hot Springs expressed strong opposition to this route at a public information meeting held in Desert Hot Springs on July 17, 1985 (see Appendix F). The subalternate has significant sensitivities that the preferred route does not have. The route does not present any advantages over the preferred route. Therefore, it also was eliminated from further study.

The four subalternate routes selected for consideration are considered viable routes if sensitivities associated with the preferred route in these areas are greater than currently known. Descriptions of the subalternate routes listing environmental sensitivities not associated with the preferred route are presented below.

Subalternate 1 (Points AC-AE-E; Links 3, 4a, 4b, and 4c) is of the "Brenda Route" that was evaluated in the BLM's EIS the Devers-Palo Verde #1 transmission line project. Subalternate 1 was selected for further evaluation for the proposed project since it would traverse north of the existing KOFA boundaries. However, it does cross a BLM WSA(AZ-2-125, New Water Mountain) and a USFWS proposed northern extension to the KOFA as it parallels I-10 to the south. Congress has to decide both on the suitability of the BLM WSA for designation

as wilderness and on the proposed extension before the line could be constructed on this subalternate. This makes Subalternate 1 an unlikely choice.

Subalternate 2 (Points AC-EA-HH-F; Links 3, 5 and 11) is a portion of Subalternate Route "P" which was evaluated in the BLM's EIS for the Devers-Palo Verde #1 line. Subalternate 2 selected for evaluation since it provides an alternate routing around the KOFA and north of Blythe. It does, however, cross the Colorado River Indian Reservation. The Colorado River Indian Reservation Tribal Council denied Edison a right of way for the Devers-Palo Verde #1 line and, in recent contacts, has indicated a right of way would not be approved the proposed project.

Subalternate 3 Points FL-MN-MF; Links 7 and 9 was not evaluated for the Devers-Palo Verde #1 line. It was included in this study since it crosses the Palo Verde Valley south of existing line and further south of Blythe. It avoids more agricultural lands than the preferred route. However, the route impacts several significant archaeological sites, including the Kipley Intaglios, and would result in high biological impact as it crosses the Colorado River.

Subalternate 4 (Points AC-EA-EB-EC-E; Links 3, 4a, 17 and 4c) is the same as Subalternate 1 except it crosses Interstate 10 I-10) twice and Arizona U.S. Highway 60 once to follow the Celeron/All American Pipeline corridor north of I-10. Subalternate 4 avoids crossing the KOFA. However, it does traverse an area north of I-10 that is identified in the BLM's Lower Gila Management Plan as being unsuitable for overhead transmission lines

Each of the four subalternate routes consists of a two-mile corridor with the centerline located in the middle of the corridor. The centerline is used in the descriptions which follow and in locating the corridors on the maps

10.4.2 Description of the Subalternate Routes

10.4.2.1 Subalternate 1: Points AC-AE-E; Links 3, 4a, 4b and 4c

Subalternate 1 departs the preferred route approximately 1-1/2 miles west of the Eagletail Mountains and 3 miles south of the Salome Emergency Airfield. The route then traverses in a northwesterly direction. Approximately 9 miles from the point of departure from the preferred route would be the location of series compensation facilities for this subalternate route

route then meets I-10 8 miles from the compensation facilities and then parallels I-10. It continues in a northwesterly direction below Bear Hills and towards the intersection of I-10 and US 60, and remains on the south side of I-10 while skirting the Plomosa Mountains. The route then leaves its parallel with I-10 at the western edge of the Plomosa Mountains and traverses in a southwesterly direction approximately 14 miles. The route passes 4-1/2 miles south of Quartzsite and crosses Arizona State Highway 95. The route joins the preferred route at the eastern edge of the Dome Rock Mountains.

10.4.2.2 Subalternate 2: Points AC-EA-HH-F; Links 3, 5 and 11

Subalternate 2 departs the preferred route approximately 1-1/2 miles west of the Eagletail Mountains and 3 miles south of the Salome Emergency Airfield. The route then traverses in a northwesterly direction. Approximately 9 miles from the point of departure from the preferred route would be the location of series compensation facilities for this subalternate route The route would then meet I-10 8 miles from the compensation facilities and then parallels I-10. The route would continue in a northwesterly direction below Bear Hills, crosses I-10 and passes along the southwesterly side of Bear Hills heading towards US 60. The route crosses Arizona US 60 approximately 4 miles northwest of the I-10 crossing. The route continues in

a northwesterly direction through the Plomosa Mountains then heads westerly at the western edge of the Plomosa Mountains approximately 5 miles north of I-10. The route crosses Arizona State Highway 95 at a point five miles north of Quartzsite. It then traverses through the Dome Rock Mountains and passes through the Colorado River Indian Reservation heading towards the Colorado River. After crossing the river, the route traverses approximately one mile of farmland and then crosses the main canal and the California U.S. Highway 95 prior to heading in a southwesterly direction along the southern edge of the Big Maria Mountains. After traversing west to a point 4 miles north of Blythe Airport, the route turns in a southwesterly direction for approximately 7 miles, where it crosses I-10, and joins the preferred route one mile south of I-10.

10.4.2.3 Subalternate 3: Points FL-MN-MF; Links 7 and 9

Subalternate 3 departs the preferred route 1/2 mile east of the Colorado River and heads in a southwesterly direction for approximately 14 miles. In this segment the route parallels the Colorado River. Located approximately 5 miles southwest of preferred route, Subalternate 3 crosses within 1/4 mile of northwest corner of the Yuma Proving Ground. One mile north of the Cibola National Wildlife Refuge the route turns west and crosses the Colorado River and traverses farmland.

The route continues west 1-1/2 miles past the River, then turns in a northwesterly direction towards the preferred route through the Mule Mountains. The route joins the preferred route approximately 1-1/2 miles south of I-10.

10.4.2.4 Subalternate 4: Points AC-EA-EB-EC-E; Links 3, 4a, 17 and 4c

Subalternate 4 departs the preferred route approximately 1-1/2 miles west of the Eagletail Mountains and 3 miles south of the Salome Emergency Airfield. It then traverses in a northwesterly direction. Approximately 9 miles from the point of departure from the preferred route would be the location of series compensation facilities for this subalternate route. The route then meets I-10 8 miles from the compensation facilities and parallels I-10. The route continues in a northwesterly direction below Bear Hills. Approximately 3 miles west of Bear Hills the route turns north and crosses I-10. The route then continues in a westerly direction towards Arizona U.S. Highway 60. After crossing Arizona U.S. Highway 60, the route skirts through the Plomosa Mountains north of Arizona U.S. Highway 60 and I-10. Approximately 2 miles west of the Plomosa Mountains, the route turns in a southwesterly direction and crosses I-10. The route has a small angle 4 miles southwest of Quartzsite. The route joins the preferred route at the eastern edge of the Dome Rock Mountains.

10.4.3 Existing Environmental Setting

10.4.3.1 Land Use

See Section 4.1 for a detailed description of the existing land use for the subalternate routes.

10.4.3.2 Cultural Resources

See Section 4.2 for a detailed description of the existing cultural resource setting for the subalternate routes. Cultural resource sensitivities for the subalternate routes are presented in Maps 8-A2 and 8-CA

10.4.3.3 Geologic and Pedologic Resources

Subalternate 1 (AC-EA-E; Links 3, 4a, 4b and 4c) The majority of this subalternate route alignment is underlain by Holocene to Pleistocene alluvial surfaces of the La Posa plain to the west and the Ranegras Plain to the east. The central portion of this route crosses the granitic and volcanic bedrock of the Plomosa Mountains. The alignment lies in the Eastern Mojave Desert and Sonoran Desert physiographic provinces. These provinces exhibit a low level of seismic activity and no recently active faults have been mapped in the vicinity of the proposed subalternate alignment

The soil associations which underlie the subalternate route consist of a thin Orthent cover over the Plomosa Mountains in the center of the alignment, flanked by Orthid and locally Argid alluvial fans emanating from the mountain slopes, with recent Fluvents and Psamments in the central La Posa and Ranegras Plains, along the Tyson and Bouses washes, respectively.

Based on the results of the field reconnaissance, the majority of the alignment is anticipated to exhibit moderate to low surface water runoff erosion sensitivity. Although potentially sensitive to water runoff erosion, the Entisols found in Tyson Wash are anticipated to have a low surface water runoff erosion sensitivity because the alignment crosses the wash at right angles. However, the alignment parallels the gradient of the upper Bouse Wash; thus, the Entisols found in that wash are anticipated to have a moderate sensitivity to surface water runoff erosion. Aridisols, occurring in the moderate relief hills of the Plomosa Mountains, are also anticipated to exhibit low water runoff erosion sensitivity. The soil in the vicinity of the alignment would have moderate to high sensitivity to consolidation and wind erosion during construction.

Subalternate 2 (AC-EA-HH-F; Links 3, 5, 11) - This subalternate route is underlain by Holocene alluvium and Pleistocene alluvial deposits derived from bordering mountains. The western portion of the route crosses small hills composed of

igneous and metamorphic bedrock near the edge of the McCoy and Maria Mountains; the eastern portion of the route crosses the Dome Rock and Plomosa Mountains.

route is in the Eastern Mojave Desert physiographic province, which is characterized by low levels of seismic activity. The route passes near the Blythe Graben; the fault associated with this structure displaces Pleistocene alluvium has not been shown to be the source of either recorded or historical seismicity.

soil associations which underlie this corridor are shown on Plate 9 in Edison's 1977 Environmental Report for the existing Devers-Palo Verde #1 transmission line. Soils to the west of Colorado River consist mostly of Entisols, although minor Orthid and Argid soils will be crossed on alluvial fans bordering the McCoy and Big Maria Mountains. East of the Colorado River, Orthids and Argids are extensive, with only local areas of Entisols occurring in the Palo Verde Valley and along the center of La Posa Plain along Tyson Wash.

Based on the results of the field reconnaissance, the majority the alignment is anticipated to have moderate to low surface water runoff erosion sensitivity. West of the Colorado River, predominant Entisols on low relief terrain are anticipated to exhibit moderate erosion sensitivity; east of the Colorado River, predominant Aridisols are anticipated to exhibit low

erosion sensitivity; in the vicinity of the Colorado River, highly erodible sediments are anticipated to be highly sensitive to surface water runoff erosion. The soil along the alignment would have moderate to low sensitivity to consolidation and wind erosion during construction.

Subalternate 3 (Points FL-MN-MF; Links 7 and 9 - The major portion of this subalternate route is underlain by Holocene alluvium and Pleistocene alluvial deposits. Approximately one mile of the northwest portion of the alignment crosses the igneous and metamorphic bedrock in the Mule Mountains. This subalternate route is located in the Eastern Mojave Desert physiographic province, which is characterized by a low level of seismic activity. This route does not cross any known active faults.

The alignment is mostly underlain by Orthid and local Argid soils which form the surfaces of dissected old alluvial fans that emanate from the Mule and Palo Verde Mountains to the west and the Dome Rock Mountains to the east. Locally these soils are underlain by soft erodible river and lacustrian fine silty and sandy deposits. Washes, slopes of washes, and the present Colorado River floodplain are underlain by young Entisols.

Based on the results of field reconnaissance, it is anticipated that the majority of the alignment will have high surface water runoff erosion sensitivity with moderate sensitivity in the

Mule Mountains. The portion of the alignment which crosses irrigated farmland in the Colorado River floodplain was designated as having low surface water runoff erosion sensitivity. In the same area, the soil is anticipated to have low sensitivity to consolidation and wind erosion during construction because of the existing agriculture. In areas outside the Colorado River floodplain, however, the soil sensitivity varies from low in old Aridisols to high in recent Fluvents.

Subalternate 4 (EA-EB-EC-E; Links 3, 4a, 17 and 4c - The majority of this subalternate route is underlain by Holocene to Pleistocene alluvial surfaces of the La Posa plain to the west and Ranegras Plain to the east. The central portion of this route crosses the granitic and volcanic bedrock of the Plomosa Mountains. The alignment lies in the Eastern Mojave Desert and Sonoran Desert physiographic provinces. These provinces exhibit a low level of seismic activity and no recently active faults have been mapped in the vicinity of the proposed subalternate alignment

The soil associations which underlie the subalternate route consist of a thin Orthent cover over the Plomosa Mountains in the center of the alignment, flanked by Orthid and locally Argid alluvial fans emanating from the mountain slopes

Based on the results of the field reconnaissance, the majority of the alignment is anticipated to exhibit moderate to low surface water runoff erosion sensitivity. Aridisols, occurring in the moderate relief hills of the Plomosa Mountains, are also anticipated to exhibit low water runoff erosion sensitivity. The soil in the vicinity of the alignment would have moderate to high sensitivity to consolidation and wind erosion during construction. Map 9-AZ shows the relative soil erosion ratings for this subalternate.

10.4.3.4 Meteorology, Climatology, Air Quality

See Section 4.4 for descriptions of the existing meteorology, climatology, and air quality which are applicable to the subalternate routes.

10.4.3.5 Hydrology

Subalternate 1 (AC-EA-E; Links 3, 4a, 4b and 4c) - This subalternate route crosses numerous small ephemeral drainages and washes. These drainages originate principally from the Plomosa Mountains and coalesce into the Tyson and Bouse washes which flow eventually into the Colorado River. The La Posa Plain and Ranegras Plain are groundwater basins.

Subalternate 2 (AC-EA-HH-F; Links 3, 5, 11) - This subalternate route crosses the Colorado River in the Palo Verde Valley and numerous small ephemeral drainages and washes which originate in the McCoy, Big Maria, Dome Rock, and Plomosa Mountains. These drainages flow either directly or indirectly into the Colorado River. The alignment crosses the Palo Verde Valley Palo Verde Mesa, and La Posa groundwater basins.

Subalternate 3 (FL-MN-MF; Links 7, 9 - This subalternate route crosses the Colorado River in Palo Verde Valley and crosses several small ephemeral drainages and washes which originate in the Mule, Palo Verde, and Dome Rock Mountains and which flow to the Colorado River. The Palo Verde Valley is underlain by the Palo Verde Mesa groundwater basin.

Subalternate 4 AC-EA-EB-EC-E; Links 3, 4a, 17 and 4c)) - This subalternate route crosses numerous small ephemeral drainages and washes which originate in the Plomosa Mountains.

10.4.3.6 Biology

The biological settings of the subalternate routes are similar to that described for the preferred route except for the significant differences discussed below.

Subalternate 1 (AC-EA-E; Links 3, 4a, 4b and 4c) - This subalternate route would cross less sensitive desert bighorn sheep habitat than the preferred route since it traverses the KOFA closer to the highway.

Subalternate 2 AC-EA-HH-F; Links 3, 5, 11 - This subalternate route differs from the preferred route where it crosses the Colorado River as it would traverse more riparian and wetland habitat than does the preferred route. This route has the potential for much greater impact to desert bighorn sheep as new access roads would have to be built into areas with high density bighorn populations. The result could be long term negative impact to sheep populations.

Subalternate 3 (FL-MN-MF; Links 7, 9) - This subalternate route is very similar to the preferred route with respect to flora, except that it crosses more major washes along the eastern shore of the Colorado River. Also, the Colorado River crossing of this route may involve more riparian habitat than the preferred route.

Subalternate 4 (AC-EA-EB-EC-E; Links 3, 4a, 17 and 4c - This subalternate route crosses less sensitive desert bighorn sheep habitat that the preferred route since it traverses the KOFA closer to the highway.

10.4.3.7 Noise

Section 4.7 for a detailed description of the existing sonic environment. This information is applicable for all the subalternate routes

10.4.3.8 Visual

Section 4.8 for a detailed description of the existing visual environment. This information is applicable for the subalternate routes

10.4.3.9 Socioeconomics

of Subalternates 1 and 4 and portions of Subalternates 2 and 3 are located in La Paz County, Arizona. Subalternates 2 and 3 cross into Riverside County, California and a small segment of Subalternate 3 crosses into Imperial County. In general, the socioeconomic characteristics pertinent to evaluating these routes were discussed in Chapter 4, Section 4.10, but additional route-specific features are discussed below.

Subalternate 1 (AC-EA-E; Links 3, 4a, 4b, and 4c) - No communities are located along Link 3 in La Paz County, Arizona Located north of the preferred route, Link 3 is closer to Interstate 10 (I-10) and thus, more easily accessible.

4c would intersect the La Posa Recreation Long-Term Visitor Area on BLM land located approximately five miles south of Quartzsite along U.S. 95. With 6,600 undeveloped camping units the capacity of the La Posa Recreation Site is 13,200, which is slightly less than the 1984 permanent population of the entire La Paz County. Vacationers visit this area during the winter tourist season between October and May. Visitation averages 452,172 visitor-days per year according to BLM estimates.

Subalternate 2 (AC-EA-HH-F; Links 3, 5, 11) - Link 5 would cross 60 within two miles of Brenda, a small rural community of approximately 25 permanent residents.

Subalternate 3 (FL-MN-MF; Links 7, 9) - Link 7 parallels the Colorado River recreation corridor and crosses near the BLM's Oxbow Recreation Area. A small portion of Link 9 enters Imperial County. A baseline inventory of this area is presented in Human Environmental Resource Studies: Devers-Palo Verde #2 Transmission Line Project (Draft, 1985), prepared by Wirth Environmental Services for the project.

Subalternate 4 (AC-EB-EC-E; Links 3, 4a, 17, 4c) - Link 17 parallels I-10 and requires three road crossings. Link 4c passes through the La Posa Recreation Site.

subalternate routes do not parallel usable existing access roads, and traverse sparsely populated desert. New access roads would be required because only unimproved roads approach subalternate routes in many areas.

In Arizona, Links 4a, 4b, and 17 are accessible via I-10 and U.S. 60. Link 4c would be crossed by U.S. 95 south of Quartzsite. Link 5 would be crossed by U.S. 60 near Brenda and by AZ 95 north of Quartzsite. Improved roads through the Colorado River Indian Reservation would provide access to Link 5 near the Colorado River. Link 7 would be accessible from various roads south of Blythe in California see Table 10.1, Link 7).

In California, CA 78 crosses Link 9 south of the Palo Verde townsite but the western portion of this link is not accessible from any major travel routes. U.S. 95 and various roads proceeding north from Blythe approach the eastern portion of Link 11 while I-10 crosses this route to the west.

As stated in Section 3.4, construction of the line will require a total of 350 to 400 workers over an 18-month period. Construction will commence at both ends of the line simultaneously and proceed toward Blythe. A series of work crews will be responsible for various aspects of site

TABLE 10.1

MAJOR TRAVEL ROUTE USE VOLUME, SUBALTERNATE ROUTES

Link No.	Major Travel Route	Use Volume[1]
Arizona		
1	No. Wintersburg Road at entrance at PVNGS	3,325
1	Buckeye-Salome Road	
	South of Salome to I-10	200
	South of I-10	1,300
2,4c, 17	U.S. 95 (Arizona)	1,300
4a,4b,5, 17	Arizona 60 junction of I-10	1,600
5	Arizona 95	3,400
5	Poston Road north of I-10	4,195
1,3,,6,17	I-10 (Arizona)	
	Between Blythe and Quartzsite	19,000-12,000
	Between Quartzsite and junction AZ 60	9,900-9,000
4a,4b,4c	Between AZ 60 to exit for PVNGS	8,100-12,0000
California		
7	Neighbors Boulevard north of 36th Avenue	500*
	34th Avenue west of Neighbors	284*
	32nd Avenue east of Neighbors	209*
7,10	Arrowhead Boulevard	171-246
	California 78 between Imperial/Riverside County Line and Ripley	1,900-2,000
	26th Avenue east of Lovekin	259*
	28th Avenue east of Neighbors Boulevard	1,025*
7,10,11	Lovekin Boulevard	1,630-4,220*
	18th Avenue east of CA 78	227*
	South Broadway north of Vanita	1,708*
	22nd Avenue	217-331
	Rannells Boulevard	226-269
	24th Avenue east of CA 78	197*
	Intake Boulevard north of 36th Avenue	300*
10,11	C&D Boulevard	326*
	Defrain Boulevard	353-622*
	U.S. 95 (California) at 6th Avenue	1,800
	4th Avenue east of Lovekin	200*

TABLE 10.1 (continued)
Major Travel Route Use Volume, Subalternate Routes

Link No.	Major Travel Route	Use Volume
11	10th Avenue between DeFrain Boulevard and U.S. 95	282-338*
	6th Avenue	400-800*
	Midland Road northwest of Lovekin Road	300*
	8th Avenue west of C&D Boulevard	351*
11,12,13	I-10 (California)	
	Between junction Route 62 and Indio, junction Route 111	26,000-11,000
	Between junction Route 111 and junction 177 North	11,000-8,300
	Between junction 177 North and Blythe, Rivera Drive Interchange	8,300-11,500
13	CA 177 at Junction of I-10	2,200
	Box Canyon Road	500*
14	Mountain View Road north of Varner	2,600*
	1000 Palms Road north of Ramon	900*
14	Ramon Road	
	West of Bob Hope Drive	13,000*
	East of Kubic	3,600*
	Date Palm Drive southwest of Varner	2,00
	Washington Street north of Varner	500
	Bob Hope Drive	11,667*
	Varner Road	
	East of Mountain View Road	2,187*
	West of Mountain View Road	784*
	CA 111	
	Between junction I-10 and Jackson Street in Indio	3,000-14,800
16	Dillon Road north of Coachella	1,700*
16	Indian Avenue	7,100-7,200
	Little Morongo Drive north of Dillon	4,900*
	Pierson Boulevard east of CA 62	1,700*
	CA 62 between junction I-10 and Pierson Blvd.	7,700-7,200

† 1984 Traffic Volumes on the California State Highay System, 1983 Traffic Volumes of Arizona State Highways and County Highways; and Riverside County Traffic Counts for 1983 and 1984*

* Riverside County traffic counts are derived from a 24-hour count performed every two years on the same date.

preparation, erection of towers, stringing of the conductor, and clean-up. It is estimated the largest crew will include 100 workers and the average crew size will be 80 workers, equipped with heavy-duty cranes, trucks, hole diggers and conductor stringing equipment. The crews will work in sequence proceeding from six staging areas established along the route. Probable locations of staging yards have not been determined

Edison estimates the proposed project would not require movements of people or goods for operation. Occasional maintenance of the line would be needed and would require the transporting of maintenance crews, but these are not expected to be more frequent than that required by the existing line

10.4.3.11 Public Health and Safety

Section 4.10 presents a description of the existing environment for the subalternate routes.

10.5 IMPACT ASSESSMENT OF SUBALTERNATE ROUTES

The following discussion addresses the environmental impacts that could result from use of the four subalternate routes. Refer to Chapter 5.0 for a definition of the impact categories.)

10.5.1 Land Use Impacts

Will the proposed subalternate routes either directly or indirectly:

	Impact	Significance
1. Conflict with the present land use of the area in which it will be located?		
Subalternate 1:	Potential	Potentially Significant

Link 4b crosses an industrial (extractive use (Milepost 6.9) Alignment to avoid or span the extractive site would mitigate the potentially significant impact.

Link 4c crosses in proximity to one single-family dwelling unit (Milepost 7.1 Siting the alignment to avoid the unit would effectively reduce the level of impact

	Impact	Significance
Subalternate 2:	Potential	Potentially Significant

Link 11 and a small section of Link 5 would cross irrigated cropland. Impacts to irrigated cropland would be potentially significant because the route does not parallel an existing transmission corridor and the resultant impacts would include removal of cropland from production and possible interference with farming operations. Alignments parallel or adjacent to field boundaries to the extent practicable would reduce impacts.

	Impact	Significance
Subalternate 3:	Potential	Potentially Significant

Links 7 and 9 would cross irrigated cropland. Impacts to irrigated cropland would be potentially significant because the route does not parallel an existing transmission line corridor (refer to Subalternate 2, above).

	Impact	Significance
Subalternate 4:	Potential	Potentially Significant

Link 4c crosses in proximity to one single-family dwelling unit (Milepost 7.1). Siting the alignment to avoid the unit would effectively reduce the level of impact.

2. Conflict with any elements of adopted environmental plans, policies, or goals of communities affected?

	Impact	Significance
Subalternates 1 and 4:	Potential	Potentially Significant

In Arizona, potentially significant impacts would occur where Links 17, 4a and 4b are located in a BLM utility corridor along I-10 that is identified in the BLM Final Lower Gila South Resource Management Plan, Environmental Impact Statement, Phoenix District, Arizona. The BLM, because of resource concerns, will have a restriction regarding overhead transmission lines due to the close proximity of important bighorn sheep lambing grounds north of I-10 and, because of terrain features north of the Interstate. Overhead transmission lines will not be allowed north of I-10 between townships 16W and 18W

Subalternate 2:	Potential	Potentially Significant

5 crosses 1.5 miles of an area designated as "Crop Area" by Colorado Indian Reservation General Plan. The impact of the alignment would be potentially significant if sited in conflict with future agricultural land use.

3. Conflict with established recreational, educational, religious, or scientific uses of the area?

	Impact	Significance
Subalternate 1:	Yes	Significant

Link 4b would cross an Arizona-Phoenix District BLM Wilderness Study Area. An interim management policy prohibits the location of a transmission corridor within a WSA during wilderness review and until Congress acts on WSAs. Thus, the impact would be unmitigably high and significant.

Link 4b-4c crosses the La Posa BLM Recreation Site and Long-Term Visitor Area. While mitigation measures would include alignments to avoid camping sites and avoidance of construction during holiday periods, the impact would remain significant.

	Impact	Significance
Subalternate 2:	Potential	Potentially Significant

Link 5 crosses a proposed Arizona Natural Area (Ehrenberg Mesquite Bosque) and the Colorado River and associated recreation uses. Link 11 crosses a BLM ACEC (Big Marias). Route alignments and tower placements which avoid sensitive features would effectively mitigate the impact in the proposed Arizona Natural Area, but a potentially significant impact would remain at the Colorado River and BLM ACEC because the route not follow any designated BLM utility corridor.

	IMPACT	SIGNIFICANCE
Subalternate 3:	Potential	Potentially Significant

Link 7 crosses a proposed Arizona natural area (Ripley) and Colorado River and associated recreation areas. Link 9 would cross Imperial County's Palo Verde Park. Mitigation efforts would include avoidance of construction during holiday periods and alignment to avoid sensitive features, but impacts to this park would remain potentially significant because the route not parallel an existing transmission corridor and would therefore impact existing recreation uses

	IMPACT	SIGNIFICANCE
Subalternate 4:	Potential	Significant

Link 4a crosses 0.3 miles of the area proposed for addition to the KOFA National Wildlife Refuge. Mitigation measures, such as avoiding sensitive features, would reduce impacts but impacts would still be potentially significant because the route does not follow an existing corridor.

Link 4c crosses a portion of the La Posa BLM recreation site and long-term visitor center. It is possible that mitigation measures which place towers to effectively re-route or span camping sites and avoid construction during holiday periods would reduce impact levels, but impacts would remain significant.

4. Occupy or affect any prime farmland?

	Impact	Significance
Subalternate 2:	Potential	Potentially Significant

Links 7 and 9 would cross prime irrigated farmland (impacts to specific irrigated farmland have been addressed in Section 4.1. Even assuming implementation of all recommended mitigation measures, such as placing the alignments along field section lines, impacts to irrigated cropland would be potentially significant because the route would not parallel an existing transmission corridor.

Subalternate 3:	Impact	Significance
	Potential	Potentially Significant

Link 11 would cross prime irrigated farmland. Even assuming implementation of mitigation measures, impacts to irrigated cropland would be potentially significant because the routes do not parallel an existing transmission line

	Impact	Significance
5. Encourage development of presently undeveloped areas or increase development sensitivity?	No	N/A

Since construction worker relocations will be temporary and workers are not expected to relocate with their families, the proposed project would not encourage development along the subalternate routes.

6. Affect any National Park, National Monument, National Seashore, National Recreation Area, Wildlife and Scenic River, State Park, State Beach, or State Recreation Area?

	Impact	Significance
Subalternates 1 and 4:	Potential	Potentially Significant

Link 4a-4b would cross an area proposed for addition to the KOFA National Wildlife Refuge. Impacts are potentially significant because, if incorporated within the KOFA National Wildlife Refuge, this area would be designated as an area of major sensitivity and no mitigation measures could effectively reduce the impact level.

10.5.2 Cultural Resource Impacts

Will the proposed subalternate routes either directly or indirectly:

	Impact	Significance
7. Affect any site or area listed in or eligible for listing in the National Register of Historic Places?	Potential	Potentially Significant

The subalternate routes have not been subjected to a complete archaeological survey. Based on a records and literature search, potentially significant cultural resource properties may be encountered along any of these routes. A site specific

inventory would have to be undertaken to determine which, if any, of these resources may be subject to impact if the project is constructed utilizing any of the subalternate routes Additionally, many of the resources located along the subalternate routes will have to be assessed of their National Register of Historic Places (NRHP) eligibility. Tables C1 C2, Appendix C present a list of all cultural resource properties known to be located within the two-mile wide study corridor for each link of the subalternate routes. General locational information, distance to the subalternate centerline, USGS quadrangle, and presence or absence of a complete archaeological survey of the route segment in the area of a recorded resource, and registration status with regard to NRHP are also given in Tables C-1 and C-2, Appendix C.

Along Subalternate 1, areas of high sensitivity are the La Posa Plains and the Ranegras Plain.

Along Subalternate 2, areas of high sensitivity are the Ranegras Plain, the Colorado River terraces, and the Big Maria Mountains.

Along Subalternate 3, areas of sensitivity comprise virtually the entire route (Mule Mountain, Palo Verde Mesa and the Colorado River terrace except for the Colorado River flood plain which is currently under cultivation)

Three NRHP Districts are located within one mile of the Subalternate 3 corridor on the California side in the Palo Verde Mesa area between the Mule Mountains and the Colorado River

On the Arizona side of Subalternate 3, the Colorado River terraces are very sensitive with regard to cultural resources At least three major intaglio groups, one of which the Ripley Group is listed on the NRHP, and sixty other potentially significant archeological resources are present within or near the Subalternate 3 corridor. In addition, present access to this area of Arizona is quite limited. Construction of the proposed transmission line and access road through this area may directly and indirectly impact these resources. Adequate mitigation measures for these potential impacts may not be available.

Along Subalternate 4, one area of high sensitivity is present the Seven Palms Ranch/Willow Hole area.

10.5.3 Geologic and Pedologic Impacts

Will the proposed subalternate routes either directly or indirectly:

	Impact	Significance
8. Alter or modify the topography or ground surface relief features?	Potential	Potentially Significant

All four subalternate routes would require the construction of new access roads, spur roads, and tower pads. All access roads would be 14 feet wide and bladed, but not paved. This would disturb the surface to a depth of approximately 6 inches as well as create a small berm of up to 1-1/2 feet in height on either side of the road. The movement of equipment over these roads would produce minor surficial compaction. In areas of low relief, minimal or no grading would be necessary for access and spur roads and for tower pads

In regions of moderate to high relief, such as the hills or mountains, or at drainage crossings encountered along all subalternate routes, some cuts and fills would be required for road and pad construction. Although potentially significant, the resulting cuts ano fills would be generally small. To minimize cuts and fills, pad locations would be carefully

chosen to maximize naturally horizontal terrain, and road locations would be chosen to follow natural topographic contours while minimizing grades to the extent practicable. Although new construction would alter topography, proper construction techniques should minimize the impact.

	Impact	Significance
9. Alter or modify any unique geologic or physical features such as beaches, marshes, or tidelands?	Potential	Potentially Significant

The only geologic or physical features along the subalternate routes that might be referred to as unique are the desert pavements. These features can be destroyed by the scraping off of pebbles. The pebbles can also be dislodged by tracked vehicles and by travel at high speeds in rubber-tired vehicles. The impact would be limited to the 14-foot wide access roads and spur roads to the tower pads. Considering the vast size of the desert pavement areas in some of the study area, changes to them along the subalternate alignments are anticipated to have minimal overall impacts. Impacts can be minimized by not grading the pavements, limiting the use of tracked vehicles, limiting speeds in rubber-tired vehicles, and by restricting traffic to one narrow path.

	Impact	Significance
10. Contribute to the erosion potential of the site?	Potential	Potentially Significant

Construction of new access roads, spur roads, and tower pads may contribute to the erosion potential along all the subalternate routes. Wind erosion impacts are anticipated to be primarily associated with construction traffic and should subside after construction is completed.

Erosion due to surface water runoff appears to be a more long-term impact. However, the soil erosion along the existing Devers-Palo Verde #1 transmission line and its access road has been minimal. Maps 16-AZ and 16-CA show the relative soil erosion impacts for all of the subalternate routes. The erosion that has occurred is mainly the result of surface water runoff on local small fills and on local portions of the access road with steep gradients. The major portions of all the subalternate routes would cross relatively low relief terrain; therefore, the potential for surface water runoff is minimized However, there are many drainage crossings which have moderate relief where short sections of road will have steep gradients that can increase the potential for surface water runoff erosion. Proper construction techniques should reduce the impact to minimal significance.

	Impact	Significance
Cause or result in unstable earth or exposure of people or property to seismic or geologic hazards such as earthquakes, landslides, mudslides, or ground failure?		
Subalternate 4:	Yes	Potentially Significant

The components of the transmission line would not require any substantial change of the ground which would result in significant unstable slope conditions or public exposure to geologic hazards. However, Subalternate 2 crosses the active Banning and Mission Creek faults and the potentially active Mecca Hills fault. Towers along this alternative alignment would likely be subjected to severe seismic shaking within the lifetime of the proposed project. Impacts can be minimized by locating tower sites directly on the active fault traces, by crossing the fault at an angle that allows a change in span length when displacement occurs on the fault. Severe seismic shaking can be mitigated by using standard tower designs which allow for seismic shaking.

	Impact	Significance
12. Affect soil productivity?		
Subalternates 2 and 3:	Potential	Insignificant

The only sizable area along any of the four proposed subalternate routes that is currently under agricultural production is the Palo Verde Valley near Blythe, California. Subalternates 2 and 3 have potential for affecting soil productivity due to the construction of new access roads, spur roads, and tower pads. However, the permanent impact would be restricted to a single 14-foot wide access road. This would impact a very small percentage of the land surface; therefore, the impacts are considered to be insignificant. Whenever possible, pre-existing roads would be utilized for both access roads and spur roads in agricultural areas

10.5 4 Meteorologic, Climatologic, Air Quality Impacts

Will the proposed subalternate routes either directly or indirectly:

	Impact	Significance
13. Violate or cause a violation of any federal, state, or local air quality standard?	No	N/A

No air quality standards would be violated. Emission sources during construction would be temporary and site specific and would be of short duration during operation and maintenance. Vehicular exhaust should be negligible and particulate emissions from vehicles traveling on dirt roads would be of a very large size, which would settle out quickly and not be in the respirable size range

	Impact	Significance
14. Result in substantial emissions of any air pollutant?	No	N/A

The proposed project would result in emissions of air pollutants, but only in a small or negligible amount. The construction and operation/maintenance of the proposed project would result in the emission of small, negligible amounts of vehicular exhaust emissions i.e., nitric oxide, carbon monoxide, and hydrocarbons) from the trucks and tractors used during construction and from service vehicles used during operation/maintenance.

The formation of minute quantities of ozone (O_3) would occur during conditions when corona discharge occurs at the hardware/insulator assemblies. The quantities, however, would be negligible and, therefore, would not impact air quality in the project site vicinity.

	Impact	Significance
15. Affect ambient air quality?	Yes	Insignificant

The proposed project would result in emissions of only a small or negligible amount of air pollutants (See Question 14 above).

	Impact	Significance
Expose sensitive receptors to increased pollutant concentrations?	No	N/A

The proposed project would result in emissions of air pollutants, but only in a small or negligible amount. See Question 14 above for further discussion.

	Impact	Significance
17. Change prevailing air circulation patterns, moisture, temperature, or any other climatic condition?	No	N/A

proposed project would not result in any changes to air patterns, moisture, temperature, or other climatic conditions

	Impact	Significance
18. Cause objectionable odors?	No	N/A

The proposed project would not cause any objectionable odors.

10.5.5 Hydrologic Impacts

Will the proposed subalternate routes either directly or indirectly:

	Impact	Significance
19. Violate or cause a violation of any federal, state or local water quality standard?	No	N/A

The proposed subalternate routes would not violate any federal, state, or local water quality standard.

	Impact	Significance
20. Result in the release of substantial effluent?	No	N/A

There would be no release of effluent as a result of the construction or operation of the proposed project.

	Impact	Significance
21. Affect existing water quality conditions?	Potential	Insignificant

There is the potential for increased erosion runoff and attendant sedimentation along the proposed subalternate routes. A reconnaissance of the existing access road and tower sites for the existing Devers-Palo Verde #1 transmission line revealed that only minor erosion in small limited areas had occurred since its construction in 1979. If typical construction techniques are utilized, the potential for increased erosion runoff and sedimentation would be insignificant.

	Impact	Significance
22. Affect any public water supply?	No	N/A

The public water supply along the subalternate routes would not be affected by the construction or operation of the proposed project.

	Impact	Significance
23. Affect the quantity or quality of ground waters?	No	N/A

The proposed project would not affect the quality or quantity of ground waters.

	Impact	Significance
24. Alter or affect existing drainage patterns?	Potential	Insignificant

There is the potential for altering existing drainage patterns. A reconnaissance of the existing Devers-Palo Verde #1 transmission line access road and tower sites revealed that typically most drainage patterns were not affected. In limited occurrences, some of the very small, very shallow drainages were directed into other drainages by the berms that resulted from grading the access road. However, these had no significant impact on the overall drainage pattern of the area. Locally new access roads, spur roads, and tower pads for the subalternate routes might impact similar small ephemeral drainages; however as with the existing line, these impacts are anticipated to be insignificant.

	Impact	Significance
25. Alter or affect any ocean, river, or stream or any channel, or shore?		
Subalternates 2 and 3:	Potential	Insignificant

These two subalternate routes would cross the Colorado River but would not affect the river. Their affect on the river banks would be insignificant

	Impact	Significance
Affect any flood-prone area?	No	N/A

proposed subalternate routes would not affect any flood-prone area

	Impact	Significance
27. Affect any water oriented recreation area?		
Subalternates 2 and 3:	Potential	Insignificant

These two subalternate routes would cross the Colorado kiver. Their affect on any water oriented recreation activities would be insignificant.

10.5.6 Biological Impacts

Will the proposed subalternate routes either directly or indirectly:

	Impact	Significance
Affect any rare or endangered species or habitat thereof?	Potential	Potentially Significant

Subalternates 1, 2, 3 and 4 - All four routes have the potential for affecting sensitive species or habitats. The species encountered and the routes along which they may occur are as follows:

- Subalternates 1 and 4
  - Desert Bighorn Sheep
  - Desert Tortoise
  - *Cereus greggii*

- Subalternate 2
  - Desert Bighorn Sheep
  - Desert Tortoise
  - *Cereus greggii*
  - *Coryphantha vivipara* var. *alversonii*
  - Riparian Habitat

- Subalternate 3
  - Riparian Habitat

	Impact	Significance
29. Alter the diversity of species, or numbers of any species of plant or animal?	Yes	Insignificant

Subalternates 1, 2, 3 and 4 - Construction along any of three routes will, to some degree, result in a loss of individual animals and plants and will alter the diversity of extant flora and fauna. This effect, however, will not be significant.

		Impact	Significance
30.	Create or remove a barrier to the migration or movement of any fish or wildlife species?	Potential	Insignificant

Subalternates 1, 2, 3 and 4 - All four routes have the potential for impacting the movement of wildlife species. In particular, Subalternates 1, 2 and 4 have a potentially greater adverse impact to bighorn sheep than does the preferred route. The reason for this is that these routes will require the development of new access into previously inaccessible areas. This would provide a significant adverse impact to bighorn sheep along these subalternate routes. Bird collision impacts are not expected to differ from those anticipated for the preferred route.

		Impact	Significance
31.	Affect any highly productive habitat of wildlife species of sport, spectator, commercial or education value?	Potential	Insignificant

Subalternates 1, 2, 3 and 4 - All four routes have the potential to affect the habitat of this sort. However, this impact would not be significant.

	Impact	Significance
Affect any relatively undisturbed or unique vegetation communities?	Yes	Potentially Significant

Subalternates 1, 2, 3 and 4 - All four routes will impact relatively undisturbed habitat types and may affect unique vegetative communities. Of particular importance along these routes are riparian communities traversed by Subalternates 2 and 3 at the Colorado River.

	Impact	Significance
Affect any areas of low revegetation potential?	Yes	Insignificant

Subalternates 1, 2, 3 and 4 - All four routes traverse creosotebush scrub habitat, a habitat type of known low reproductive potential.

	Impact	Significance
34. Reduce the acreage of any agricultural crop?	Yes	Potentially Significant

Subalternates 2 and 3 traverse agriculture. Some crops would be affected by the towers but this would be minimized by the use of two-legged H-frame towers in agricultural areas.

	Impact	Significance
35. Cause the removal of any mature tree from urban locations?	No	N/A

10.5.7 Sonic Impacts

Will the proposed subalternate routes either directly or indirectly:

	Impact	Significance
36. Violate or cause a violation of any federal, state, or local noise standard?	No	N/A

The proposed project would not cause any federal, state, or local noise standard to be violated.

	Impact	Significance
37. Increase existing noise levels in the area?	Yes	Insignificant

Construction of the proposed transmission line system would result in localized noise from construction equipment and vehicles but would not violate any noise standards and would temporarily increase existing noise levels in the area. There would be an insignificant impact on noise levels. The maximum construction noise level is expected to be 80 to 100 dBA at a distance of 50 feet from the source.

10.5.8 Visual Impacts

the proposed subalternate routes either directly or indirectly:

	Impact	Significance
38. Affect any resources of unique scenic value, or result in obstruction of any scenic vista?	Yes	Significant

Impacts to scenic quality from alternative routes would result from construction activities, ground disturbance, and strong project contrast related to establishment of a new corridor Areas of Class A and B scenic quality would receive significant impacts to their scenic value. These areas are listed below:

Subalternate 1 - Northern portion of the Plomosa Mountains and its foothills Link 4b).

Subalternate 2 - Northern portion of the Plomosa Mountains and its foothills (Link 5); northern portion of the Dome Rock Mountains (Link 5); Colorado River riparian area (Link 5 ; agricultural lands in the Palo Verde Valley Link

Subalternate 3 - Colorado River riparian area Links 7 and 9); agricultural lands in the Palo Verde Valley Link 7 and 9

Potentially significant impacts to scenic value could occur to Class C scenic quality landscapes

Subalternate 1 - La Posa Plains (Links 4b and 4c)

Subalternate 4 - Plomosa Pass (Link 17)

Other significant impacts to scenic value would result from short duration views from highways resulting from road crossings or parallel alignments and strong project contrasts related to construction in a new corridor. Significant impacts to highway views would result from the following road crossings:

Subalternate 1 - U.S. 95 in La Posa Plains (Link 4c).

Subalternate 2- I-10 South of Bear Hill Link 5); AZ 95 in La Posa Plains (axial views of crossing) Link 5); U.S. 60 west of Brenda, AZ Link 5); Poston Road north of Ehrenberg, AZ Link 5); Midland Road north of Blythe, CA Link 11); U.S. 95 north of Blythe, CA (Link 11) (eligible Riverside County Scenic Highway I-10 west of Blythe Airport (Link 11 (eligible Riverside County Scenic Highway

Subalternate 3 - CA 78, south of Ripley, CA Link 9).

Subalternate 4 - U.S. 95 in La Posa Plains (Link 4c); two crossings of I-10, east and west of the Plomosa Mountains Link 17 U.S. 60, southwest of Brenda, AZ Link 17

Significant impacts to highway views resulting from parallel alignment with I-10 occur from Links 3, 4b, 4c, and 17 Subalternates 1 and 4 Refer to Appendix B for a photosimulation depicting visual impacts resulting from close

parallel alignment to I-10. Most significant would be the paralleling of Link 17 because of its proximity to the highway and rugged terrain. The nature of the terrain provides potential for skylining of towers and allows greater visibility of ground disturbance from access roads in an area where a transmission line is not now sited.

Impacts to scenic quality and to scenic vistas near the Colorado River can be reduced by maximizing the distance between the edge of the river and the first structure. Further, the structures siting should take advantage of terrain or vegetative screening to reduce skylining and general structure visibility. In areas of steep terrain, landform and vegetation contrasts may be reduced by applying appropriate mitigation developed in consultation with the authorizing officer. This could include measures such as constructing access roads that follow the landform contour, and revegetating cut and fill slopes where they occur.

Visual impacts to scenic quality as a result of crossing the northern portion of the Plomosa and Dome Rock Mountains can be reduced by sensitive tower placement to avoid skylining and to take advantage of the visual absorption of the mountain backdrop. Additionally, the existing access road would only be refurbished when necessary. Widening or major upgrading, or any other unnecessary grading work undertaken that would increase landform or vegetation contrasts would be avoided.

Impacts to views from scenic highways and other major travel routes can be reduced by locating towers back as far as possible from the roadway on both sides. Sensitive tower placement, taking advantage of terrain features, should be utilized to reduce structure contrasts and visibility.

	Impact	Significance
39. Affect the view from any public recreation areas, parklands, residential areas?	Yes	Significant

Significant viewer impacts to residences would result from proximity of the transmission line, strong project contrasts from establishing a new corridor, and high visibility (foreground views or skylining. Areas where residents' views would be significantly impacted include:

Subalternate 1 - Residences in the central portion of the Plomosa Mountains (Link 4b); dispersed residential area near Eight-Mile Well in La Posa Plains (Link 4c).

Subalternate 2 - Residents in and near Brenda, AZ Link 5 along the Colorado River (Link 11 in the Palo Verde Valley (Link 11).

Subalternate 3 - Residences along the Colorado River (Links 7 and 9); on the Palo Verde Mesa (Link 9

Subalternate 4 - Residences in Brenda, AZ Link dispersed residential area near Eight-Mile Well Link 4c).

Potentially significant impacts to residents' views are the result of middleground views of the project and include:

Subalternate 1 - Residences west of the Upper Bouse Wash (Link 3

Subalternate 2 - Residences on the Palo Verde Mesa west of the Big Maria Mountains (Link

Subalternate 3 - Residences along the Colorado River (Links 7 and 9 the town of Palo Verde (Link 9); dispersed residences in the southern portion of the Palo Verde Valley (Links 7 and 9); residences located on the Palo Verde Mesa north of the Mule Mountains (Link 11).

Subalternate 4 - Residences west of the Upper Bouse Wash (Link 3).

Significant visual impacts to recreation would occur primarily along the Colorado River Subalternates 2 and 3 resulting from skyline views from parallel alignment to and/or crossing of the river and strong project contrasts resulting from establishment of a new corridor. Other significant impacts to dispersed recreation areas from corridor crossings include:

Subalternate 1 - Crossing La Posa Recreation site (Links 4b 4c); crossing WSA 2-125 (Link 4b); crossing the proposed addition to the KOFA National Wildlife Refuge (Link 4b).

Subalternate 2 - Parallel alignment to WSA 321 (Link 11); crossing of the BLM ACEC (Big Marias) (Link 11).

Subalternate 3 - Parallel alignment to Oxbow Recreation Site (Link 7 ; parallel alignment to Colorado River impacting county parks located on the river (Link 7)

Subalternate 4 - Crossing of La Posa Recreation Site (Links 4c and 17)

Potentially significant impacts may occur to dispersed recreation areas WSA 350 and WSA 352 from Link 9 (Subalternate 3), Link 17's alignment in foreground views of WSA 2-125, and the proposed addition to the KOFA National Wildlife Refuge (Subalternates 1 and 4)

Impacts to residential and park and recreation viewpoints can be reduced by slight routing modifications to maintain a minimum separation from the project, and through sensitive tower placement to take advantage of terrain features for screening backdropping, or general reduction in visibility. Access roads in steep terrain should follow the landform contours to reduce scarring from excess earthwork

	Impact	Significance
40. Affect the setting of any feature of unusual architectural significance?	No	

No features of architectural significance were observed during field reconnaissance and none are known to exist in the area.

10.5.9 Socioeconomic Impacts

Will the proposed subalternate routes either directly or indirectly:

	Impact	Significance
41. Divide or disrupt present population patterns?	No	N/A

Since most workers will maintain permanent residences in the Phoenix metropolitan area or near the Coachella Valley, no disruption of population patterns is expected. At most, influx of transient workers will comprise less than 3% of the population of Blythe, CA.

	Impact	Significance
42. Alter migrational trends including migrational trends of different socioeconomic groups, into and out of the area?	No	N/A

Since relocation by construction workers will be temporary, no impact on migrational trends is anticipated. In California and in Arizona, a relatively large construction labor force exists, Therefore, no workers are expected to migrate to the study area for employment with this project

	Impact	Significance
43. Affect neighborhood character or stability?	Yes	Potentially Significant

Neighborhood disruption during construction and presence of the line could adversely affect the following residential settlements:

Subalternate 1 - Scattered residential area near La Posa Long-Term Visitor Area (Link 4

Subalternate 2 - Community of Brenda, Arizona Link 5); scattered residential areas along Colorado River (Link 5).

Subalternate 3 - Scattered residential areas along Colorado River (Links 7, 9).

Subalternate 4 - Scattered residential area near La Posa Long-Term Visitor Area (Link 4c

	IMPACT	SIGNIFICANCE
44. Affect property values or the local tax base?	Yes	Insignificant

Property tax payments to Riverside and Imperial counties would comprise a small portion less than 1%) of each county's total property tax revenues. In La Paz county, which currently has a small tax base, property taxes on the project would comprise over 20 percent of the 1987 total property tax revenues, representing a significant positive impact on the county. Estimated property tax revenues or additions to assessed value do not vary significantly between the different subalternates Over the entire line, revenues range from $3,556,623 for Subalternate 2 to $3,803,535 for Subalternate 3.

	IMPACT	SIGNIFICANCE
Affect local industry or commerce?	Yes	Insignificant

Worker expenditures represent a small, short-term benefit to some businesses in the vicinity of the subalternate routes. In Blythe, California, where most of the purchases would be made, expenditures would comprise less than 2.5% of taxable sales.

	IMPACT	SIGNIFICANCE
Affect existing housing or housing demand?	Yes	Insignificant

Workers are expected to maintain permanent residences in the urban areas at either end of the line until line construction progresses toward Blythe, California. Although the Blythe area numerous temporary accommodations in hotels, motels, trailer parks, and campgrounds, construction worker demand for housing could conflict with tourist demand during the winter season. As discussed in section 6.9, impacts on housing demand could be significant if construction of the PacTex pipeline coincides with construction of the proposed project. However, the future of this project is uncertain. Two years after permitting, construction has still not begun.

Temporary housing demand may also affect Parker, Arizona if Subalternate 2 is constructed. As a recreational center, adequate temporary accommodations should be available in Parker

	IMPACT	SIGNIFICANCE
Affect any community facility such as medical, educational, scientific, or recreational?	No	N/A

Since most community facilities are provided to local residents and since employee relocation will be temporary, no impacts on these facilities are anticipated. Services to construction workers would not exceed the level provided to visitors or temporary workers in the area.

	IMPACT	SIGNIFICANCE
Affect community services such as police, fire, emergency, etc.?	Yes	Insignificant

Community services in Brenda (Links 5 and 17 and in Palo Verde (Links 7 and 9) are limited and may be strained by any problems arising during construction. However, construction of the proposed project will not require additional services in these areas. The La Paz County Sheriff's Department is concerned that

lines close to I-10 could interfere with transmission from emergency vehicles on I-10. The radio transmission facility is located on Cunningham Peak.

	IMPACT	SIGNIFICANCE
Affect other utility services?	Potential	Unquantified Impact

Pipeline companies and irrigation canal managers have expressed concerns regarding the positioning of transmission lines in relation to the alignments of their structures. In addition, community of Quartzite is planning a 12" underground water line near the line, but not close enough to be affected by the project. Edison will consult with concerned parties and develop appropriate mitigation measures

10.5.10 Traffic and Transportation Impacts

Will the proposed subalternate routes either directly or indirectly:

	IMPACT	SIGNIFICANCE
Affect existing transportation systems?	Yes	Potentially Significant

Since access roads do not exist along the subalternate routes, existing transportation systems may require new roads or upgrading to enable line construction. Transportation corridors limited along Subalternate routes 2, 3, and 4.

	IMPACT	SIGNIFICANCE
51. Alter present patterns of circulation for movement of people or goods?	Yes	Insignificant

Construction crews working on the proposed line would alter current patterns of circulation. However, the effect would be a short-term, insignificant impact since the work crews are small and work would proceed progressively along the route.

	IMPACT	SIGNIFICANCE
52. Generate additional traffic?	Yes	Insignificant

Since the work force would be divided into small crews working on different portions of the line, the additional traffic generated in any one area would be small and would occur for a short period of time

	IMPACT	SIGNIFICANCE
53. Increase traffic hazards to motor vehicles, bicyclists, or pedestrians?	yes	Insignificant

To the extent that construction truck traffic would use residential streets to access the site, some minor hazards to bicyclists or pedestrians could occur. Since the construction traffic in a given area would be small and would occur over a short period of time, this hazard is considered insignificant

	IMPACT	SIGNIFICANCE
54. Increase or promote the use of off-the-road vehicles?	Yes	Potentially Significant

Off-road vehicle use could increase in areas where new access roads are constructed for subalternate routes. Potentially significant impacts could occur in those park, recreation, or preservation areas that would be impacted by the construction of new roads.

	IMPACT	SIGNIFICANCE
55. Increase or decrease access to areas?	Yes	Potentially Significant

Access could increase in areas where new roads are constructed Potentially significant impacts could occur in those park recreation, or preservation areas that would be sensitive to increased access.

10.5.11 Public Health and Safety Impacts

Will the proposed subalternate routes either directly or indirectly:

	IMPACT	SIGNIFICANCE
56. Affect public health or expose people to potential health hazards?	No	

The proposed subalternate routes would not affect public health or expose people to potential health hazards.

	IMPACT	SIGNIFICANCE
57. Increase any public safety risks?	No	

The proposed subalternate routes would not significantly increase any public safety risk

APPENDIX E
SCE PUBLIC INVOLVEMENT PROGRAM

PUBLIC INFORMATION MATERIALS DISTRIBUTED BY SCE

PROJECT FACT SHEET

INVITATIONS TO OPEN HOUSES

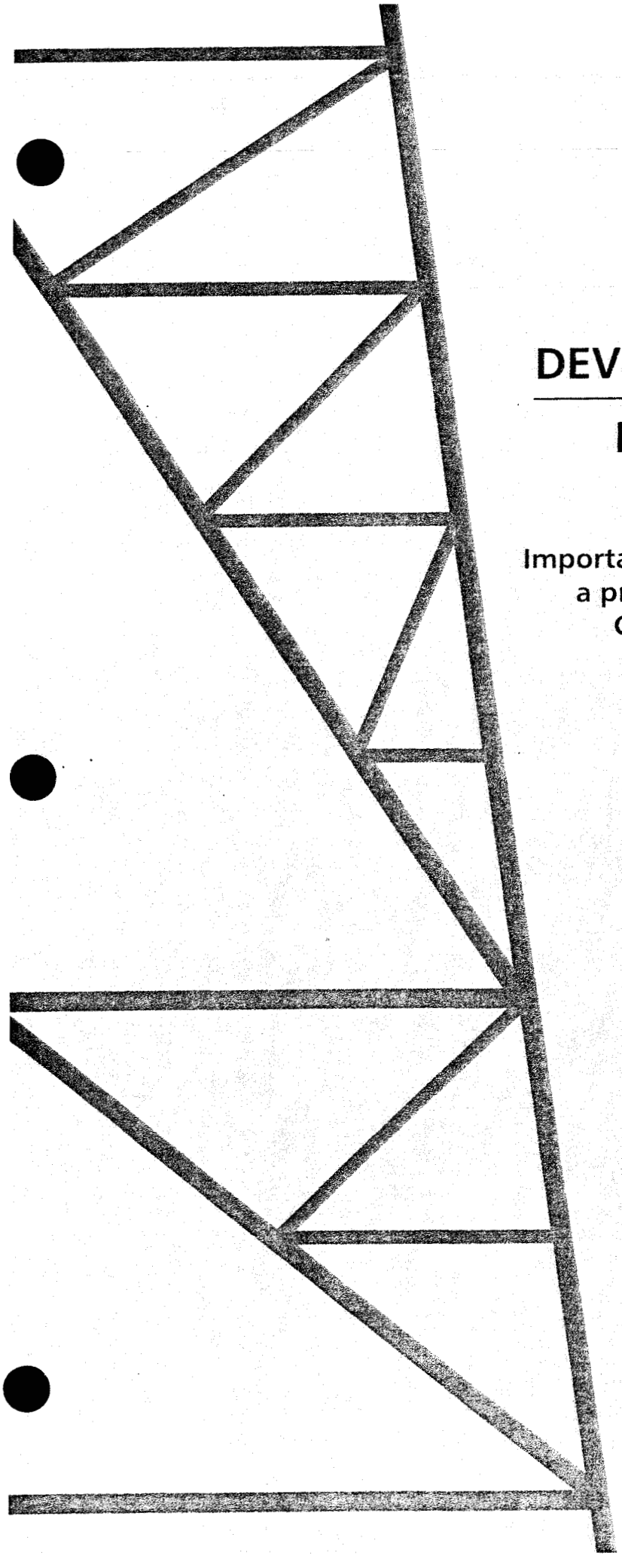
August 26, 2004
September 7, 2004
September 15, 2004
September 23, 2004
September 28, 2004

PROJECT UPDATE

August 2004

FREQUENTLY ASKED QUESTIONS

November 2004



SOUTHERN CALIFORNIA EDISON®

An *EDISON INTERNATIONAL®* Company

DEVERS – PALO VERDE NO. 2

PROJECT FACT SHEET

Important community information concerning a proposed Southern California Edison Construction Project in your area

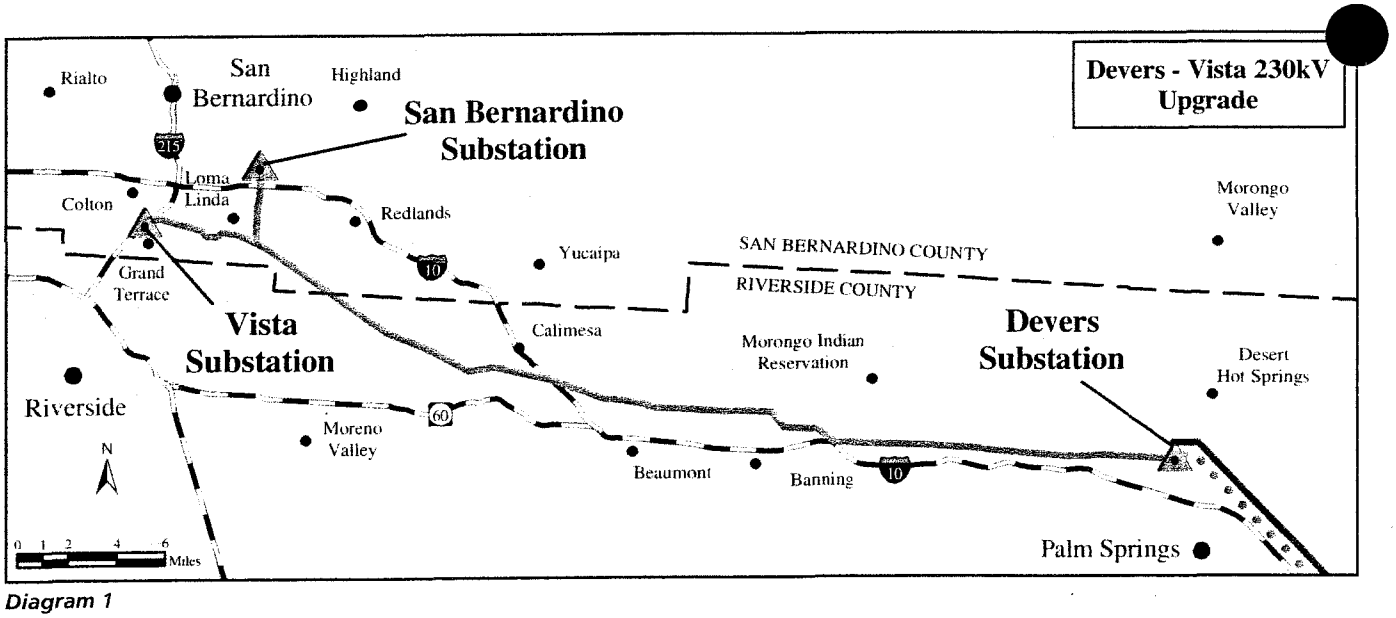


Diagram 1

INTRODUCTION

Southern California Edison Company (SCE) is planning now for the future needs of a growing population. Our highest priority in the coming years is to strengthen the transmission and distribution systems that deliver electricity to our customers and connect us to neighboring utilities.

In our continuing efforts to strengthen the transmission system, SCE is proposing a new 230-mile long transmission line between California and Arizona which will parallel an existing transmission line. Upgrades to some of SCE's existing electrical transmission facilities within California would also be required. The project is known as Devers Palo - Verde No. 2 (DPV2).

This fact sheet provides a project overview to property owners located within 300 feet of the proposed project, to local elected and appointed officials along the proposed route in California and Arizona, and to other parties who may be interested in this project. SCE will provide project updates to individuals and organizations who are interested in this project.

PURPOSE OF THE PROJECT

The primary goal of this project is to improve the ability to transfer electricity from Arizona to California. This provides California customers with increas access to existing and future sources of cost-effective electricity in Arizona.

Additional benefits include:

- Several generating plants in or near Arizona have excess capacity. Connecting customers with underutilized sources of electricity may moderate the price of electrical generation for California customers. This project will increase the customer's access to these sources of electricity.
- Improving the ability to transfer electricity between Arizona and California may provide customers access to more sources of electrical generation. This is especially important if current sources of generation become limited due to drought or unplanned outages or are more expensive due to increases in the price of fossil fuels.

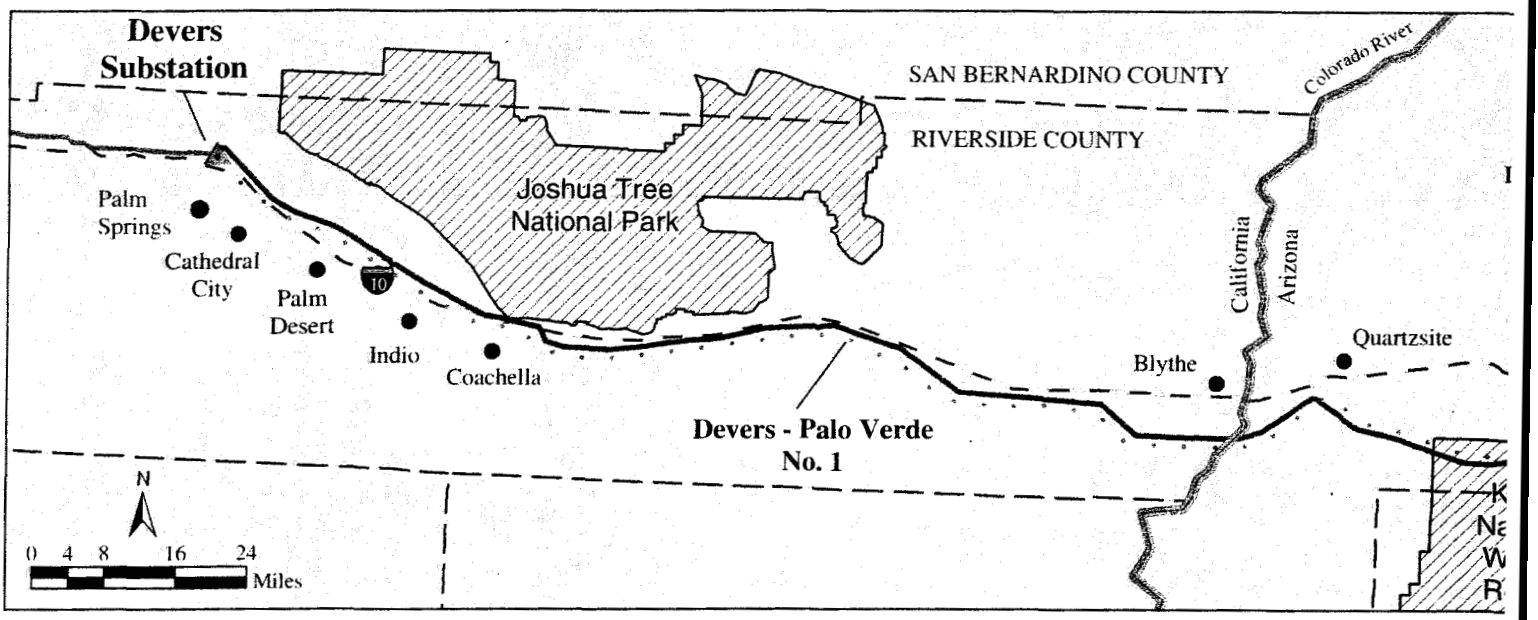


Diagram 2

PROJECT SCOPE

SCE proposes to build a new 500,000 volt (500 kV) transmission line connecting SCE's existing Devers Substation located approximately 10 miles north of Palm Springs, California to the existing Harquahala Switchyard located approximately 40 miles west of Phoenix, Arizona. Further project planning may result in SCE extending the proposed line 15 miles further east to terminate in the Palo Verde/Hassayampa area. The majority of the transmission line between Devers and Harquahala will be constructed within existing SCE transmission line corridors. However, SCE will need to acquire additional property rights in some locations.

The proposed transmission line route between Devers and Harquahala parallels SCE's existing Devers – Palo Verde No. 1 (DPV1) 500 kV transmission line for 230 miles (of which 126 miles are in California and 104 miles are in Arizona). Where feasible, SCE proposes to construct the 500 kV transmission line on single-circuit lattice steel towers similar to the existing DPV1 towers. See Figure 1.

Additionally, upgrades to four existing SCE 230,000 volt (230 kV) transmission lines will be required. These lines are located within an existing 47 mile transmission corridor from SCE's Devers Substation to SCE's San Bernardino and Vista Substations. The San Bernardino and Vista Substations are located approximately 2 miles from the City of San Bernardino. The proposed upgrades include the replacement of some transmission towers with new towers and the replacement of the existing electrical wires. These upgrades would generally be constructed within existing SCE transmission line corridors. However, SCE will need to acquire additional property rights in some locations.

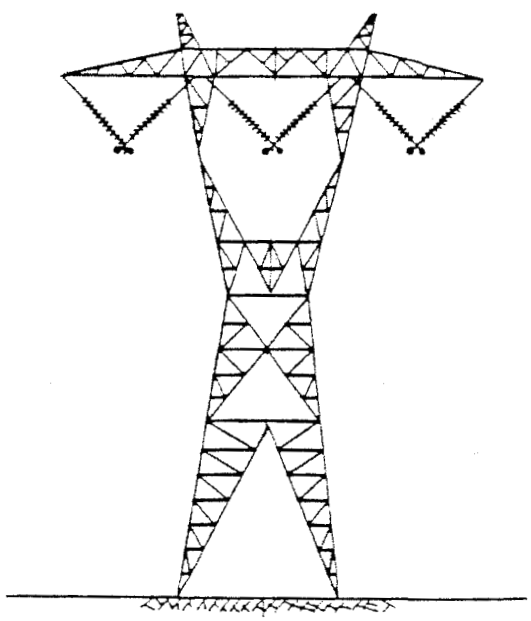


Figure 1

HOW YOU CAN FIND OUT MORE ABOUT THIS PROJECT

This proposed project is in the planning stage. As planning continues and additional information becomes known, SCE will make project updates available to the public. If you are interested in this project and want to learn more about it, please contact us directly. You may visit our website at www.sce.com click on About SCE, and select Strengthening SCE's Electric Network.

Listed below are the names of SCE employees who are located in the communities along the proposed project line route. Beside each name, SCE has identified the geographic area that each represents. Please feel free to contact the SCE representative listed below who is located closest to you:

SERVICE CENTER	CITIES/COUNTIES COVERED	CONTACT
SCE Palm Springs Service Center 36100 Cathedral Canyon Drive Cathedral City, CA 92234	Palm Springs Cathedral City Palm Desert	**Kathleen DeRosa** **760-202-4211**
SCE Redlands Service Center 287 Tennessee Street Redlands, CA 92373	San Bernardino City San Bernardino County Colton Highland Rialto	**Ray Gonzalez** **909-307-6726**
DPV2 Arizona Office 4350 East Camelback Road, Suite G200 Phoenix, AZ 85018	Quartzsite La Paz County Maricopa County	**Robert Jensen** **602-499-9888**
SCE San Jacinto Valley Service Center 26100 Menifee Road Romoland, CA 92380	Riverside City Riverside County Blythe	**Robert Lopez** **909-928-8208**
SCE Redlands Service Center 287 Tennessee Street Redlands, CA 92373	Banning Beaumont Grand Terrace Calimesa Loma Linda Redlands Yucaipa	**Beverly Powell** **909-307-6742**

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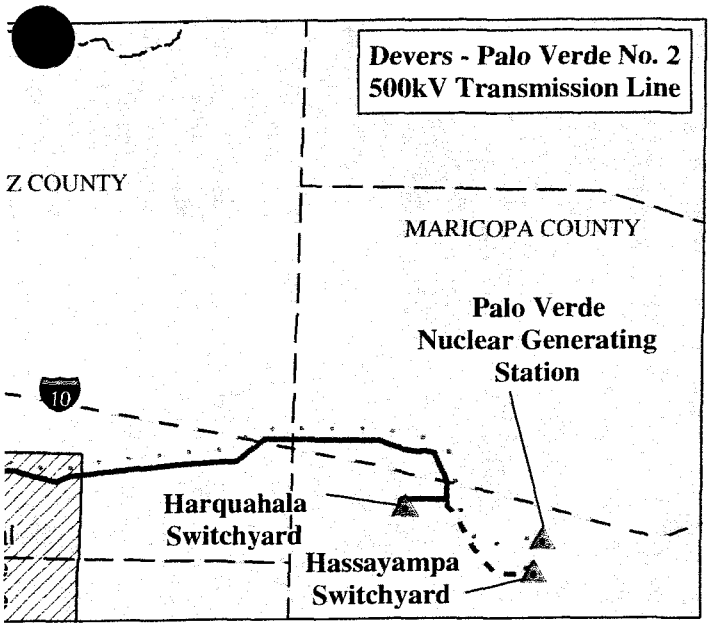
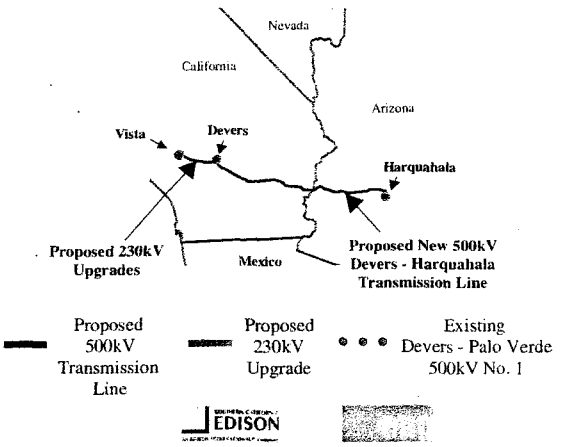


VICINITY MAP

Devers - Palo Verde No. 2
Transmission Line Project



PROJECT REVIEW AND APPROVAL PROCESS

When SCE determines that electric system modifications with regional impact are necessary, SCE coordinates its findings with the appropriate regional planning organizations. For the DPV2 project, SCE will coordinate its efforts with the California Independent System Operator, the Western Electricity Coordinating Council, and the Western Arizona Transmission Study Group to refine the scope of the project.

SCE will submit applications to state regulatory agencies for authority to construct the project. These applications include an assessment of the potential environmental impacts of the project and its alternatives as well as project need, technical feasibility, economic justification, and compatibility with existing uses. Final approval for the DPV2 project will be made by the California Public Utilities Commission (CPUC), the Arizona Corporation Commission (ACC) and the United States Bureau of Land Management (BLM).

As part of its project planning, SCE will consult and coordinate with, and obtain any necessary approvals from, Native American Tribes along the proposed project route.

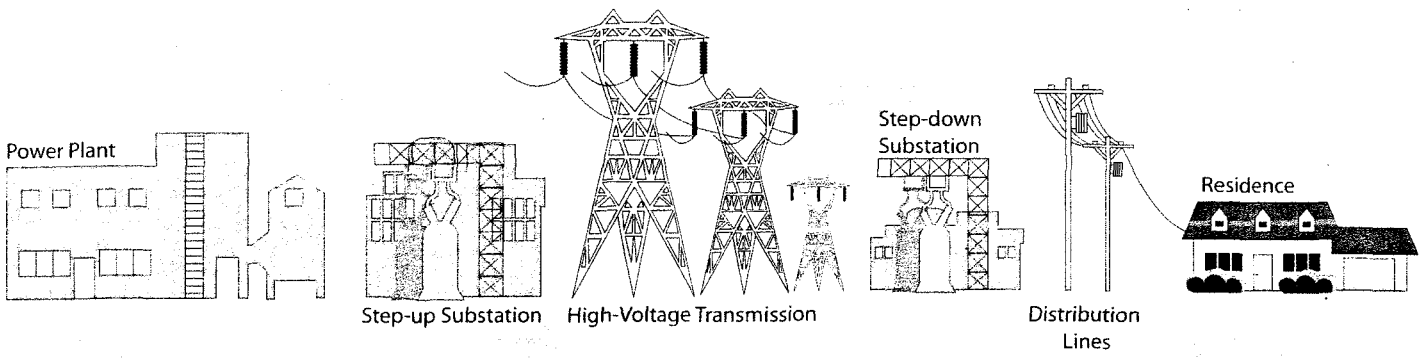
SCE'S PUBLIC OUTREACH ACTIVITIES

SCE seeks input from local residents, area businesses, elected and appointed officials, organized interest groups, and other key parties as part of its project planning. This fact sheet has been developed to help inform potentially interested parties about the proposed DPV2 project. Through its outreach and communication efforts, SCE hopes to identify the issues that are of interest or potential concern to the public in order to respond to these issues whenever possible during project planning.

PROJECT SCHEDULE

SCE anticipates that it will submit its applications to the permitting agencies (the CPUC, ACC, and BLM) in early 2004. These agencies will review SCE's applications, and either approve, deny, or approve the project with modifications. If the agencies approve the project, SCE anticipates that project construction activities would commence in 2006.

THE PATH OF ELECTRICITY



THE PATH OF ELECTRICITY

Electricity is generated using a variety of sources, including natural gas, coal, oil, nuclear fission, water, biomass, wind and sun. In most cases, it leaves the generator at 13,800 volts and goes to transformers where it is "stepped up" to as much as 500,000 volts of electricity suitable for transmission.

Transmission towers support inch-thick, high voltage cables that carry large volumes of electricity to substations.

Upon reaching a substation, the electricity is "stepped down" from high transmission voltages to lower sub-transmission and distribution voltages for residential areas (12,000 volts) and commercial areas (66,000 volts).

The power then travels along a distribution line until it passes through a transformer, mounted on a pole or on the ground, which converts the distribution voltage to a service voltage (240/120 volts).

Once converted, the electricity travels through a service line to individual customers.

OPEN HOUSE

Southern California Edison Company (SCE) is proposing to construct a new 230-mile, high-voltage electric transmission line between California and Arizona, parallel to an existing transmission line. The project is known as Devers – Palo Verde No. 2 (DPV2). The proposed DPV2 transmission line will be on the south side of Interstate Highway 10 (I-10) from the Colorado River west to the Desert Center area. In the Palo Verde Valley, south of Blythe CA, the proposed DPV2 transmission line will parallel the existing line between 22nd and 24th Avenues. The new line would also require upgrades to some of SCE's existing electrical transmission facilities in California.

SCE invites you to attend an Open House to discuss the proposed DPV2 project

Thursday, August 26

Open House begins at 4 p.m. and continues until 8 p.m.

Blythe Community Center
235 North Broadway • Blythe, CA

For additional information contact Robert Lopez (909) 928-8208

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OPEN HOUSE

Southern California Edison Company (SCE) is proposing to construct a new 230-mile, high-voltage electric transmission line between California and Arizona, parallel to an existing transmission line. The project is known as Devers – Palo Verde No. 2 (DPV2). The proposed upgrades in your area will be made to existing transmission lines. Beginning in the City of Redlands south of and parallel to San Timoteo Canyon Road, the lines continue west crossing the Cities of Loma Linda, Colton and Grand Terrace enroute to Vista Substation near Interstate 215 and Mount Vernon Avenue. In addition, upgrades are proposed to existing transmission lines, west of Mountain View Avenue, that run south from San Bernardino Avenue in Redlands to Beaumont Avenue in Loma Linda.

SCE invites you to attend an Open House to discuss the proposed DPV2 project

Tuesday, September 7

Open House begins at 4 p.m. and continues until 8 p.m.

Loma Linda Senior Center
25541 Barton Road • Loma Linda, California

For additional information contact Beverly Powell (909) 307-6742

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OPEN HOUSE

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SCE invites you to attend an Open House to discuss the proposed DPV2 project

Wednesday, September 15

Open House begins at 4 p.m. and continues until 8 p.m.

Plantation on the Lake Recreation Center
10961 Desert Lawn Drive • Calimesa, California

For additional information contact Beverly Powell (909) 307-6742

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OPEN HOUSE

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SCE invites you to attend an Open House to discuss the proposed DPV2 project

Thursday, September 23

Open House begins at 4 p.m. and continues until 8 p.m.

Beaumont High School
1591 Cherry Avenue • Beaumont, California

For additional information contact Lin Juniper (760) 202-4231

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OPEN HOUSE

Southern California Edison Company (SCE) is proposing to construct a new 230-mile, high-voltage electric transmission line between California and Arizona, parallel to an existing transmission line. The project is known as Devers – Palo Verde No. 2 (DPV2). The proposed DPV2 transmission line will be on the south side of Interstate Highway 10 (I-10) from Blythe, through Desert Center to a point just east of the Cactus City Rest Stop. The lines then cross to the north side of I-10, and continue northwest between I-10 and the Indio Hills to Devers Substation.

SCE invites you to attend an Open House to discuss the proposed DPV2 project

Tuesday, September 28

Open House begins at 4 p.m. and continues until 8 p.m.

Joslyn Senior Center

73-750 Catalina Way • Palm Desert, California

For additional information contact Kathleen DeRosa (760) 202-4211

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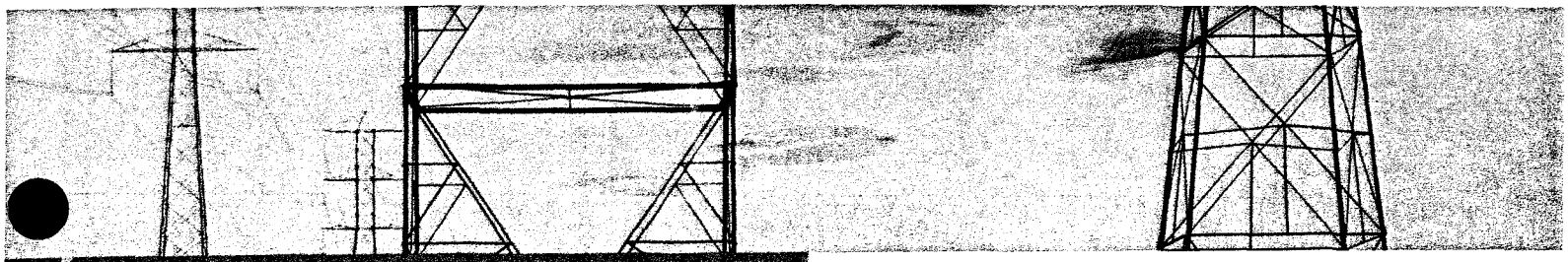
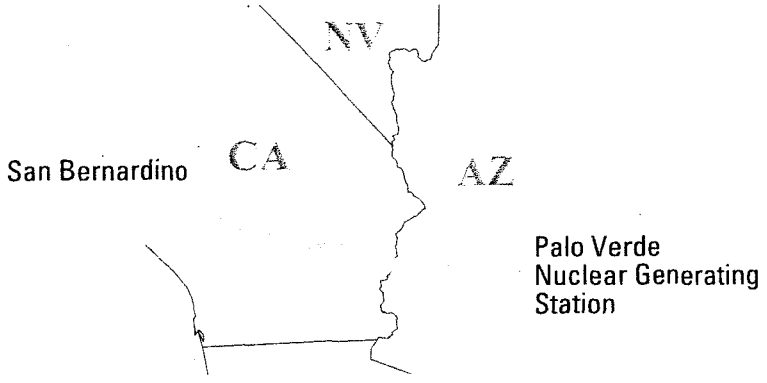


Devers – Palo Verde No. 2 Project Update August 2004

Important community information concerning a proposed Southern California Edison construction project in your area

PROJECT OVERVIEW

Southern California Edison Company (SCE) is proposing to construct a new 230-mile, high-voltage electric transmission line between California and Arizona, within SCE's existing transmission corridor, parallel to an existing transmission line. The new line would also require upgrades to some of SCE's existing electrical transmission facilities in California. The project is known as Devers-Palo Verde No. 2 (DPV2).



PURPOSE OF THIS PROJECT UPDATE

This *Project Update* has been developed by SCE, the DPV2 project sponsor. It is intended to provide current project information to owners of property located near the proposed project, local governments along the proposed route, to other parties, and respond to several questions raised by members of the community. This *Project Update* provides an overview of the planning process and SCE's regulatory compliance activities for DPV2.

Please refer to the end of this *Project Update* for information on how to be added to the DPV2 project mailing list.

SCE'S APPROACH TO TRANSMISSION PLANNING

SCE's integrated approach to meeting the future electrical energy needs of its customers includes the following elements:

- Encouraging energy-efficient use of electricity, which reduces the need for new electrical facilities;
- Increasing SCE's procurement of renewable energy, for example, solar and wind;
- Accessing cost-effective sources of electricity, including power sources located inside and outside of California; and
- Building and maintaining reliable electrical transmission and distribution systems to deliver power to customers.

The proposed DPV2 project is one element of this integrated approach and would provide increased access to lower-cost electricity from the southwestern states.

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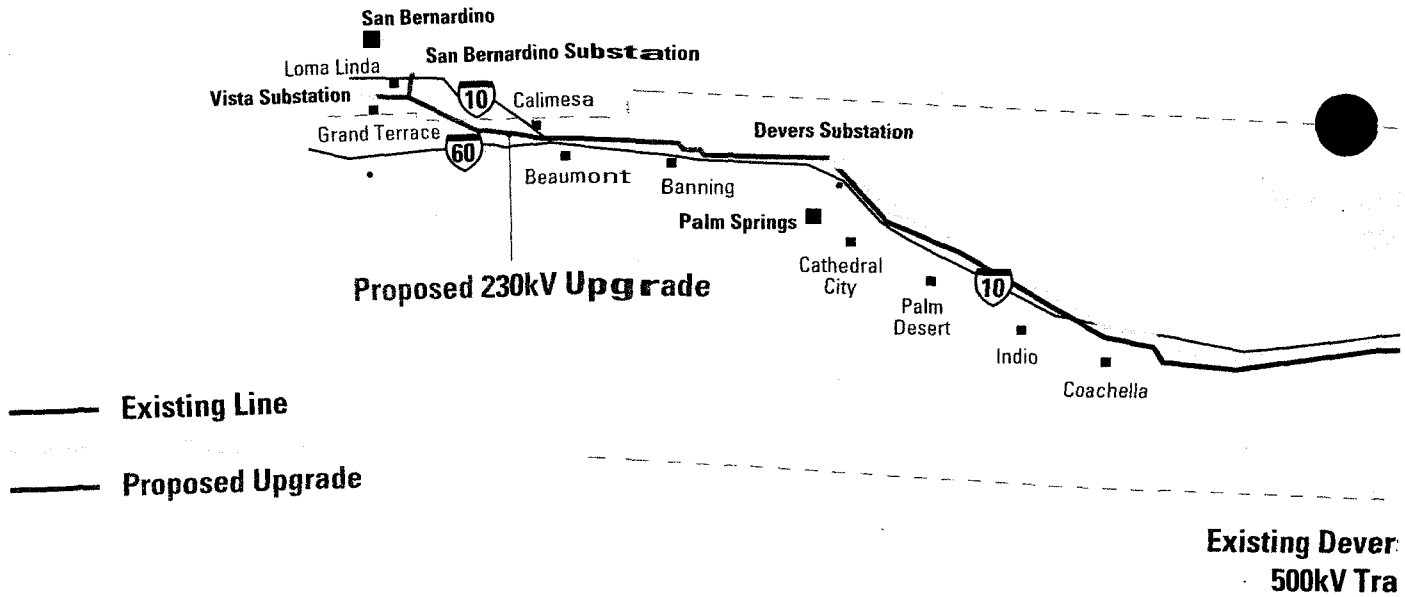


PROJECT NEED

Construction of DPV2 would add transmission facilities needed to import additional lower-cost electricity into California.

DPV2 is expected to lower the cost of electricity purchased to serve California customers. This project would also increase energy producers' access to the California energy market and would provide an incentive for new generation development. The project is also expected to increase competition among energy suppliers, which should lower California's electricity costs. In addition, DPV2 would help offset price increases that could result from events such as droughts that reduce supplies of low-cost hydroelectricity and heat waves that create high peak demand for electricity.

PROJECT APPROVAL PROCESS

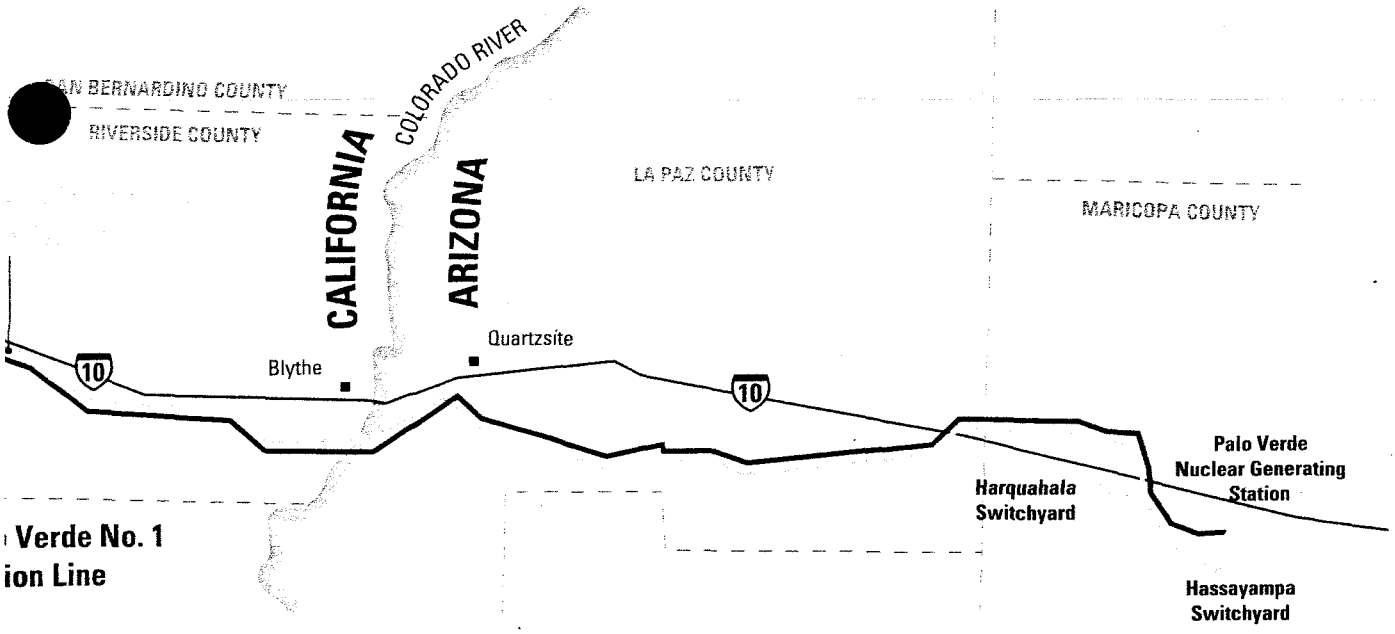
SCE must collect and evaluate environmental, technical, and financial data required by the state and federal regulatory agencies that must approve the project before it can be built. This information is analyzed and presented in SCE's applications requesting authorization from each of the regulatory agencies to construct the project.

The lead state and federal agencies with approval authority for DPV2 are listed below. These agencies will review SCE's application and will either approve the project as filed, deny the project, or approve it with modifications.

- California Public Utilities Commission (CPUC) – Reviews project for compliance with California environmental laws, analyzes project purpose and need, and determines cost effectiveness.
- Bureau of Land Management (BLM) Reviews project for compliance with federal environmental laws.
- Arizona Corporation Commission (ACC) – Reviews project for compliance with Arizona environmental laws and analyzes project pur[illegible]e and need.

In addition, the following orga[illegible] tions must review and/or approve [illegible] project:

- California Independent System Operator (CAISO) – Reviews and approves technical and economic aspects of the project as part of its responsibility for managing the California electric power grid.
- Western Electricity Coordinating Council (WECC) – Reviews project reliability and other technical issues as part of its electric power grid oversight function for the western United States, Canada, and Mexico.
- Western Arizona Transmission System (WATS) – Reviews project reliability and other technical issues as part of its electric power grid oversight function for western Arizona.



CURRENT PROJECT STATUS

Environmental – SCE has completed environmental studies for the preferred and alternate project routes. The preferred route is technically feasible and is expected to provide the greatest level of environmental protection in a cost-effective manner. Alternate routes may also be technically feasible but have greater environmental impacts and are potentially more costly.

Current activities include the preparation of environmental documents in compliance with environmental laws such as the California Environmental Quality Act. The environmental documents will be included in SCE's applications to the CPUC, BLM and the ACC and will be thoroughly and independently reviewed by these agencies as part of their overall review of the project as described in the "PROJECT APPROVAL PROCESS" section of this Project Update. The environmental review process will also include a review of the project by applicable resource agencies such as the U.S. Fish and Wildlife Service, the California Department of Fish and Game, and the Arizona Game and Fish Department.

Technical and Economic – SCE has submitted a DPV2 technical report to the WECC and WATS. The report demonstrates how the DPV2 project complies with the regional guidelines for operation of transmission projects and that it meets electricity reliability standards. The report also contains detailed studies demonstrating that the project is compatible with existing and planned transmission facilities. WECC and WATS reviews are expected to be completed by summer 2005.

The project's technical feasibility and economic benefits are being reviewed by the CAISO, which is expected to approve the project in September 2004.

PUBLIC OUTREACH AND COMMUNICATIONS

Public outreach and communications are critical elements of SCE's planning process for DPV2. In the fall of 2003, SCE conducted interviews with residents, local officials, area business owners, and others who potentially could be affected by the DPV2 project. These interviews were conducted in communities along the proposed project route in order to learn more about the issues and concerns that area residents and others might have regarding this project. SCE is focusing its public outreach and communication activities on the issues identified in the interviews and based upon the experience it has gained from similar past projects.

SCE has notified city, county, and state agencies, as well as the federal government of its intent to file applications with the CPUC, ACC, and BLM for authority to construct DPV2. SCE has also notified the planning staff of the Morongo Band

Continued on next page

Continued from previous page

of Mission Indians' tribal government about the portion of the project proposed to be built on the Morongo Reservation. SCE continues to have on going contact with state, federal, tribal, and local officials regarding the status of the project.

NEXT STEPS

Beginning in late summer and extending into fall 2004, SCE will host a series of open houses. These informal gatherings will provide the public an opportunity to learn more about DPV2 and to talk to SCE project team members. The open houses will be held in communities located near the proposed DPV2 transmission line route. SCE will mail open house invitations to everyone on the DPV2 mailing list, will inform local governments, and will publish announcements in local newspapers.

PROPOSED PROJECT TIMELINE

Late Summer and Fall 2004 – DPV2 open houses

Late Fall 2004 – SCE submits applications to the CPUC and BLM

2005 – SCE submits application to the ACC

2006 – CPUC, BLM and ACC conclude permitting activities

2006 – Start construction of DPV2 upon receipt of all required approvals

2009 – Complete construction of DPV2

If you have any questions or comments about the project, would like to be added to the project mailing list, or have suggestions about fu communications, please contact the SCE representative listed belo for the area located closest to you.

Coachella, Indian Wells, Indio, La Quinta, Palm Desert, Rancho Mirage
Kathleen DeRosa
(760) 202-4211
SCE Palm Springs Service Center
36100 Cathedral Canyon Drive
Cathedral City, CA 92234

Banning, Beaumont, Cathedral City, Desert Hot Springs, Palm Springs
Lin Juniper
(760) 202-4231
SCE Palm Springs Service Center
36100 Cathedral Canyon Drive
Cathedral City, CA 92234

City of San Bernardino, San Bernardino County
Ray Gonzalez
(909) 307-6726
SCE Redlands Service Center
287 Tennessee Street
Redlands, CA 92373

Quartzsite, La Paz County, Maricopa County
Robert Jensen
(602) 499-9888
DPV2 Arizona Office
4350 East Camelback Road, Suite G200
Phoenix, AZ 85018

Riverside County, Blythe
Robert Lopez
(909) 928-8208
SCE San Jacinto Valley Service Center
26100 Menifee Road
Romoland, CA 92380

Grand Terrace, Calimesa, Loma Linda, Redlands, Yucaipa
Beverly Powell
(909) 307-6742
SCE Redlands Service Center
287 Tennessee Street
Redlands, CA 92373

For further information about the DPV2 project, visit SCE's Web site at www.sce.com, click on "About SCE", and select "Strengthening SCE's Electric Network."

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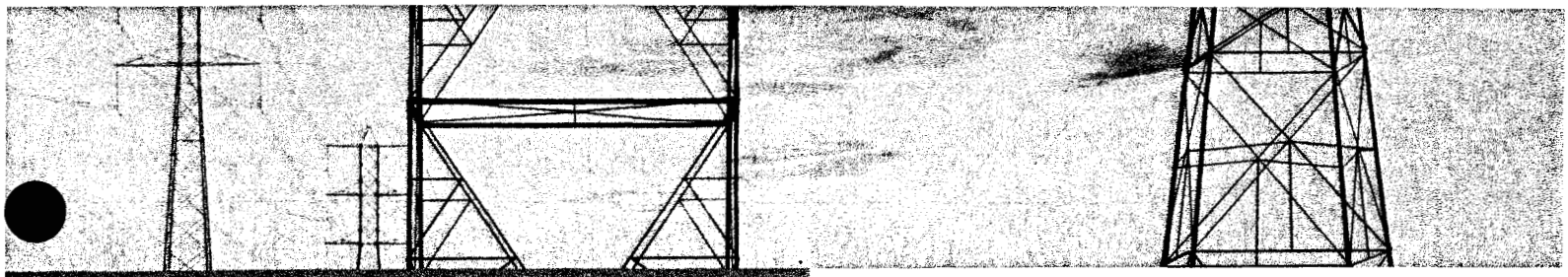

Devers – Palo Verde No. 2 FAQs

November 2004

Important community information concerning a proposed Southern California Edison construction project in your area

FREQUENTLY ASKED QUESTIONS (FAQs)

Southern California Edison Company (SCE) is proposing to construct a new 230-mile, high-voltage (500,000 volts) electric transmission line between California and Arizona, within an existing transmission corridor, parallel to SCE's existing transmission line for 225 miles. The new line would also require upgrades to some of SCE's existing electrical transmission facilities in California. The project is known as Devers-Palo Verde No. 2 (DPV2).

Public outreach and communications are critical elements of SCE's planning process for DPV2. In the fall of 2003, SCE sent out a Project Fact Sheet and conducted interviews with residents, local officials, area business owners, and others who potentially could be affected by the DPV2 project. These interviews were conducted in communities along the proposed project route in order to learn more about the issues and concerns that area residents and others might have regarding this project.

This year, SCE has met with, and also mailed a Project Update to, residents, local officials, area business owners, and others along the DPV2 route. SCE also hosted five "Open Houses" along the route where the public had an opportunity to learn more about DPV2 and to talk to SCE project team members.

During the public outreach process, SCE has developed this list of Frequently Asked Questions (FAQs) based on the questions we received from residents, local officials, area business owners, and others along the DPV2 route.

If you have any additional questions, contact your local SCE representative listed on the back page of this FAQs.

PURPOSE AND NEED

Q. Why is the project needed and what are the benefits to local California area communities?

A. Construction of DPV2 would add transmission facilities needed to import, additional lower-cost electricity into California.

DPV2 is expected to lower the cost of electricity purchased to serve California customers. This project will also increase energy producers' access to the California energy market and would provide an incentive for new generation development. The project is also expected to increase competition among energy suppliers, which should lower California's electricity costs. In addition, DPV2 would help offset price increases that could result from events such as droughts that reduce supplies of low-cost hydroelectricity and heat waves that create high peak demand for electricity.

Q. Will SCE coordinate the construction of DPV2 with other projects in the area

A. Yes, SCE attempts to coordinate its planning activities for proposed projects with all other projects the company is aware of while planning is underway. Several different types of energy projects are currently being discussed or proposed in the same geographic area as the DPV2 project. Where SCE

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is aware of specific projects, it seeks to determine what, if any, coordination is appropriate. Additionally, all utility projects are reviewed by regulatory agencies and other organizations for their compatibility with existing and proposed projects.

Q. How will DPV2 impact my electricity rates?

A. Electricity rates in California will be lower with DPV2 than they would be without DPV2, because the new transmission line will expand access to lower cost out-of-state generation. Rates have both transmission and energy cost components. The cost of the new transmission line will slightly raise the transmission rate component, but studies show that these increases will be more than offset by reductions in energy costs. As part of their review process, regulatory agencies will ensure that overall the benefits of the project are greater than the costs of the project.

ENVIRONMENTAL

Q. What environmental laws must SCE comply with, and which agencies enforce them?

A. • The California Public Utilities Commission (CPUC) will review this project for compliance with the California Environmental Quality Act.

- The Bureau of Land Management will review the project for compliance with the National Environmental Policy Act.
- The Arizona Corporations Commission, through its Arizona Siting Committee, will review potential environmental impacts in accordance with Arizona law.

The agencies listed above will ensure project compliance with applicable laws and regulations, such as:

- Clean Water Act
- California and Federal Endangered Species Acts
- National Historic Preservation Act
- Archaeological Resources Protection Act

Q. What actions will SCE take to protect wildlife habitat and corridors during construction of this transmission line?

A. SCE continues to work with state and federal resource agencies to ensure that the proposed project will not adversely affect wildlife and that no wildlife movement corridors are cut off. In order to minimize project-related impacts, SCE will locate the new facilities adjacent to existing towers, where feasible. A variety of mitigation measures will be built into the project plan. SCE will limit construction during specific times to avoid sensitive periods of wildlife activity in the vicinity of the transmission line.

Concerns may exist for the California gnatcatcher, which is a federally threatened species. Where nests are found in close proximity to the project, curtailment of construction activity may be timed to avoid the nesting season. If this is not feasible, additional mitigation measures may be adopted. Monitors will be present during all construction activity to ensure mitigation measures are observed. A worker education program will be developed and implemented to ensure that all workers are aware of sensitive species in the area and to provide them with proper procedures to follow in order to minimize impacts to all natural resources, especially sensitive plant and animal species.

CONSTRUCTION

Q. What construction activities are planned in my area and how will they impact me?

A. The upgrades to SCE's 230 kV transmission lines west of Devers Substation will require construction activities within an existing transmission corridor over a period of three years. This transmission line corridor passes through the cities of Grand Terrace, Colton, Loma Linda, Redlands, Calimesa, Banning, and Beaumont. The corridor also passes through the tribal lands of the Morongo Band of Mission Indians and unincorporated sections of San Bernardino and Riverside counties. SCE will provide periodic Project Updates to property owners and other interested parties.

Transmission line construction usually consists of the phases shown below. At any given location, construction may last a few days to several weeks or months:

- Survey the new transmission line route and structure locations.
- Improve the transmission line access roads, as required.
- Remove the old towers if necessary.
- Install new foundations. This step consists of digging the foundation holes, inserting steel frames and pouring concrete. Large equipment and concrete trucks will used in this step.
- Assemble transmission towers. This step will require the use of l

cranes to aid in the assembly of the towers.

- Install new wires. This step will require the use of helicopters and large trucks to pull the wires.
- Site cleanup and restoration.

In the cities of Loma Linda and Redlands, due south of the San Bernardino Airport, SCE plans to replace the existing single wires with "bundles" of two wires on towers located east of Mountain View Avenue. This section extends from San Bernardino Avenue in Redlands to Beaumont Avenue in Loma Linda. No tower modifications are planned for this section.

In the cities of Grand Terrace and Colton, SCE plans to replace the existing single wires with "bundles" of two wires at the same locations on the existing towers. In selected areas, a few towers will be replaced with stronger towers, and a few others will be raised with tower extensions to achieve the proper ground clearance for the wires. Only a few new towers will be constructed or modified in this segment. At the remaining locations, construction is limited to removing the old wires and installing the new wires.

In the following locations, SCE plans to remove two sets of tower lines, construct a new tower line, and replace the existing single wires with "bundles" of two wires on the remaining 230kV transmission towers:

- City of Loma Linda south of Beaumont Avenue;
- City of Redlands along San Timoteo Canyon Rd;
- City of Calimesa near Brookside Avenue and Interstate Hwy 10;
- City of Beaumont south of Brookside Avenue;
- City of Banning south of the National Forest; and
- Tribal Lands of the Morongo Band of Mission Indians north of Interstate Hwy 10.

SCE is currently assessing the potential construction impacts and will include a discussion of these impacts and proposed measures to reduce or eliminate these impacts, as appropriate, in its applications for this project.

CORPORATE REAL ESTATE

Q. How does SCE maintain the existing transmission easement?

A. SCE maintains its access roads and electrical facilities within easement areas based on good utility practices and standards. SCE also maintains the easement area, as necessary to protect and access its electric facilities. For example, tree branches are periodically trimmed or removed to maintain transmission line operational safety. Underlying property owners are responsible for maintaining their property in accordance with applicable governmental regulations.

ELECTRIC MAGNETIC FIELDS

Q. What are electric and magnetic fields (EMF)?

A. Electric and magnetic fields (EMF) surround every wire that carries electricity; including those in electric power lines, electrical machinery, and common household and office appliances.

- Electric fields are created by voltage.
- Magnetic fields occur wherever electrical current flows.
- The strength of these fields decreases rapidly with distance from the voltage or current source.

Q. What are the potential health effects of EMF?

A. There is not a clear answer.

An aggressive international EMF research effort over the past 30 years has not established that a human health hazard exists. That research has resolved many questions about specific diseases. However, questions remain as to whether EMF exposure at home or work is linked to some diseases such as childhood leukemia, certain adult cancers, and miscarriages. As a result, some major health authorities, including the International Agency for Research on Cancer (IARC) and the California Department of Health Services, have classified magnetic field exposures as a possible human carcinogen, although they acknowledge that additional research will be necessary before a more definitive conclusion can be made. While scientific research is continuing, a quick resolution of the remaining scientific uncertainties is not expected.

Q. What is SCE doing about EMF from electric power lines?

A. SCE is aware that there is public concern about the potential health effects of EMF. SCE recognizes and takes seriously its responsibility to help address these EMF concerns. In order to better understand EMF and to respond to the current uncertainty, SCE will continue to:

- Assist the California Public Utilities Commission (CPUC) and other appropriate local, state, and federal governmental agencies in the development and implementation of reasonable, uniform regulatory guidance.
- Provide balanced, accurate information to employees, customers and public agencies, including EMF measurements and consultation to customers upon request.
- Take appropriate no-cost and low-cost steps to minimize field exposures from new facilities and continue to consult and advise customers with respect to existing facilities, subject to CPUC guidance.
- Support appropriate research programs to resolve the key scientific questions about EMF.
- Research and evaluate occupational health implications and provide employees who work near energized facilities with timely, accurate information about field exposures in their work environment.

Q. Will EMF levels increase or decrease as a result of this project?

A. In general, there will be an overall increase in magnetic field levels if the DPV2 project is constructed as SCE has proposed. Net increases or decreases in magnetic field levels in any specific location are determined by a number of factors including electrical load, distance from the power lines, and the type of existing facilities. Adding a new line to an existing power line corridor can present an opportunity to reduce magnetic fields strengths, or to minimize the magnitude of an increase, because magnetic fields can cancel each other out based on the configuration of the line conductors.

SCE prepares an EMF "field management plan" for all new projects to determine the optimum feasible configuration of the lines to reduce EMF based on the design guidelines that SCE has established to comply with CPUC requirements. This field management plan will be included in the SCE application to the CPUC for approval of the project.

SCE representatives can provide additional information as to EMF levels in different locations along the project corridor.

Q. What do I do if I want more information on EMF?

A. SCE's EMF information center can be reached at 800-200-4723 (outside of California, call 626-812-7545). SCE also has additional information regarding EMF, including its EMF policy, available on its website, www.sce.com. The site includes links to information from the CPUC, the California Department of Health Services, and other authoritative agencies and organizations that may be helpful in better understanding EMF. To access this site, enter "EMF" in the "Search" box.

If you have any additional questions or comments about the project, would like to be added to the project mailing list, or have suggestions about future communications, please contact the SCE representative listed below for the area located closest to you.

Banning, Beaumont
Lin Juniper
(760) 202-4231
SCE Palm Springs Service Center
36100 Cathedral Canyon Drive
Cathedral City, CA 92234

City of San Bernardino, San Bernardino County, Colton
Ray Gonzalez
(909) 307-6726
SCE Redlands Service Center
287 Tennessee Street
Redlands, CA 92373

Grand Terrace, Calimesa, Loma Linda, Redlands, Yucaipa
Beverly Powell
(909) 307-6742
SCE Redlands Service Center
287 Tennessee Street
Redlands, CA 92373

For further information about the DPV2 project, visit SCE's Web site at www.sce.com/dpv2

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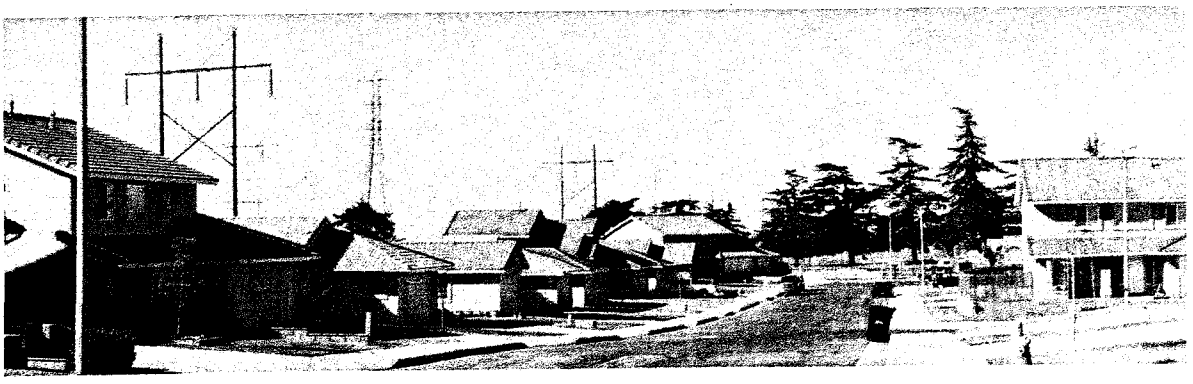
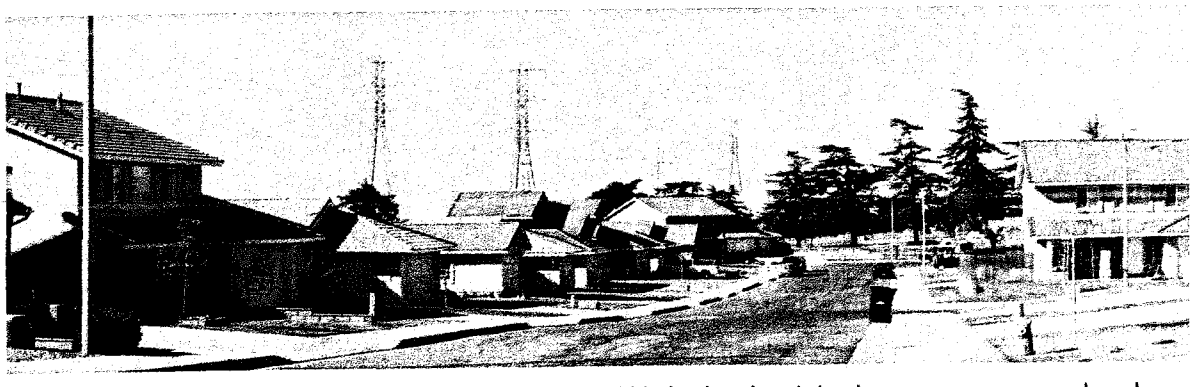
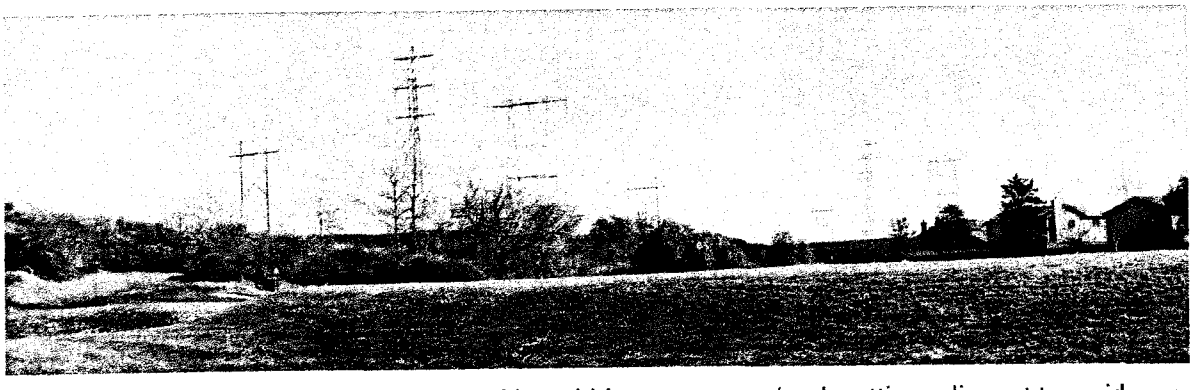
Devers – Palo Verde No. 2



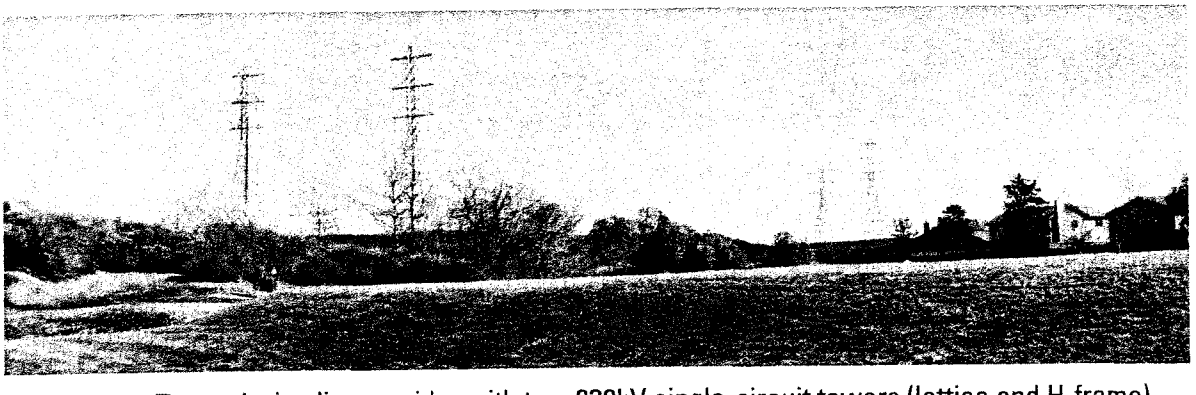
Existing Condition – Transmission line corridor adjacent to residences



Simulation – Transmission line corridor with two 230kV single-circuit lattice towers removed and proposed 230kV double-circuit steel lattice structure transmission line

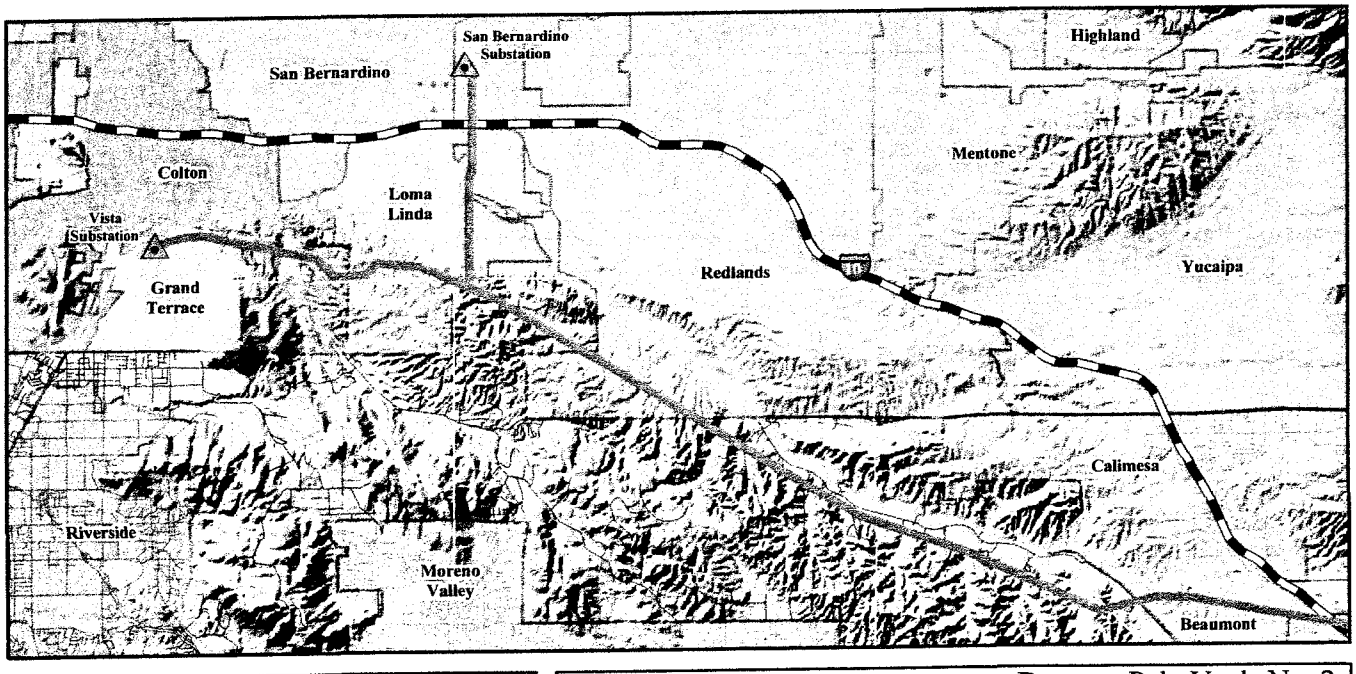


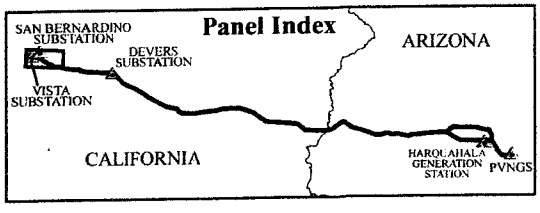
Existing Condition – Transmission line corridor within open space/park setting adjacent to residences



Simulation – Transmission line corridor with two 230kV single-circuit towers (lattice and H-frame) removed and proposed 230kV double-circuit steel lattice structure transmission line

Devers – Palo Verde No. 2



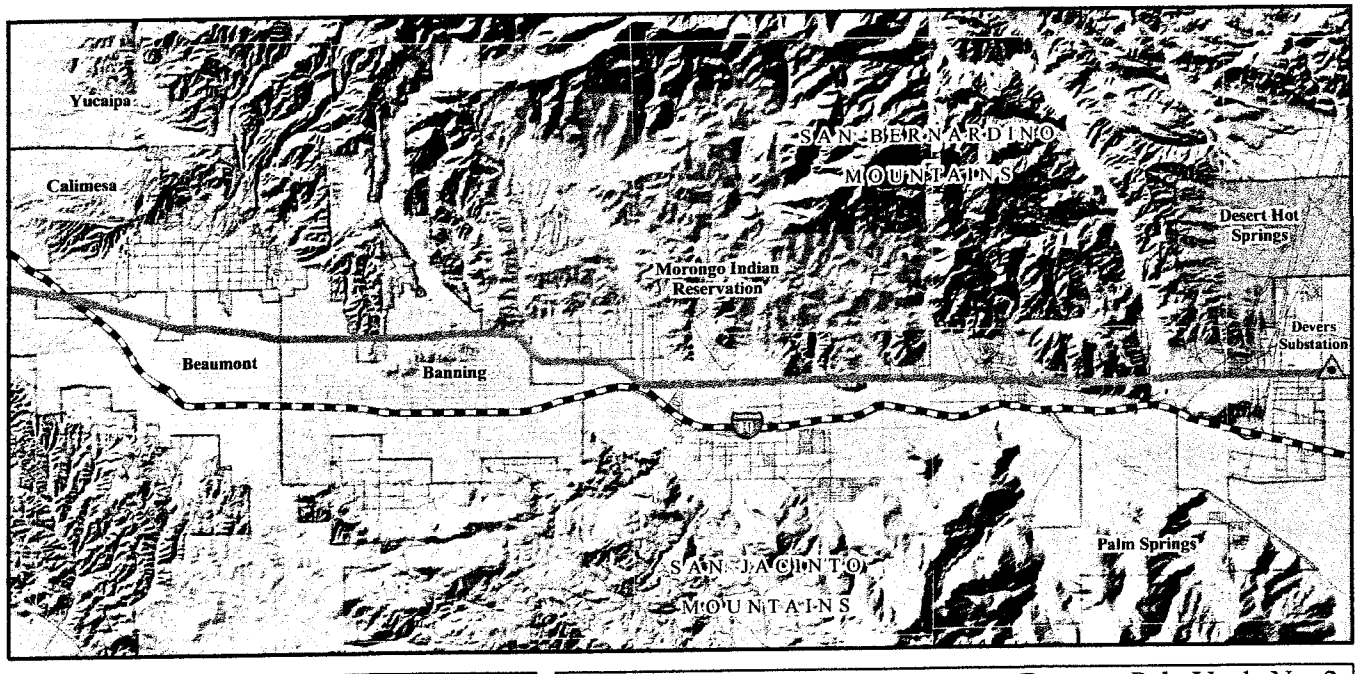


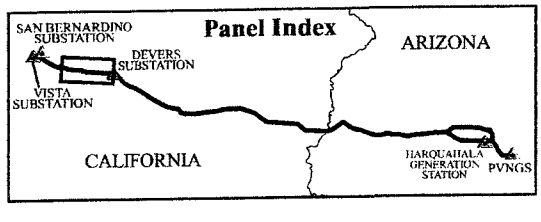
Proposed Devers to Vista 230kV Upgrade

Devers - Palo Verde No. 2 Transmission Line Project

N

0 1 2 4 Miles





Proposed Devers to Vista 230kV Upgrade

Devers - Palo Verde No. 2 Transmission Line Project

N

0 1 2 4 Miles

APPENDIX F
PROPERTY OWNER LIST

Owners within 300 feet (on each side) of the proposed project right-of-way. The lists are provided by segment and include the property owner name, address, and applicable assessor parcel numbers (APNs).

A copy of the undated Notice of Application for a Certificate of Public Convenience and Necessity (Notice) is also included. SCE will be using a dated copy of the Notice for the DPV2 Project in accordance with General Order 131-D, Section XI.

NOTICE OF APPLICATION FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY

DEVERS - PALO VERDE NO. 2 PROJECT

Reference: CPUC Application No. 05-04-XXX

Date:

Proposed Project: Southern California Edison Company (SCE) proposes to construct a new 230-mile, high-voltage electric transmission line between California and Arizona known as the Devers - Harquahala 500 kilovolt (kV) transmission line. Operation of the proposed line would require that upgrades be made to some of SCE's existing electrical transmission facilities in California. The proposed line and transmission facility upgrades are known as the Devers - Palo Verde No. 2 project (DPV2). DPV2 would be constructed within existing SCE rights-of-way and those to be acquired. Construction of DPV2 would add transmission facilities necessary to import additional lower-cost electricity into California.

Devers - Arizona

The proposed Devers - Harquahala 500 kV transmission line would be constructed from SCE's Devers Substation (Devers) located near Palm Springs, California to the Harquahala Generating Station Switchyard (Harquahala), located near the Palo Verde Nuclear Generating Station (PVNGS) west of Phoenix, Arizona. The proposed line would be 230 miles of which 102 miles would be located in Arizona and 128 miles would be located in California. The preferred route would parallel SCE's existing Devers-Palo Verde No. 1 500 kV transmission line.

The proposed Devers - Harquahala 500 kV transmission line would be constructed on approximately 784 single- and double-circuit structures. Four types of 500 kV structures would be utilized for the proposed 500 kV transmission line:

- Approximately 709, four-legged, single-circuit lattice steel towers (typically 150 feet tall)
- Approximately 39, two-legged (or H-frame) single-circuit towers in the Palo Verde Valley (typically 144 feet tall)
- Thirteen existing double-circuit lattice steel towers in the Copper Bottom Pass of the Dome Rock Mountains in Arizona (typically 241 feet tall)
- Approximately 23 tubular steel poles parallel to the existing Harquahala - Hassayampa 500 kV pole line east of Harquahala (typically 140 feet tall)

The proposed 500 kV transmission line would be strung with two-conductor bundled 2156 kcmil conductor (approximately 1 3/4" in diameter) with nonspecular finish.

At Harquahala, a new 145-foot-high by 100-foot-wide dead-end structure, circuit breakers, and disconnect switches would be installed in the existing switchyard. Equipment necessary to provide substation control and data acquisition would be installed.

At Devers, a new 133-foot-high by 90-foot-wide dead-end structure, circuit breakers and disconnect switches would be installed in the existing switchyard. A 500 kV Static VAR Compensator would be installed north of the 500 kV switchyard on approximately two acres within the existing Devers property.

A new 500 kV shunt reactor bank and associated disconnect switches would be installed on approximately two acres of property adjacent to the proposed Devers - Harquahala 500 kV transmission line right-of-way immediately north of Harquahala.

A new 500 kV series capacitor bank would be installed within the transmission line right-of-way on a two acre site approximately 55 miles west of Harquahala in Arizona.

A new 500 kV series capacitor bank on a two acre site would be installed within the transmission line right-of-way approximately 64 miles east of Devers in California.

Installation of optical fiber on new transmission line structures, construction of a new microwave communications facility at an existing microwave site at Harquahala Mountain in Arizona, and construction of an optical repeater facility approximately 5 miles west of Blythe, California would be required for the DPV2 project. Approximately 3 miles of existing groundwire would be replaced with a single optical fiber ground wire on the double-circuit tower line through Copper Bottom Pass. In addition, microwave and synchronous optical network equipment would be installed at the following existing SCE and Arizona Public Service (APS) communication facilities: Devers, DPV2 California series capacitor station, Cunningham Communication Site (APS), Smith Peak Communication Site (APS), DPV2 Arizona series capacitor station, and Harquahala.

West-of-Devers

Upgrades to SCE's existing 230 kV transmission system between Devers and SCE's Vista and San Bernardino substations in San Bernardino County would include the following:

- Removal of an existing 40-mile, single-circuit wood H-frame 230 kV line between Devers and San Bernardino Junction. San Bernardino Junction is the intersection of 230 kV transmission line corridors located 3.4 miles south of the San Bernardino Substation.
- Removal of an existing 40-mile, single-circuit lattice steel 230 kV line between Devers and San Bernardino Junction.
- Construction of a new 40-mile, double-circuit 230 kV line between Devers and San Bernardino Junction on approximately 152 lattice steel towers (typically 150 feet tall) within the existing right-of-way.
- Reconductoring of and modification to the existing 40-mile, double-circuit lattice steel 230 kV tower line between Devers and San Bernardino Junction. A number of existing towers may be raised and/or reinforced. Additional structures may be interset between existing structures at some locations.
- Reconductoring both circuits on an existing 4.8-mile, double-circuit 230 kV lattice steel tower line between Vista Substation and San Bernardino Junction. A number of structures may be interset between existing structures. Some structures will be replaced. Some structures may be raised.
- Reconductoring one circuit on each of the two existing 3.4-mile, double-circuit 230 kV lattice steel tower lines between San Bernardino Substation and San Bernardino Junction.

The proposed west of Devers 230 kV transmission line upgrades would utilize two-conductor bundled 1033 kcmil conductors (approximately 1 1/4 " in diameter) with nonspecular finish.

Environmental Assessment: SCE has prepared a Proponent's Environmental Assessment (PEA) which includes analysis of potential environmental impacts that could be created by the construction and operation of the proposed project. The PEA concludes that all potential environmental impacts associated with the proposed project would be mitigated to less than significant levels through the implementation of mitigation measures.

EMF Compliance: The California Public Utilities Commission (CPUC) requires utilities to employ "no cost" and "low cost" measures to reduce public exposure to electric and magnetic fields (EMF). In accordance with SCE's "EMF Design Guidelines for New Electrical Facilities: Transmission Substation and Distribution", filed with the CPUC in compliance with CPUC Decision 93-11-013, SCE will implement the following measure(s) for this project:

Devers-Harquahala

- Utilize a typical horizontal 500 kV tower height of 150 feet.
- Install 500 kV transposition towers near the same locations as existing transposition towers for the Devers – Palo Verde No. 1 500 kV transmission line. The transposition towers are special towers

used to physically rearrange the phases of conductors on a transmission line, and they enable magnetic field reduction in addition to phase impedance equalization across the line route.
- Utilize the existing right-of-way.

West-of-Devers

- Replace single-circuit towers with double-circuit 230 kV towers.
- Utilize a typical double-circuit 230 kV tower height of 150 feet.
- Position equally loaded circuits on the same towers for maximum magnetic field cancellation effects.
- Change phasing sequences for existing transmission lines to further reduce the magnetic field levels.
- Utilize the existing right-of-way.

Public Review Process: SCE has applied to the CPUC for a Certificate of Public Convenience and Necessity for this project. Pursuant to the CPUC Rules of Practice and Procedure, any affected party may, within 30 days of the date on this notice, i.e. no later than *[30 calendar days after the CPCN Notice date],* protest and request that the CPUC hold hearings on the application. If the CPUC as a result of its investigation determines that public hearings should be held, notice shall be sent to each person or entity who is entitled to notice or who has requested a hearing.

All protests must be mailed to the CPUC and SCE concurrently and should include the following:

1. Your name, mailing address and day-time telephone number.
2. Reference to the CPUC Application Number and Project Name identified above.
3. A clear and concise description of the reason for the protest.

Protests for this Application must be mailed WITHIN 30 CALENDAR DAYS to:

California Public Utilities Commission
Docket Office, Room 2001
505 Van Ness Avenue
San Francisco, CA 94102

AND

Southern California Edison Co.
Law Dept. - Exception Mail
2244 Walnut Grove Avenue
Rosemead, CA 91770
Attention: Ms. R. Sweet

AND

California Public Utilities Commission
Director, Energy Division
505 Van Ness Avenue, 4th Floor
San Francisco, CA 94102

For assistance in filing a protest, please call the CPUC Public Advisor in San Francisco at (415) 703-2074, or in Los Angeles at (213) 576-7057.

To review a copy of SCE's Application, or to request further information, please contact:

Coachella, Indian Wells, Indio,
La Quinta, Palm Desert,
Rancho Mirage
Kathleen DeRosa
(760) 202-4211
SCE Palm Springs Service Center
36100 Cathedral Canyon Drive
Cathedral City, CA 92234

Banning, Beaumont, Cathedral City, Desert Hot Springs, Palm Springs
Lin Juniper
(760) 202-4231
SCE Palm Springs Service Center
36100 Cathedral Canyon Drive
Cathedral City, CA 92234

City of San Bernardino, San Bernardino County, Colton
Ray Gonzalez
(909) 307-6726
SCE Redlands Service Center
287 Tennessee Street
Redlands, CA 92373

Quartzsite, La Paz County,
Maricopa County
Vincent Haydel
(602) 499-9888
DPV2 Arizona Office
4350 East Camelback Road, Suite G200
Phoenix, AZ 85018 Riverside County,

Blythe
David Ramirez
(760) 922-9158
Blythe Service Center
505 W. 14th

Blythe, CA 92225

Grand Terrace, Calimesa, Loma Linda,
Redlands, Yucaipa
Beverly Powell
(909) 307-6742
SCE Redlands Service Center
287 Tennessee Street
Redlands, CA 92373

APPENDIX G
SCE REPORT TO CAISO

G-1—Update to SCE's April 7th Report to the CAISO (March 17, 2005)
G-2—Cost Effectiveness Report (April 7, 2004)

Update to SCE's April 7th Report to the CAISO entitled "Devers-Palo Verde No. 2 Cost-Effectiveness Report"

March 17, 2005

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Update Summary

SCE based its April 7th, 2004 "Devers-Palo Verde No. 2 Cost-Effectiveness Report" (Original Report) on assumptions found in SCE's 2003 Long Term Procurement Plan (LTPP). SCE has since filed its 2004 LTPP with the California Public Utilities Commission (CPUC)[1] and has updated its economic analysis of DPV2 using 2004 LTPP assumptions. This update communicates the results of this updated economic analysis which have changed since the Original Report due to the new assumptions[2].

Most of the April 7th, 2004 "Devers-Palo Verde No. 2 Cost-Effectiveness Report" (Original Report) contains current information; SCE's methodology and description of analyzing the economics of new transmission projects for example. Those results that have changed however are shown below as updates to sections in the Original Report. For example, if results have changed in section II D of the Original Report, the change will be found in section II D of this update. If this update does not show a section found in the Original Report, then the information contained in that section is still current.

III Methodology

D 2. a) Benefits Due to Cost Savings (Change in Total Production Costs):

Benefits due to cost savings have been revised as follows: SCE updated load, natural gas prices, and available hydro generation assumptions, extended the number of production simulations from 2009 to 2014 from 2009 to 2012, and updated present value calculations

[1] Rulemaking (R.) 04-04-003. SCE's LTPP can be found at http://www3.sce.com/law/cpucproceedings.nsf/vwUFiling?SearchView&Query=long+term+procurement+plan&Start=1&Count=30. Specifically, the analysis performed to evaluate DPV2's economics ties directly to SCE's Medium Load Scenario.

[2] Typical updates to a LTPP include revised forecasts for loads, natural gas prices, and available hydro generation.

from a 2004 NPV to a 2005 NPV. The Figures below updates Figure 3 and Figure 4 found in the Original Report.

Figure 3 – Change in Total Production Costs for CAISO Ratepayers

CAISO Ratepayers (Real $2004 in millions)

	2009	2010	2011	2012	2013	2014
Consumer Surplus	$81	$158	$166	$161	$208	$193
URG Producer Surplus	($28)	($58)	($61)	($61)	($79)	($71)
Transmission Congestion Revenue	($8)	($13)	($13)	($11)	($11)	($11)
Net Benefits	$45	$87	$92	$89	$118	$111

Figure 4 – Net Present Value of Change in Total Production Costs for CAISO Ratepayers:

CAISO Ratepayers (2005 NPV, $ millions)

	2005 NPV* for Life of Project
Consumer Surplus	$1,850
URG Producer Surplus	($685)
Transmission Congestion Revenue	($96)
Net Benefits	$1,069

(* Discount rate of 10.5%)

D 2. b) Benefits Due to New Transmission Capacity:

SCE's Original Report listed one year of transmission capacity benefits. As shown in the Capacity Benefit formula in the Original Report, these benefits were dependent upon load forecasts in the southwest. Load in Arizona and southwest Nevada is now expected to be higher than originally forecasted. The increased loads have resulted in reducing transmission capacity benefits to zero.

D 2. c) Benefits Due to Increased Transmission Revenues:

Wheeling service and Existing Transmission Contracts' (ETCs) estimated benefits are revised to be approximately $0.6 million annually of increased revenue to SCE from certain ETCs and approximately $2.4 million annually of increased CAISO wheeling revenues to SCE or about $30 million (2005 NPV) over the life of the project.

D 2. d) Negative Benefits Due to Increased Transmission Losses:

The CAISO and SCE separately calculated benefits due to transmission losses but with opposite results; the CAISO found losses decrease, SCE estimated losses increase with the addition of DPV2. The CAISO utilized a production model that included individual transmission line data, whereas SCE's production model aggregates transmission data. This distinction in transmission modeling may be the cause of SCE's and the CAISO's dissimilar results. SCE believes its estimate of transmission losses using a production simulation is inconclusive. Since results are inconclusive, SCE removed the transmission loss component from its economic analysis.

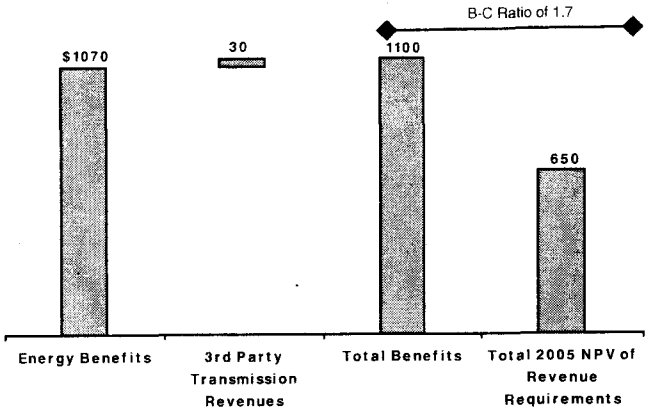
D 2. e) Conclusion of DPV2's Cost-Effectiveness:

Figure 5 illustrates the updated economic benefits of DPV2 is about $1.1 billion, comprised of energy savings, and third-party transmission revenues. The 2005 present value costs for DPV2 is estimated at $650 million. With a benefit-to-cost ratio of about 1:7:1, DPV2 is a highly cost-effective project for customers in the CAISO area.[3]

[3] Those benefits are those accruing to ratepayers whose utilities are CAISO Participating Transmission Owners that placed their transmission facilities under the operational control of the CAISO.

Figure 5 – Cost-Effectiveness Summary of DPV2

DPV2 Projected Lifecycle Benefits
(2005 NPV, $ Millions, 10.5 % discount rate per annum)



VIII Appendix E – CAISO Requested Information

A. WECC Total Production Costs

Figure 12 is revised from the Original Report to the new figure shown below.

Figure 12 – WECC Wide Production Costs (Real, 2004 $M)

WECC Production Costs (Real $2004 in millions)

	2009	2010	2011	2012	2013	2014
Without DPVII	11,332	19,086	19,945	20,548	21,198	21,644
With DPVII	11,322	19,065	19,924	20,527	21,172	21,619
Net Benefits	11	21	21	21	26	25

B. Impact to Arizona

Figure 13 is revised from the Original Report to the new figure shown below.

Figure 13 – Arizona Producer and Ratepayer Benefits (Real, 2004 $M)

Arizona Benefits (Real $2004 in millions)

	2009	2010	2011	2012	2013	2014
Consumer Surplus	($25)	($37)	($39)	($40)	($45)	($45)
URG Producer Surplus	$18	$27	$29	$29	$31	$30
Transmission Congestion Revenue	($1)	($2)	($2)	($2)	($2)	($2)
Net Benefits	($7)	($11)	($11)	($12)	($16)	($17)

Devers-Palo Verde No. 2

Cost-Effectiveness Report

An *EDISON INTERNATIONAL®* Company

April 7, 2004

Devers-Palo Verde No. 2 Cost-Effectiveness Report

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Cost Effectiveness Summary

Southern California SCE (SCE) analyzed the cost-effectiveness of constructing a new 500 kV transmission line between California and Arizona (Devers-Palo Verde No. 2 or DPV2). SCE's cost-effectiveness analysis compares California ratepayers' benefits due to increasing California import capability from the Palo Verde area to the costs of the project. The main benefits are that greater access to surplus economic out-of-state generation reduces energy costs to customers throughout California. SCE calculated the benefits accruing to ratepayers in the California Independent System Operator's (CAISO) control area[1].

SCE's evaluation of DPV2 concludes that, DPV2 is cost-effective with a benefit-to-cost ratio of almost 3:1. This analysis utilized a reasonable set of assumptions, and accounted for the uncertainty of major economic drivers. This analysis included the uncertainty of natural gas prices, load forecasts, and available hydro generation. SCE modeled major transmission operational constraints into California using realistic operational limits. In addition, the analysis attempted to quantify all reasonable and realistic costs and benefits to CAISO ratepayers. For example, costs of west of Devers substation, voltage support devices, and increased losses due to DPV2 were all captured. To be thorough, SCE also estimated the benefits of increased transmission revenues and a transmission capacity value.

SCE's sensitivity analyses showed that the project's expected cost-effectiveness could range from a benefit-cost-ratio of 1.5:1 to about 3:1; depending upon assumptions of future benefits and whether transmission lines are rated at operational or thermal limits. SCE derived the 3:1 benefit-cost-ratio from 2004 net present value of benefits of about $1,700 million, and a cost estimate of $590 million. These results assume benefits beyond 2013 are held at zero real inflation. If future annual benefits were held to 2012 levels for the life of the project, the overall 2004 net present value of benefits decline to $1,300 million, and the benefit-to-cost ratio decrease to about 2:1. These are the results if transmission ratings are held at their operational limits. SCE believes that operational limits are more realistic than using thermal limits. If transmission ratings were raised to their thermal limits, DPV2's benefits would be around $870[2] million and the benefit-to-cost ratio about 1.5:1.

The majority of benefits arise from the increased ability to import lower cost energy located in the Palo Verde area of Arizona into California. SCE's analysis indicates an excess of about 6,500 MW of cost-effective surplus generation is available in the Palo Verde and Nevada area starting in 2008. The Southwest Transmission Expansion Planning (STEP)[3] working group independently concluded a similar

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[1] Those benefits accruing to ratepayers whose transmission facilities are under the operational control of the CAISO.

[2] Assuming future benefits are held to zero real inflation from 2012.

[3] The Southwest Transmission Expansion Plan (STEP) is a sub-regional planning group that was formed to address transmission concerns in the Arizona, southern Nevada, southern California, and northern Mexico area. Due to a large amount of new generation developed in this area, it was apparent to many that the transmission grid would be inadequate

magnitude of generation should be available to import into California. SCE evaluated the benefits of this excess generation from 2009 to 2012. The evaluation started in 2009 because that is the year DPV2 is proposed to be operational.

SCE assumed that the benefits of accessing Palo Verde generation in the southwest area will continue beyond 2012. This assumption is based on a belief that new generation in Arizona will continue to have economic advantages over new projects in California. These advantages include access to lower cost natural gas, less restrictive permitting, lower taxes, and lower labor rates. As long as these advantages exist, it is reasonable to expect that a continuing benefit will accrue from new generation sources in the Palo Verde area. Therefore, it is reasonable to assume that Californians will continue to benefit from new generation beyond those plants that are in construction and permitted.

After considering all costs and benefits and uncertainty of major economic drivers, SCE believes that DPV2 is a cost effective project for CAISO ratepayers with a benefit-to-cost ratio of around 3:1. SCE respectfully requests that the CAISO find DPV2 to be a necessary and cost-effective addition to the CAISO Controlled Grid and fully support SCE in its future applications involving DPV2. It is SCE's intention to pursue additional permitting activities at the California Public Utilities Commission once we receive unambiguous approval from the CAISO.

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to efficiently deliver that power to the major load areas. The goal of STEP is "To provide a forum where all interested parties are encouraged to participate in the planning, coordination, and implementation of a robust transmission system between the Arizona, Nevada, Mexico, and southern California areas that is capable of supporting a competitive efficient and seamless west-side wholesale electricity market while meeting established reliability standards". (See, Jan. 17th pdf file at: http://www1.caCAISO.com/docs/2002/11/04/2002110417450022131.html)

I. Introduction

As provided in Section 3 of the CAISO Tariff, SCE submits this report for the CAISO's use in evaluating the cost-effectiveness of constructing the Devers-Palo Verde No. 2 – 500 kV transmission line. DPV2 is an economic project under Section 3.2.1.1 of the CAISO Tariff. SCE believes this report provides sufficient information for the CAISO to find DPV2 necessary and cost-effective. SCE respectfully requests that the CAISO find DPV2 to be a necessary and cost-effective addition to the CAISO Controlled Grid and support SCE in its application for a Certificate of Public Necessity and Convenience (CPCN) expected to be filed with the California Public Utilities Commission (CPUC or Commission) in 2004. It is SCE's intention to pursue additional permitting activities at the California Public Utilities Commission once we receive unambiguous approval from the CAISO.

II. CAISO's Key Principles of an Economic Methodology

During a March 16, 2004 Transmission Economic Analysis Methodology (TEAM) workshop, the CAISO presented five key principles[4] of a proposed generic methodology to evaluate economic transmission projects. The CAISO is required by the California Public Utilities Commission (CPUC) to recommend a methodology to evaluate economic transmission projects[5]. SCE submits the following information in subsections A, B, C, D, and E to explain how SCE's analysis comports with each of the proposed key principles.

A. Benefits Framework

The CAISO described its Benefits Framework principle as a "*standard framework to measure benefits regionally and separately from consumers, producers, and transmission owners from different regions*".

Section III(D) of this report explains that SCE's benefits framework consists of the same three primary metrics identified in the CAISO's Benefits framework; namely consumer surplus, producer surplus, and transmission congestion revenues. Along with these primary benefits, SCE

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[4] Presentation entitled "Transmission Economic Assessment Methodology, Introduction, Purpose, and Progress". Second Stakeholder Workshop – March 16, 2004. This report is available on the CAISO website at the following address: http://www1.caCAISO.com/docs/2003/03/18/2003031815303519270.html

[5] As part of the AB 970 Phase 5 proceeding (I.00-11-001).

also includes what it categorizes as secondary benefits consisting of transmission capacity, transmission revenues, and losses. Using this framework DPV2 was shown to have a benefit-to-cost ratio around 3:1 for CAISO ratepayers using the same methodology the CAISO proposes. In Section VIII of this report, SCE also describes DPV2's impacts over the WECC and Arizona regions.

B. Market Prices

The CAISO described its Market Prices principle as one that will "*utilize market prices to evaluate transmission expansion*". SCE utilized market prices to evaluate DPV2 as explained in Sections III(D)(2) and IV(A) of this report.

In summary, market prices were developed using a production simulation tool specifically designed to forecast market prices, then applied to CAISO formulas to calculate consumer surplus, producer surplus, and transmission congestion revenues for CAISO ratepayers. The derivation of consumer surplus utilized the market prices forecasted in the CAISO area with and without installing DPV2. This market price differential was multiplied by CAISO load to determine consumer surplus. SCE's producer surplus calculations also utilized market prices to forecast the revenues of utility retained generation. Market prices were also utilized to estimate transmission congestion revenues as the flow across transmission paths multiplied by the market price differential between where energy was generated to where energy was consumed by load. Finally, market prices were utilized to estimate the energy costs of losses incurred in delivering energy to consumers.

C. Uncertainty

The CAISO describes its Uncertainty principle as one to "*consider through a wide range of future system conditions; dry-hydro, gas prices, demand growth, under and over entry of generation*".

SCE's analysis captured a significant range of uncertainty by performing random Monte Carlo (i.e., stochastic) simulations for various factors which include hydro variation, gas prices, and demand growth uncertainty, described in detail in Section IV. This stochastic analysis provides a wide range of future system conditions through use of volatility and correlation parameters which were patterned using historical data. For example in Section IV, Figure 9 shows that gas price volatilities range from about $2 to $6 ($/mmBtu).

SCE's estimate of under and over entry of generation is essentially captured by Monte Carlo simulation of demand growth and forced outages. Section IV, Figure 8 illustrates load growth ranges from about 18 to 20 (GWh). Under a low load growth scenario generation would be in excess of need and in a high load growth scenario generation supply would be short.

D. Network Representation

The CAISO describes its Network Representation principle as one that will "*demonstrate flow is physically feasible*".

In Section IV(C), SCE describes transmission flows are constrained at their operational limits. SCE represented the network in two different ways. In its economic analysis, SCE used operational limits to constrain flows between geographic areas. Specifically, SCE's network representation in its economic analysis incorporated Southern California Import Transmission limits in order to capture real operational constraints to assure that flow is physically feasible. SCE also performed significant power flow analysis to demonstrate the physical feasibility of the project. Appendix A of DVP2's Technical report provides single line diagrams with the magnitude of power flows when DPV2 is modeled in and out of operation.

E. Alternatives (Generation/Demand Side Substitution)

The CAISO describes its Generation/Demand Side Substitution principle as to "*evaluate alternatives to transmission expansion*".

Section III(A) describes in detail five alternatives SCE evaluated to arrive at the conclusion that DPV2 is the best project to meet the project scope of accessing expected levels of generation supplies in the Arizona/Nevada areas. Section III(A)(2) describes how alternatives such as generation and demand side substitutions are best evaluated with respect to this project.

III. Methodology

SCE analyzed the economics of DPV2 by first determining its overall objective. SCE's objective is to access surplus energy located in the southwest (Arizona) or the south (Mexico) and to provide the transmission infrastructure necessary to enable a more liquid and competitive electricity market. Since a number of projects can meet this import objective, a methodology was developed to determine the most favorable project. SCE's method has the following four major elements:

- Project Screening
- Project Ordering
- Establishing a Baseline
- Project Evaluation

This approach started with a list of competing projects, which were then screened to determine the most viable. Viable projects were then chronologically ordered in terms of their expected operating dates for use in production simulations. Using the results of the production simulations,

the economics of competing projects were compared using a net-present value basis to formulate which project best met the import objective. After conducting this analysis, SCE concluded constructing DPV2 is cost-effective for California ratepayers. Details of this approach follow.

A. Project Screening

SCE evaluated several potential projects which could increase transmission import capability into California either from the southwest or the south. Using this project scope, SCE developed a list of new projects and upgrades to existing facilities which would meet the import objective. This list was developed using personal knowledge and projects identified via the STEP process as references. The following projects were identified as potentially meeting the import objective.

Alternative	Import Objective
1. Second Devers-Palo Verde 500 kV transmission line (DPV2)	Increase imports from the Palo Verde area by increasing the Path 49[6] transfer capability
2. Second Southwest Power Link 500 kV transmission line (SWPL)	Increase imports from the Palo Verde area by increasing the Path 49 transfer capability
3. Upgrade SWPL No. 1, Devers-Palo Verde No. 1, Navajo-Crystal, and Moenkopi-Eldorado series capacitors (Path 49 Series Capacitor Upgrades, or Series Cap)[7]	Increase imports from the Palo Verde area by increasing the Path 49 transfer capability
4. New Imperial Valley-Devers 500 kV transmission line (IV-Devers)	Increase imports from Mexico area by increasing the Path 45[8] transfer capability
5. Combination of constructing a new Imperial Valley-Devers 500 kV transmission line and upgrading SWPL No. 1, Devers-Palo Verde No. 1, Navajo-Crystal, and Moenkopi-Eldorado series capacitors (IV-Devers & Series)	Increase imports from the Palo Verde and Mexico areas by increasing both the Path 49 and Path 45 transfer capabilities

[6] Path 49 transfer capacity as defined in the 2003 WECC Path Rating Catalogue.

[7] This project was screened with an initial additional rating or transfer capability of 760 MW. Since this screening, the transfer capability has been revised to 505 MW. Since SCE estimates this project is still cost effective, conclusions stated in this report about this project remain valid. SCE is evaluating this project separately from this report using a 505 MW rating. Outside of this screening analysis, DPV2 is evaluated using the 505 MW rating.

[8] Path 45 transfer capacity as defined in the 2003 WECC Path Rating Catalogue.

Each of these projects was screened using a rough estimate of project costs and benefits. SCE conducted this screening in 2003, so a 2003 NPV of costs (Costs) of each project were developed. Costs were estimated for major cost components. No special cost studies[9] were conducted since this step of our methodology is a project screening analysis. Benefits of each project were developed by estimating each project's change to Total Production Costs using deterministic production simulations (See Appendix A for an explanation of the production simulation used in analyzing DPV2) and then calculating the 2003 NPV of such benefits (Benefits). Projects having positive net benefits were further analyzed in a later stage of analysis.

Deterministic analysis is appropriate for screening, but is not sufficient by itself for final cost-effectiveness evaluations. Deterministic analyses have only a single set of input forecasts and by themselves do not fully take into account many uncertainties related to electricity markets. By contrast, SCE used stochastic (Monte Carlo) analysis for its cost-effectiveness evaluation of DPV2 in the final project evaluation step so as to incorporate the uncertainty of key critical assumptions (i.e. load, natural gas prices, hydro production, and random generation unit forced outages).

Deterministic production cost benefits were calculated from June 1, 2008[10] up to December 31, 2012 for each alternative[11]. The economics of each project was then compared using their benefit-to-cost ratios and net benefits over 46 year expected project lives. The results of this economic screening are shown on the following Figures 1 and 2.

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[9] Major cost components were identified. Special cost studies such as walking proposed sites to identify other cost components will be conducted for those projects passing the screening test.

[10] 2008 was chosen since it was thought DPV2 would have an operating date of 2008 at the time of this screening.

[11] For these deterministic screenings, maximum transmission line ratings were utilized. Stochastic analysis used operational transmission line ratings as a further analytical refinement.

Figure 1 – Benefit-Cost Comparison of Alternative Projects

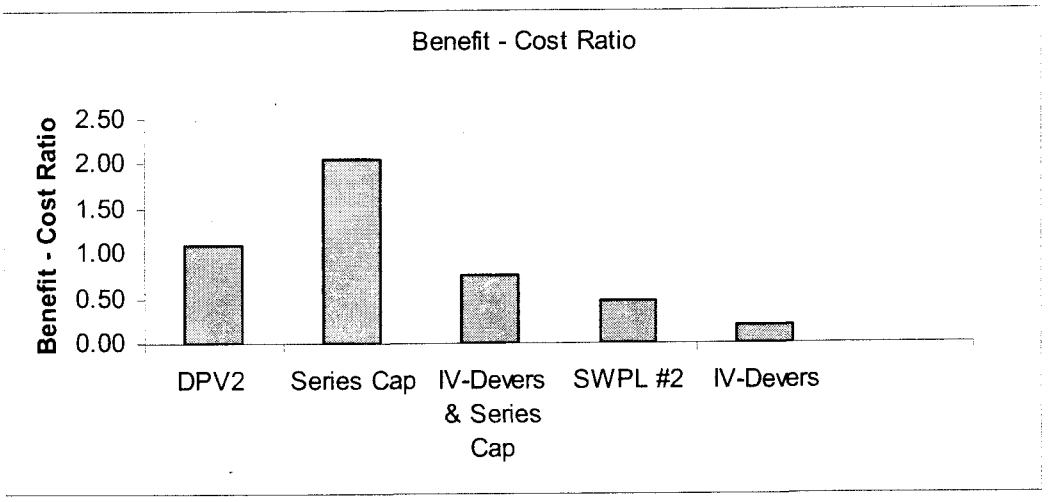
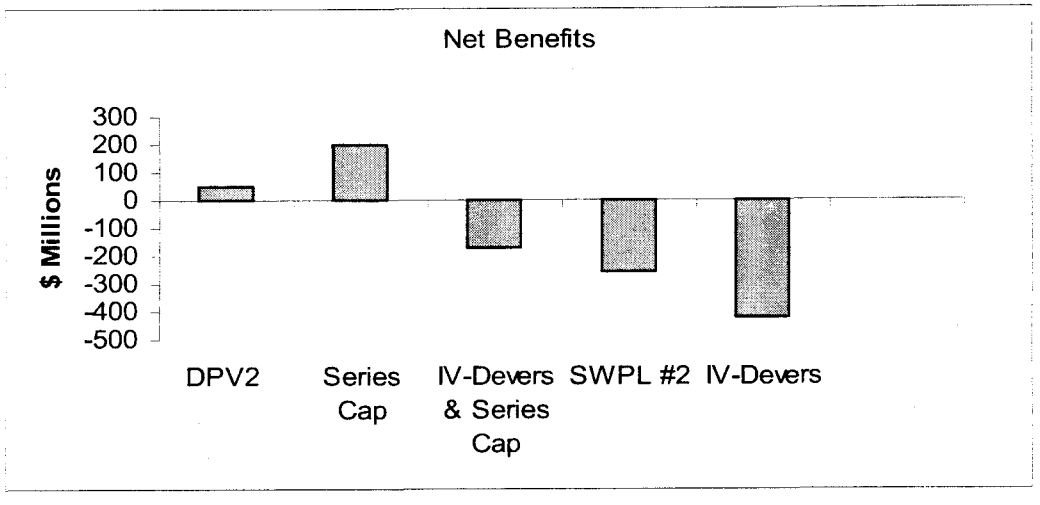


Figure 2 – Net Benefits Comparison of Alternative Projects



1. Results of Economic Screening

As shown in the Figures above, Devers-Palo Verde No. 2 and the Path 49 Series capacitor upgrade projects show sufficient benefits to evaluate further; both projects having positive net benefits. The rationales for further studying these projects, and excluding the remaining projects, are described in more detail below.

a) Devers-Palo Verde No. 2 – 500 kV Transmission Line Alternative

DPV2 will increase import capability over Path 49 by 1200 MW. This import capability yielded a deterministic benefit-to-cost ratio of slightly over 1:1, indicating a need for a more comprehensive cost and benefit analysis.

DPV2's Costs include not only costs of the line, but in addition include costs of upgrade facilities West of SCE's Devers substation totaling over $100 million, and about $75 million dollars in voltage support facilities. For screening purposes, DPV2's costs were estimated to be about $490[12] million. Benefits were estimated to be over $540 million, producing a benefit cost ratio over 1:1.

b) Imperial Valley-Devers 500 kV Transmission Line Alternative

Costs of a new 1,400 MW Imperial Valley-Devers 500 kV line were compared to the Benefits of increasing imports from the south and southwest. The Costs of constructing Imperial Valley-Devers are estimated to be about $530 million using a typical planning estimate by accounting for major transmission line, substation, land components, and west of Devers upgrades and voltage support facilities as estimated for DPV2.

The estimated $110 million of Benefits due to accessing surplus power in Mexico are low compared to their estimated Costs. Excess generation located in Mexico had an impact of lowering energy production costs in California, but not as significant as resources in the Palo Verde area. As a result, the project's 2003 NPV benefit-to-cost ratio is 0.2, which is far less cost-effective than DPV2. Consequently, this alternative was excluded from further consideration.

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[12] Since this screening, DPV2's cost estimate has increased to $590 million due to changes in project scope. Benefits have also increased to over $1,700 million due to accounting for uncertainty of load, natural gas prices, hydro generation, and operational transmission constraints.

c) Southwest Power Link No. 2 Transmission Line Alternative

A second Southwest Power Link (SWPL 2)[13] 500 kV line was evaluated as an alternative because it would increase imports from the Palo Verde area similar to DPV2. Our screening indicates SWPL 2 has an uneconomic benefit-to-cost ratio of about 0.5. Costs of constructing SWPL 2 were not estimated in detail. Instead, costs of constructing DPV2 were used as a proxy ($490 million). Such a proxy is reasonable since the line lengths and other major cost components are comparable. In fact, constructing SWPL No. 2 would likely cost more than DPV2 since SWPL No. 2 would require significant purchases of land while DPV2 does not, and is about 20% longer. Any increase in costs would further lower the project's benefits-to-cost ratio. Benefits were estimated to be about half of those from DPV2 ($230 million). This is due to congestion in transmission facilities north of the San Diego area.

Using these assumptions, SWPL 2 has a 2003 NPV of benefits-to-cost ratio of about 0.5, and therefore this project is not considered a viable import alternative.

d) Path 49 Series Capacitor Upgrades Alternative

Upgrading the SWPL No. 1, Devers-Palo Verde No. 1, Navajo-Crystal, and Moenkopi-Eldorado series capacitors and their associated facilities is roughly estimated to Cost about $190 million. The Costs of constructing these upgrades were estimated using a typical planning estimate by calculating major transmission line, and substation components.

The deterministic production cost Benefits is estimated to be $390 million, yielding a benefit-to-cost ratio over 2:1. Since the project has a large benefit-to-cost ratio, and seems to have broad support in the STEP arena, SCE added this project to its base case (Section II(B) below provides additional discussion).

e) Combination of Path 49 Series Capacitor Upgrades and Imperial Valley-Devers 500 kV Transmission Line Alternative

As shown in section (b) above, the Imperial Valley-Devers 500 kV Transmission Line was not cost-effective as a stand-alone project. SCE questioned whether this new line in combination with the Path 49 series capacitor upgrades would deliver Benefits in excess of their individual project benefits. The incremental Benefit of the combined project is about $50 million greater than the sum of the individual projects Benefits ($500 million). The Costs of the combined projects are estimated to be about $720 million. The

[13] SWPL 1 is defined as the 500 kV line connecting the Palo Verde-North Gila-Imperial Valley-Miguel substations. SWPL 2 is one alternative to increase imports into California. SWPL 2 would be constructed as a parallel line to SWPL 1.

combined costs far exceed the combined benefits yielding a benefit-to-cost ratio of 0.7 ($550/$720). This alternative was not evaluated further.

2. Investing in New Generation, New Renewable Resources, or New Demand Side Management Programs

a) Generation Alternatives

As described the Preferred Resource Plan SCE filed with the Commission on April 15th, 2003, SCE is not in a position to make significant long-term commitments in generation, whether these commitments are utility generation or through purchase power contract. Two necessary preconditions must take place before SCE can make such commitments:

- Stabilizing SCE's customer base and clarifying SCE's long-term load responsibilities by establishing fair rules for future Direct Access, exit fees for municipalization and other departing load, and equal resource adequacy requirements for all Load Serving Entities;
- Continuing the efforts that the Commission and SCE have undertaken together since September 2001 to restore the regulated utility's creditworthiness and financial viability, including: (1) establishing a durable, secure and commercially realistic cost recovery framework to enable new regulated utility investments in generation; (2) recognizing all the costs associated with power contracting including significant collateral requirements and off-balance-sheet debt equivalence of long-term contracts – whether California Department of Water Resources (DWR), Qualifying Facilities (QF) or bilateral; and (3) clarifying that the DWR contracts will never be assigned to SCE.

DPV2 will help to mitigate the risks associated with SCE's uncertain regulatory environment by providing access to additional surplus generation. Access to a larger pool of potential resources may allow SCE to sign shorter term contracts with existing suppliers. Shorter term contracts can be reasonably relied upon to meet customers' needs in the face of significant uncertainty and are a lower risk approach until policy issues regarding customer base are resolved. The use of shorter term contracts will also reduce the negative credit rating impacts associated with power contract debt equivalence[14].

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[14] The two major credit rating agencies, Standard and Poor's Rating Agency and Moody's Investor Service both treat long-term power contracts as liabilities and impute a portion of the value of these contracts as debt on utility balance sheets. Shorter-term contracts, especially those with terms of three years or less, are deemed to have little or no debt equivalence.

b) Renewables Alternatives

SCE's evaluation of DPV 2 includes full compliance with California's Renewable Portfolio Standard (RPS), which requires each load serving entity to increase its commitments to renewable power 1 percent per year such that 20 percent of retail sales are met with renewable power by 2017. SCE is the leader in renewable power procurement in California and currently has a plan to meet RPS requirements ahead of schedule. SCE views the DPV2 project as one that works with the RPS requirements as it allows for greater renewables to be developed elsewhere for import into California. Therefore, rather than viewing renewables as an alternative, SCE suggests that the DPV2 project be viewed as a facilitator of additional renewable power for CAISO customers.

c) Demand Side Alternatives

SCE's current resource plan includes a significant increase in cost-effective energy efficiency and demand response investment over and above the levels funded in rates and through Public Goods Charge (PGC) funds. Current PGC funding levels are about $90 million per year and SCE received authority to invest an additional $60 million per year for energy efficiency. This is a substantial investment in energy efficiency and it is unclear how much potential cost-effective energy efficiency will be available in the 2009 timeframe. Nevertheless, SCE will continue to pursue cost-effective energy efficiency in 2009 and beyond, regardless of whether the DPV2 project is constructed in operation. It would be unwise to forego a cost-effective transmission project such as DPV2 in the hopes of pursuing unknown demand-side alternatives far in the future. Therefore, SCE finds DPV2 to be a cost-effective project even when demand-side resources are considered.

3. Summary of Transmission Alternatives

SCE evaluated a reasonable set of transmission alternatives for meeting the objective of increasing import capability into California. DPV2 increases import capability by 1200 MW with favorable economics. The screening results indicate no other alternatives examined were viable substitutes for DPV2. The Path 49 Series Capacitor Upgrades were the only other cost-effective transmission project, but this project can be pursued in addition to DPV2. SCE believes the Series Capacitor Upgrades are sufficiently cost-effective to include them in its evaluation of DPV2. No additional analysis was performed on the other alternatives.

B. Project Ordering

SCE based its economic analysis on its 2003 Preferred Resource Plan, which incorporated substantial commitments to energy efficiency, demand response, and renewable power among other attributes. Transmission projects are added to this base scenario using their operating dates. A DPV2 operating date of June 1, 2009 is expected to leave sufficient time to complete licensing, construction, and regulatory approvals.

In addition, it appears the Path 49 Series Capacitor Upgrades project will likely be operational prior to DPV2 for four reasons. First, the analysis being conducted by STEP coincides with SCE's analysis that the project is cost-effective[15]. Second, it is likely the Path 49 Series Capacitor Upgrades will be completed prior to DPV2 since there are potential project sponsors. Third, the Path 49 Series Capacitor Upgrades can be completed earlier than constructing a new line since they involve less construction and are not expected to require a CPCN[16]. Finally, DPV2 is even more cost-effective without the Path 49 upgrades; so if it can be shown that DPV2 is cost-effective with the Path 49 Series Capacitor Upgrades in place, then DPV2's benefits-to-costs ratio would be improved further still if the proposed upgrades are not completed prior to DPV2.

For these reasons, SCE decided it was reasonable to include the Path 49 Series Capacitor Upgrades in the base case prior to evaluating DPV2. SCE assumed an operating date of June 1, 2006 to reflect a likely completion schedule.

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[15] The STEP process has shown increasing the ratings of several series capacitors located on Path 49 lines has sufficient benefits and viability to include in its baseline (See, http://www1.caCAISO.com/docs/2002/11/04/2002110417450022131.html internet address). SCE's analysis confirms the STEP analysis. Upgrading the series capacitors and other related facilities on the SWPL No. 1, Devers-Palo Verde No. 1, Navajo-Crystal, and Moenkopi-Eldorado lines has sufficient benefits and likely sponsors to occur prior to DPV2's operating date. SCE added these projects to its baseline and incrementally evaluated DPV2's benefits above these added facilities.

[16] Upgrades to substation facilities do not normally require a CPCN (See, CPUC General Order No. 131-D).

C. Setting a Baseline

When evaluating new projects, it is important to have a comprehensive understanding of what generation and transmission will or won't be constructed in the future. SCE's base case was developed by adding cost-effective projects from the screening analysis above, and transmission and generation new entry and retirements known in the industry[17]. SCE utilized publicly available information relating to the likelihood of future transmission and generation projects and the following criteria.

Criteria used to add transmission

- New lines are added that affect the market model topology
- Construction should be fairly certain
- Ratings and WECC system impacts should be fairly certain
- Utility specific projects – such as DPV2

Criteria used to add generation

- Project is being constructed and has a reasonable likelihood of being completed (either substantially constructed, and have financing completed, or be an investor owned or municipality utility project.). SCE also added generation if public data reasonably supported such an addition.

Criteria used in generation retirements

- Specific published retirement dates,
- Reach a life of 55 years or,
- Retirements due to air quality restrictions
- Consistency with California Commission planning assumptions

A list of projected new entries and retirements may be found in the appendices of this report. Appendix B shows new transmission projects, Appendix C shows new generation projects and Appendix D shows generation retirements. This set of new entry and retirements together with the projects identified in our screening analysis defines SCE's base case.

[17] Information gathered from publications or reports from the CAISO, CEC, and WECC, among others.

D. Project Evaluation

Project screening indicated DPV2 to be a cost-effective project, but a more thorough analysis was performed to better understand the project's total costs and benefits. DPV2's project scope was analyzed in detail to identify all costs, including special cost studies to further narrow cost uncertainties. Project benefits were also analyzed in more detail by conducting stochastic production simulations in which the uncertain nature of future natural gas prices, load growth, and hydro generation were included to provide expected values for production costs over a wide range of uncertainties. Also, operational transmission limits[18] were used in our project evaluation. The following sections detail SCE's evaluation of DPV2.

1. CAISO Ratepayer Perspective

SCE's cost-effectiveness evaluation of DPV2 is a life-cycle benefit-to-cost analysis from a CAISO ratepayer perspective. A life-cycle perspective measures total benefits and costs over the entire period of the project's expected life (2009-2055). SCE used a net present value (NPV) analysis to bring all benefits and costs to the base year of 2004. Measuring benefits and costs from a CAISO ratepayer perspective means that SCE valued all benefits and costs using an estimate of the revenue requirements that CAISO ratepayers would incur either with or without the project.

The CAISO ratepayer perspective is the proper scope of review since when DPV2 is approved, its revenue requirements will be collected under the CAISO Transmission Access Charge (TAC) that is paid by the ratepayers of all CAISO Participating Transmission Owners[19]. Constructing DPV2 is also expected to benefit non-CAISO ratepayers because all California electricity customers can benefit from lower average energy market prices due to the construction of DPV2.

2. Benefit-Cost Analysis

Net Present Value (NPV) is the discounted monetized value of expected benefits or costs. Discounting benefits and costs transforms gains and losses occurring in different time periods to a common unit of measurement. The ratio of the NPV of benefits to the NPV of project revenue requirements[20] is the benefit-to-cost ratio. Benefit-to-cost ratios above 1.0 indicate

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[18] Seasonal Southern California Import Transmission nomogram limits were enforced.

[19] Some of the TAC is paid for by non-CAISO ratepayers who are wheeling energy through the CAISO control area and by entities with Existing Transmission Contracts with Participating Transmission Owners whose rates are tied to their transmission revenue requirement.

[20] A revenue requirement is calculated for two types of expenditures -- O&M and capital. Both types of expenditures are converted to revenue requirements using an annual methodology. O&M expenditures, direct and indirect, are converted to

projects which benefit ratepayers. The following equation sets forth the benefit-to-cost ratio used in this analysis:

$$\text{B/C Ratio} = \frac{\sum_{I=2009}^{2055} \text{Net Present Value of [Total Production Costs (Without DPV2 – With DPV2) + Additional Benefits]}}{\sum_{I=2009}^{2055} \text{(Net Present Value of DPV2 Revenue Requirement Costs)}}$$

Where:

- "Total Production Costs (Without DPV2 – With DPV2)" is an estimate of the benefit CAISO customers may obtain through access to low cost generation supplies, producers revenues and transmission congestion revenues; and
- "Additional Benefits" are benefits from transmission capacity, and transmission wheeling revenues, and negative benefits due to transmission losses (described below).
- "Net Present Value of DPV2 Revenue Requirement Costs" includes the recovery of capital and fixed operations and maintenance expense associated with the project.

The majority of DPV2's benefits are the result of increased access to surplus economic out-of-state generation, which will lower energy market prices in California. Other benefits to California ratepayers include capacity benefits due to increased transmission capacity to other markets for capacity, and increased transmission revenues from wheeling charges and Existing Transmission Contracts. SCE estimates CAISO system losses increase with DPV2, and are incorporated into the project's cost-effectiveness as a negative benefit. These quantifiable benefits are described in more detail below.

Costs of DPV2 are provided in Section I(C) of the Technical report. The 2004 NPV of revenue requirement of DPV2's costs are estimated to be $590 million dollars.

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revenue requirements, by applying a franchise fee and uncollectibles factor. Capital expenditures, direct and indirect, are first accumulated over time, applying AFUDC (essentially interest during construction), to arrive at a total installed cost. The total installed cost is then converted to a revenue requirements stream over the useful life of the asset. The annual amount of this revenue requirements stream is a function of the book and tax lives, cost of capital, and tax rates.

a) Benefits Due To Cost Savings (Change in Total Production Costs):

The benefits due to lower energy prices are estimated by using production simulations[21] to calculate Total Production Costs over a three and a half year study period[22] and then extrapolating future benefits over the life of the project. SCE chose this study period as a reasonable balance between sufficient data to forecast future generation patterns and a study period short enough that it is practical to use production simulation. A longer simulation period was thought to derive little forecasting benefit as the uncertainty is so large beyond 2012 that the precision of such simulation would be small relative to this uncertainty.

The change in Total Production Costs, or energy cost savings, are defined as the benefits or costs to CAISO ratepayers due to three quantities: consumer surplus, producer surplus, and transmission congestion revenues when comparing benefits with and without DPV2. Consumer Surplus[23] is defined as the value of the energy to the CAISO ratepayer, minus the price paid for it. A beneficial transmission project will lower the energy costs to CAISO ratepayers.

Producer Surplus is defined as the difference between the energy price paid to the utility retained generation, and the variable operating cost to produce it. Total Production Costs include a value of producer surplus for utility retained generation only because utility retained generation reflects costs or benefits that accrue to ratepayers. Since a new transmission line could cause a utility owned generator to earn less than its costs, such ratepayer costs should be included in a ratepayer test.

Transmission Congestion Revenue[24] is the revenue customers receive due to congestion charges. Transmission Congestion Revenue was calculated for transmission facilities under the operational control of the CAISO.

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[21] Seasonal Southern California Import Transmission nomogram limits were enforced during these simulations.

[22] The production simulation study period started from DPV2's proposed operating date of June 1, 2009 and ended on December 31, 2012.

[23] Mathematically, consumer surplus equals the change in market prices with and without DPV2 times the CAISO area load.

[24] Transmission Congestion Revenue was calculated for all lines in or out of the CAISO control area using the following relationship for each transmission path: Transmission Congestion Revenue = hourly flow * (hourly market clearing price Zone B – hourly market clearing price Zone A), where Zone B is the market clearing price of the zone where energy is flowing from, and Zone A is the market clearing price of the zone where energy is flowing to (i.e. the differential in market clearing prices from both ends of a particular transmission path times the energy flow).

The summation of Consumer Surplus, Producer Surplus, and Transmission Congestion Revenue is thought to capture the major quantifiable ratepayer costs and benefits of a transmission project and be equal to its Total Production Costs. Total Production Costs for CAISO ratepayers are shown in the next Figure as net benefits.

Figure 3 – Change in Total Production Costs for CAISO Ratepayers

CAISO Ratepayers (Real $2003 in millions)

	2009	2010	2011	2012
Consumer Surplus	$160	$240	$230	$250
URG Producer Surplus	($30)	($50)	($50)	($50)
Transmission Congestion Revenue	($20)	($30)	($30)	($30)
Net Benefits	$110	$160	$150	$170

A project has positive benefits if Total Production Costs are less after it's constructed. For example, if Total Production Costs are calculated for the existing CAISO area, and then calculated again with the addition of a new project, such as DPV2, and if Total Production Costs decrease, then the additional project has positive benefits for CAISO ratepayers. For DPV2, benefits are explicitly calculated between 2009 and 2012. Benefits beyond 2012 are projected at the 2012 level at zero real growth for the remainder of the project's life (2013-2055). The net benefits for DPV2 is about $1.7 billion, as shown below.

Figure 4 – Net Present Value of Change in Total Production Costs for CAISO Ratepayers

CAISO Ratepayers (2004 NPV, $ millions)

	2004 NPV* for Life of Project
Consumer Surplus	$2,450
URG Producer Surplus	($470)
Transmission Congestion Revenue	($310)
Secondary Benefits (losses, T. cap, T. revenues)	$20
Net Benefits	$1,690

(* Discount rate of 10.5%)

b) Benefits Due To New Transmission Capacity

The benefits of DPV2 include the avoided cost of marginal generating capacity. Marginal generating capacity value is defined as a fraction of, up to 100%, the deferral value of a combustion turbine proxy[25] to the load serving entity. A new transmission project such as DPV2 can only provide a capacity benefit if the project enables access to a lower cost and available generation capacity market that would otherwise not be accessible. To illustrate, if the California generation capacity market values capacity at $100, but a new transmission line can enable access to a surplus, neighboring capacity market selling capacity for less, say at $80, then the transmission project provides a capacity benefit of the difference, or $20 to California.

A real capacity market, such as that operating in the New York and PJM markets today, does not exist for the California-Arizona area. However, SCE has established a reasonable method for estimating the value of capacity associated with DPV2 by identifying the surplus generation in the Arizona area that could be used to meet California capacity requirements and is transferable over the line. Essentially, the value of this capacity due to new transmission, 'T', is equal to SCE's estimate of its avoided cost of capacity, 'AC', multiplied by the result of 1 minus the ratio of the new transmission capacity rating to the quantity of excess generation, 'G', in the Arizona area. The value of capacity to 'T' cannot be lower than 0% and cannot exceed 100%.

Capacity Benefit =

$$\sum_{I=2009}^{2012} \text{Net Present Value of } [AC * T * (1 - T / G)]$$

[25] The costing methodology established in Commission Decision (D.) 82.12.120 directs PG&E, SCE and SDG&E to base their long-run cost of capacity according to a combustion turbine proxy.

Where:

- 'T' is defined as Path 49 operational rating increase due to DPV2.
- 'AC' is SCE's avoided cost estimate for marginal capacity and energy based on the CT deferral methodology. SCE currently estimates its future marginal capacity costs to be $85.9/kW-yr in 2008 and $89.8/kW-yr in 2009, or 100% the full value of a combustion turbine proxy in both years.
- 'G' is excess generation capacity in the Arizona area that exceeds the area's load and reserves requirements and its current export transfer capability. In the SCE database, this excess generation is expected to drop below DPV2's line rating by 2010.

SCE estimates constructing DPV2 provides access to approximately 6,500 MW of excess Arizona and Nevada generation that otherwise would not be available to California consumers. Much of this excess capacity can be tapped through existing lines and the Series Capacitor upgrade project, and even more is expected to meet local Arizona and Nevada needs as load grows in the area. These factors reduce the excess generation that can be attributable to DPV2 by its operating date. The $20 million capacity benefit (2004 NPV) was positive only over a one year period because by the year 2010, SCE believes the amount of surplus generation will fall below DPV2's capacity, thus eliminating capacity benefits as described in the formula above.

c) Benefits Due To Increased Transmission Revenues:

DPV2 will increase the Transmission Revenue Requirements used to develop rates for both CAISO Wheeling service and Existing Transmission Contracts' (ETCs). This is estimated to result in approximately $0.5 million annually of increased revenue to SCE[26] from certain ETCs and approximately $1.8 million annually of increased CAISO wheeling revenue to SCE (totaling $ 2.3 million) or about $21 million (2004 NPV) over the life of the project. SCE's ETC revenues are reflected in its Other Operating Revenue which serves to reduce its overall transmission revenue requirement. Wheeling revenue received by SCE from the CAISO for wheeling through or out of the CAISO grid is reflected in SCE's transmission revenue balancing account.

The methodology for deriving the impact of DPV2 on SCE's Wheeling Revenue is based on the ratio of the Wheeling Access Charge with and without DPV2 and historical SCE Wheeling revenue information.

[26] Benefits due to increased transmission revenues were estimated for SCE rather than all Participating Transmission Owners due to available data.

The methodology for deriving the impact of the ETCs' revenue is based on the ratio of the Transmission Revenue Requirements with and without DPV2 multiplied by the ETCs' revenues. The ETCs consist of transmission service contracts with Colton, and LADWP.

d) Negative Benefits Due To Increased Transmission Losses:

Annual CAISO transmission system losses[27] are estimated to increase annually by about 50 GWh due to DPV2, increasing costs due to the project by about $2 million per year ($23 million, 2004 NPV). Conceptually, this seems a reasonable result when considering how far generation in the Arizona/Nevada area is from the California load being served. Some generation in California with a close proximity to California load will be displaced by the more distant, but less costly generation from Palo Verde. Losses generally increase as the distance between generation supply and load centers increases.

Increased annual system losses were estimated by comparing stochastic production simulation runs with and without DPV2. The model is populated with loss factors derived from OASIS bulletin boards, such as the CAISO Transmission Meter Multipliers. Increased losses due to serving CAISO load were summed over a year to derive annual losses, which were then multiplied by the differential[28] in Market Clearing Prices to determine the annual costs of losses[29]. A cost stream was developed by assuming a zero real escalation from 2013[30] for the remainder of project's life. The 2004 net present value of this stream was then deducted from the project's benefits.

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[27] For this analysis, losses mean real power losses and not reactive power losses.

[28] This differential refers to the decrease in estimated Market Clearing Prices (MCP) for CAISO ratepayers due to construction of DPV2; calculated as (MCP before DPV2 – MCP after DPV2).

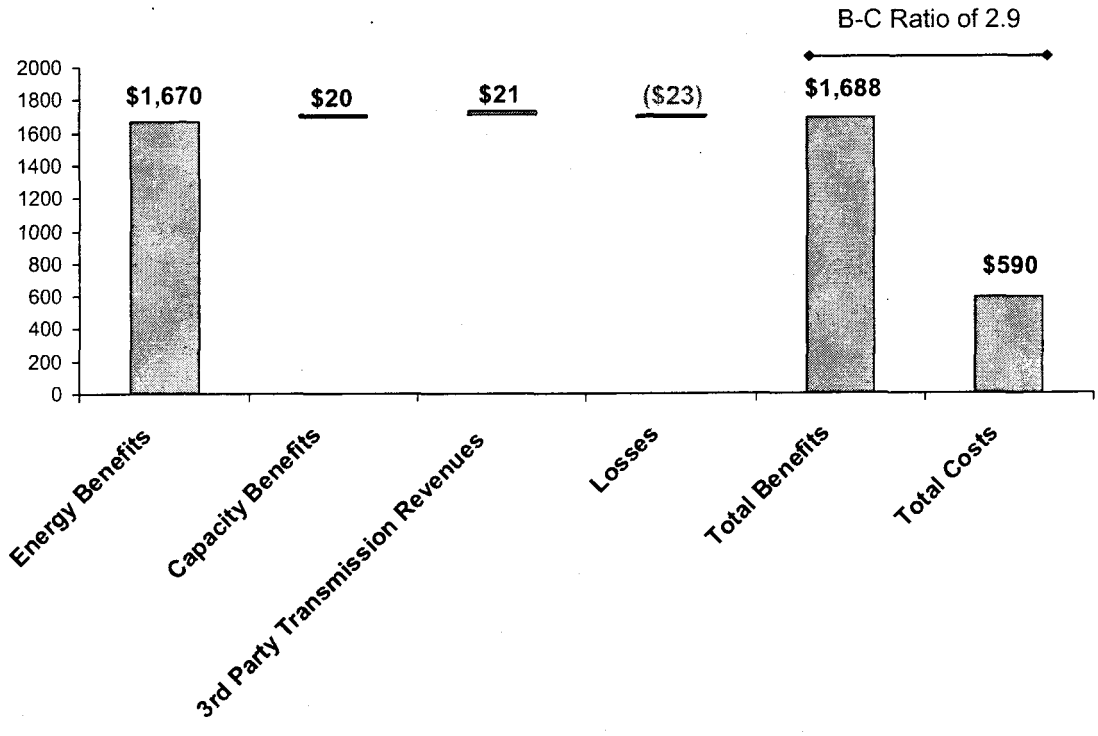
[29] Stochastic analysis results are computed one week out of the month, and every fourth hour to reduce computation time.

[30] Approximately a 3% rate of inflation.

e) Conclusion of DPV2's Cost Effectiveness:

A summary of DPV's cost-effectiveness combining all costs and benefits is shown below.

Figure 5 – Cost-Effectiveness Summary of DPV2



In conclusion, DPV2 is cost-effective with a benefit-to-cost ratio of almost 3:1. This analysis utilized a reasonable set of assumptions, and accounted for the uncertainty of major economic drivers. For example, this analysis included the uncertainty of natural gas prices, load forecasts, and available hydro generation. Major transmission operational constraints into California were also modeled. In addition, the analysis attempted to quantify all reasonable and realistic costs and benefits to CAISO ratepayers. For example, costs of west of Devers substation, voltage support devices, and increased losses due to DPV2 were all captured. To be thorough, benefits of increased transmission revenues and a transmission capacity value were also estimated. After considering all costs and benefits and uncertainty of major economic drivers, DPV2 appears to be a cost effective project for CAISO ratepayers.

of DPV2 increase if Mohave operates while DPV2 is in service. If San Onofre does not have its steam generators replaced, then there is likelihood that DPV2 would become a critical part of meeting customers' needs in Southern California since more imports would be required to serve California load. If for some unknown reason Mountainview is not completed, the benefits of DPV2 will increase.

- **New generation development** – developing the DPV transmission corridor could attract new generation development east of Devers substation, such as in the Blythe area, providing additional supply to the California energy market. If it does, then DPV2's benefits should increase due to increased access to this new low cost generation.
- **Interconnection support** – The addition of DPV2 is expected to provide up to 1200 MW of additional import transmission capacity. In our estimation of DPV2's benefit-to-cost ratio we have quantified access to existing generation markets, which had the effect due to increased transmission infrastructure to allow generators to compete and enabled a more liquid and competitive electricity market. We have not attempted to quantify other potential benefits such as increased generation reliability, replacement for aging power plants, fuel diversity, reserve sharing or power exchanges that may occur over the life of DPV2.
- **Market Power** – DPV2 may provide benefits in the form of reducing the potential for generators to exercise market power. DPV2 helps increase the quantity of generation and number of suppliers to serve California markets and should help to increase competitive pressure on generators. This, in turn, should help to reduce the ability for generators to exercise market power.

IV. Appendix A – Production Simulation

A. Production Simulation

SCE used a production simulation model[31] to forecast market clearing prices for this cost-effectiveness analysis. The model simulates the entire Western Electricity Coordinating Council (WECC) region for development of Market Clearing Prices (MCPs) by WECC transmission area. The production simulation model does the following:

- Simulates the dispatch of generation resources across the entire WECC region.
- Economically dispatches lowest cost generation to match load.
- Aggregates loads and generation into zonal markets.
- Interconnects zones by aggregating transmission lines between zones.
- Performs hourly simulation.
- Computes supply curves and Market Clearing Prices, by hour and develops various load and resource reports. Market Clearing Prices are marginal energy prices, and do not reflect market prices with profit.

Typically, a pure economic dispatch production simulation understates a transmission project's benefits because it does not capture the impact of generation that is dispatched for purely non-economic purposes, such as reliability purposes. In a pure economic dispatch, the generation supply curve is optimized for lowest costs. When generation is dispatched for reliability reasons, it changes the energy supply curve to something slightly more costly than a predetermined economically optimized dispatch, thus increasing, total generation costs.

The base case modeling for the DPV2 analysis used SCE's April 15, 2003 long term Preferred resource plan, which includes: Mountainview (a new combined cycle generating facility), a significant increase in investments in energy efficiency and demand response, the assumed shutdown of the Mohave coal plant, and the addition of sufficient renewables to meet or exceed the 20% Renewable Portfolio Standard.

Two types of simulations were performed for DPV2's analysis: deterministic and stochastic. The deterministic analysis was performed using a base set of assumptions regarding loads, natural gas prices, and the availability of generating plants to meet customer needs. Deterministic analysis is useful for understanding a single set of input forecasts, but does not reflect the impact of uncertainty. Stochastic analysis models the uncertainty associated with different parameters. In the stochastic analysis, SCE included uncertainties associated with a) load forecasts, b) natural gas prices, and c) hydro generation variability. In addition, the analysis reflected the impact of random forced outages of generation units. Stochastic analysis captures the value of low

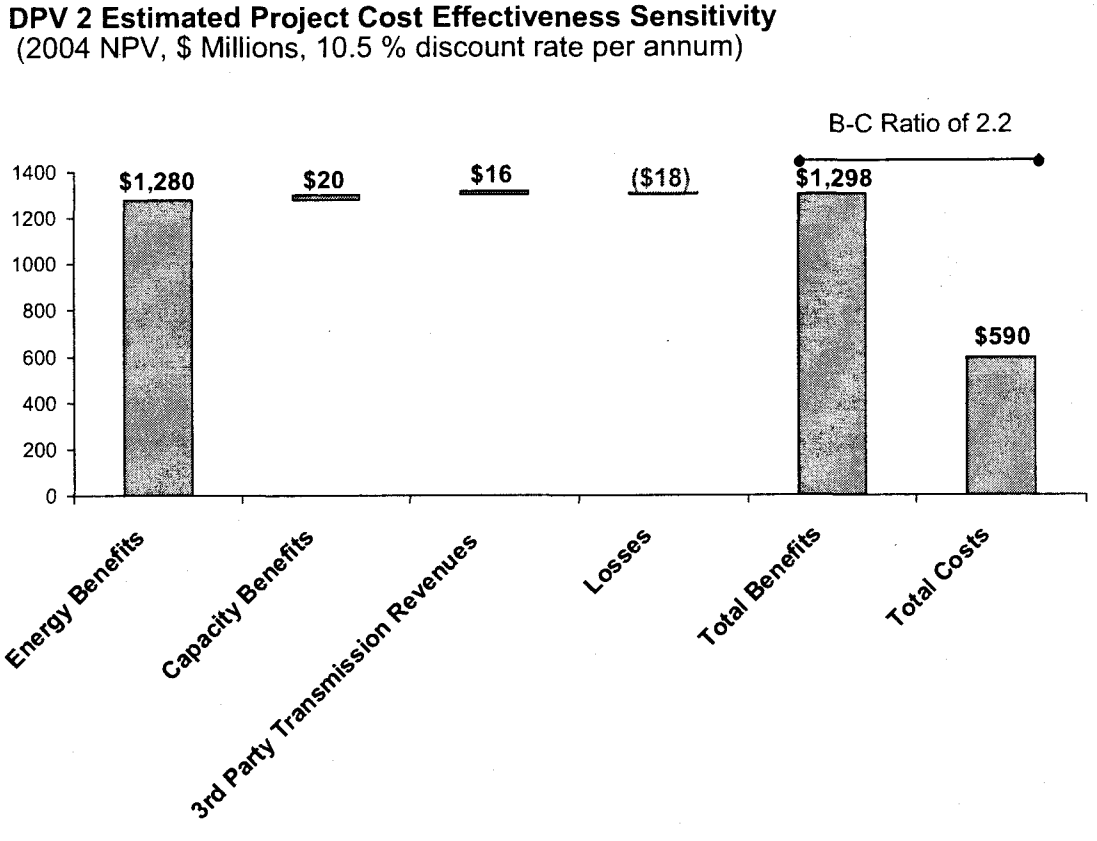
[31] SCE utilized Henwood Energy Services MARKETSYM production model for its analysis of DPV2.

f) DPV2 Cost Effectiveness with Future Benefits Held Below Inflation or at Inflation:

As a sensitivity to the Project Evaluation analysis above in section III(D), we recalculated DPV2's cost effectiveness under the assumption that future benefits are held flat at 2012 levels. The 2004 NPV results shown in Figure 6 indicate DPV2's benefits-to-cost ratio is still robust at 2.2:1. In section III(D)(2)(a), we stated that results shown in Figure 5 included the assumption that benefits were held to zero real inflation beyond 2012. This assumption seems reasonable as long as Arizona will continue to have favorable characteristics that support construction of new generating stations. These characteristics include lower costs associated with labor, natural gas, land, permitting, and taxes. A further consideration is that DPV2 capacity may attract new generation development.

Synthesizing the results of holding future benefits flat or at inflation, we expect DPV2's benefit-to-cost ratio to be around 2:1 to 3:1; depending upon which economic assumptions beyond 2012 are employed.

Figure 6 – Cost-Effectiveness Sensitivity of DPV2



g) DPV2 Cost Effectiveness Range (2004 NPV of revenue requirements):

Thus far, DPV2's cost-effectiveness has been shown to have total benefits ranging from $1,300 million to $1,700 million (rounded) depending upon future escalation assumptions, and transmission line flows held at their operational limits. SCE also determined benefits where transmission lines flows could reach their thermal limits. These benefits total about $870 million. With this range of benefits project costs of $590 million, the following figure was developed. SCE believes that DPV2's benefit-to-cost ratio ranges from about 1.5:1 to 3:1 depending upon assumptions used. SCE believes assumptions used to determine the 3:1 benefit-to-cost ratio are the most realistic.

Figure 7 – DPV2's Range of Cost-Effectiveness

Benefit-to-Cost Ratios
(2004 NPV of Revenue Requirements, $ Million)

		Cost $590
Benefits w/o SCIT	$870	1.5
Benefits with SCIT and zero inflation	$1,300	2.2
Benefits with SCIT	$1,700	2.9

h) Potential Benefits Not Quantified:

Determining all the benefits that new transmission facilities accrue to ratepayers is a complex undertaking. Part of this complexity is identifying all possible benefits transmission facilities provide. The discussion thus far has quantified a reasonable set of potential benefits, but it is not a comprehensive list. Other potential benefits not quantified in this report, but which could increase DPV2's ratepayer benefits include:

- **Emergency value** – a new transmission line such as DPV2 could provide benefits during an emergency outage of another major import line or generating facility. For instance, if fire or an earthquake disables lines from the Pacific Northwest into California, then a line importing power from the southwest, such as DPV2, would provide benefits above what is quantified in this report. A similar emergency value could accrue during the outage of generation located in southern California.
- **Outcome of current generation projects** – the base case used in this DPV2 analysis includes Mohave generating station out-of-service, and San Onofre Generating Station and Mountainview in-service. Past studies by SCE and CAISO indicate the benefits

probability events that can have an impact on an outcome. Below are graphs of the base, high, and low forecasts of load, and natural gas prices used in this analysis at the 90%, 50% and 10% confidence levels.

Figure 8 – CAISO Total Load - Monthly Confidence Intervals

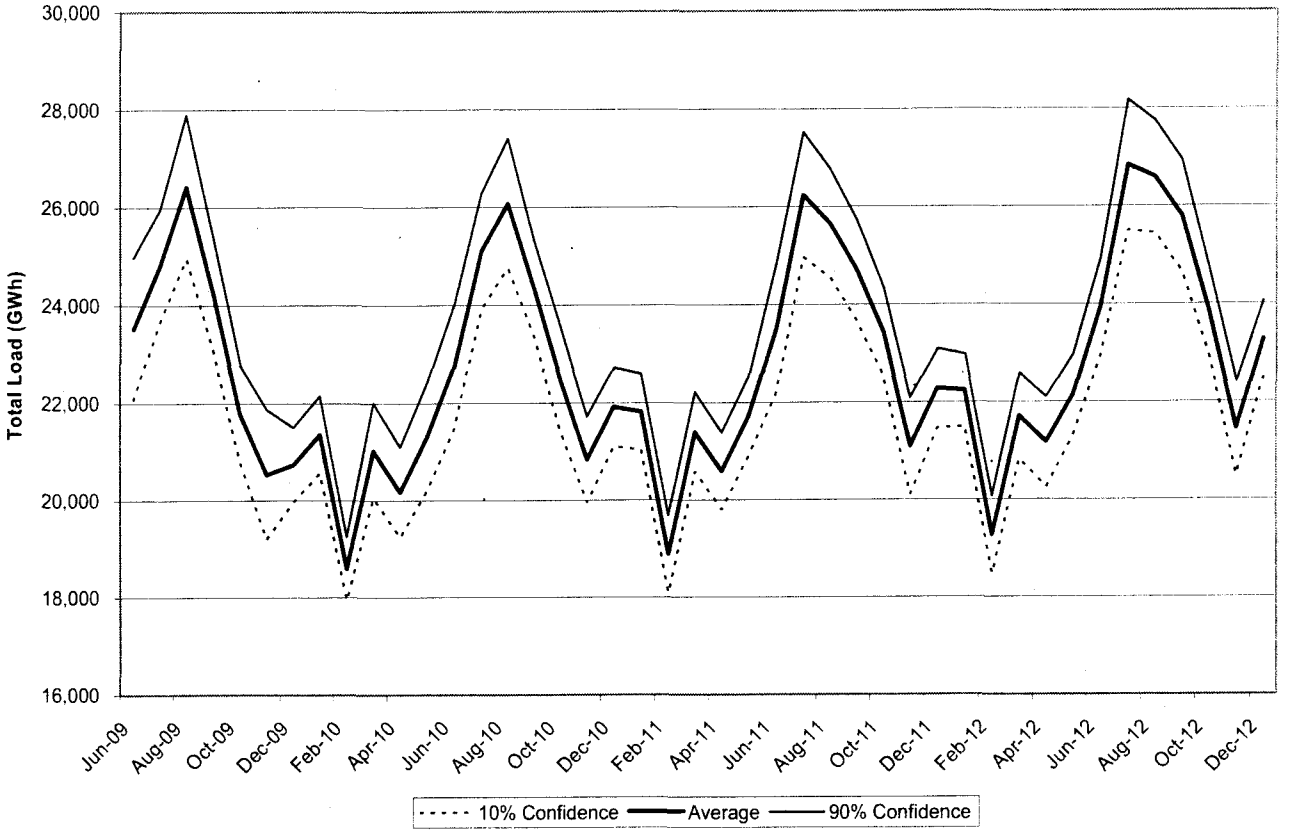
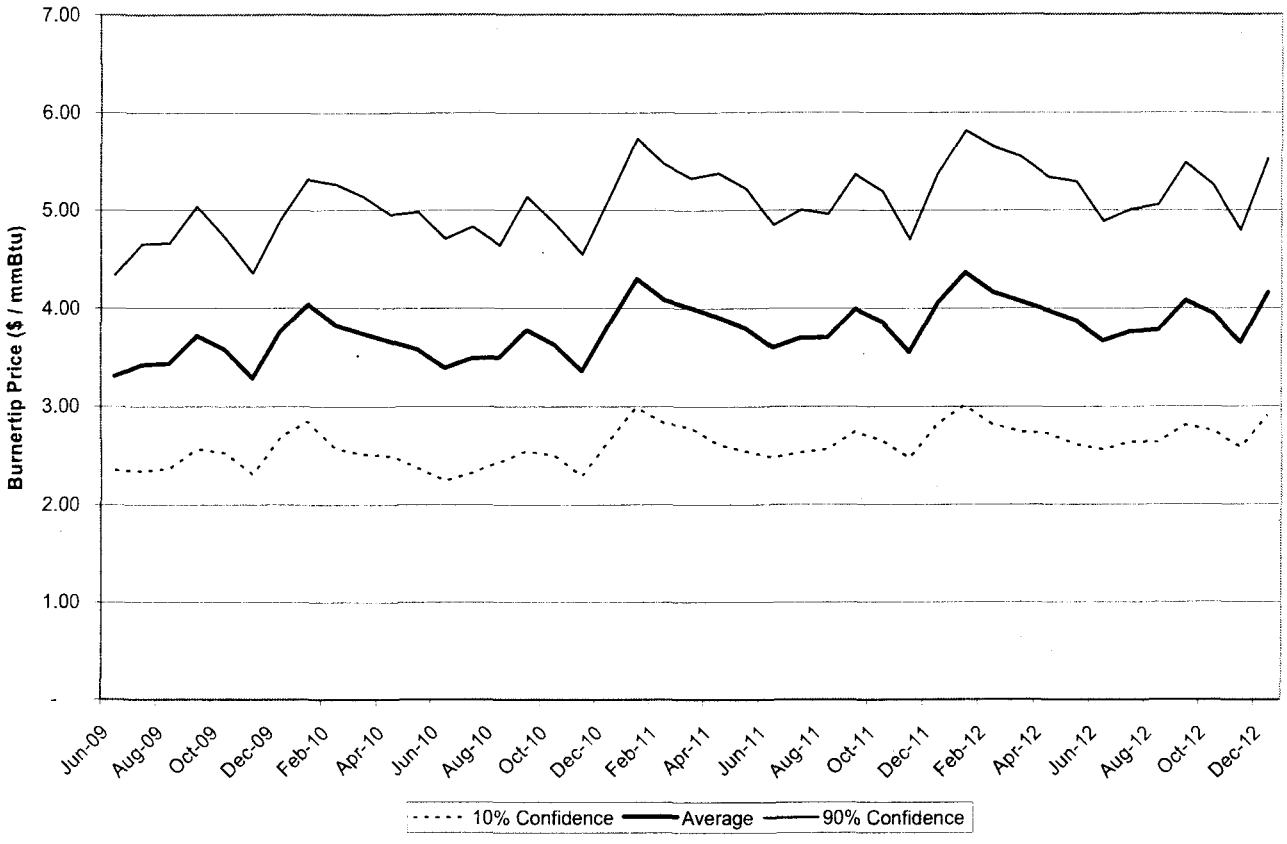


Figure 9 – Southern California Burnertip Natural Gas Price – Monthly Confidence Intervals



Other assumptions used in the production simulation are best explained by describing the modeling process used to approximate the relevant market in which DPV2 will operate. The model simulated the interconnected electrical system in the WECC (Western Electricity Coordinating Council) region by dividing the WECC's region into 25 market zones and 42 transmission paths between zones, shown in Figure 10 as a Deterministic Topology. Within this WECC model, the California electrical market is simulated by eight zones and 17 inter-zonal paths, and SCE's service territory is modeled by one zone with six inter-zonal paths. As a result, the electrical systems in California and SCE's territory are effectively modeled to determine resource requirements. Two definitions are in order: paths represent the aggregate transfer capability due to all parallel transmission lines operating between zones, and zones represent major load/generation areas. This topology of zones and paths provides a realistic framework in which to analyze transmission congestion impacting resource planning and the effects proposed transmission additions would have upon such congestion.

New transmission additions or changes in installed generation located within the zones can have a large impact on production results, so SCE used criteria which included only highly likely projects and filtered out speculative projects. New transmission facilities are only added if they

affect the modeling production topology, construction is fairly certain[32], and ratings are more or less defined. Lines affect the topology if they can transmit power between zones, so new intra-zone transmission facilities would not be modeled. Some indicia that the line will be constructed (such as an outlay of substantial investment) are required to filter out speculative lines. New transmission lines require a rating to be provided by the WECC or the project sponsor who has conducted studies in support of the project's rating. Finally, utility specific projects such as DPV2 are added. For this analysis, seven new transmission projects meet these criteria and are shown in Appendix B.

To add generation to the base case, SCE also used other screening criteria. To be included, a generating facility must be either substantially constructed, and have financing completed, or be an investor owned or municipality utility project. SCE also added generation if public data reasonable supported such an addition. Appendix C provides the list of new generating facilities meeting these criteria which add a net amount of 25,000 MW of generation to WECC area, and about 6,500 MW in the Arizona and Nevada zones in the base case. New generation facilities at a specific site are netted against those facilities retired. The criteria used to remove or retire generation from the production simulation database are:

- Specific published retirement dates,
- Reach a life of 55 years or,
- Retirements due to air quality restrictions
- Consistency with California Commission planning assumptions

Appendix D provides a list of generating stations retired in the base case.

Other production simulation attributes include:

- WECC and CAISO transmission operational[33] and thermal ratings are enforced.
- Demand response programs are included in load forecasts
- Contracts between generators and load entities are not modeled.
- Substransmission line losses are accounted for in loads.

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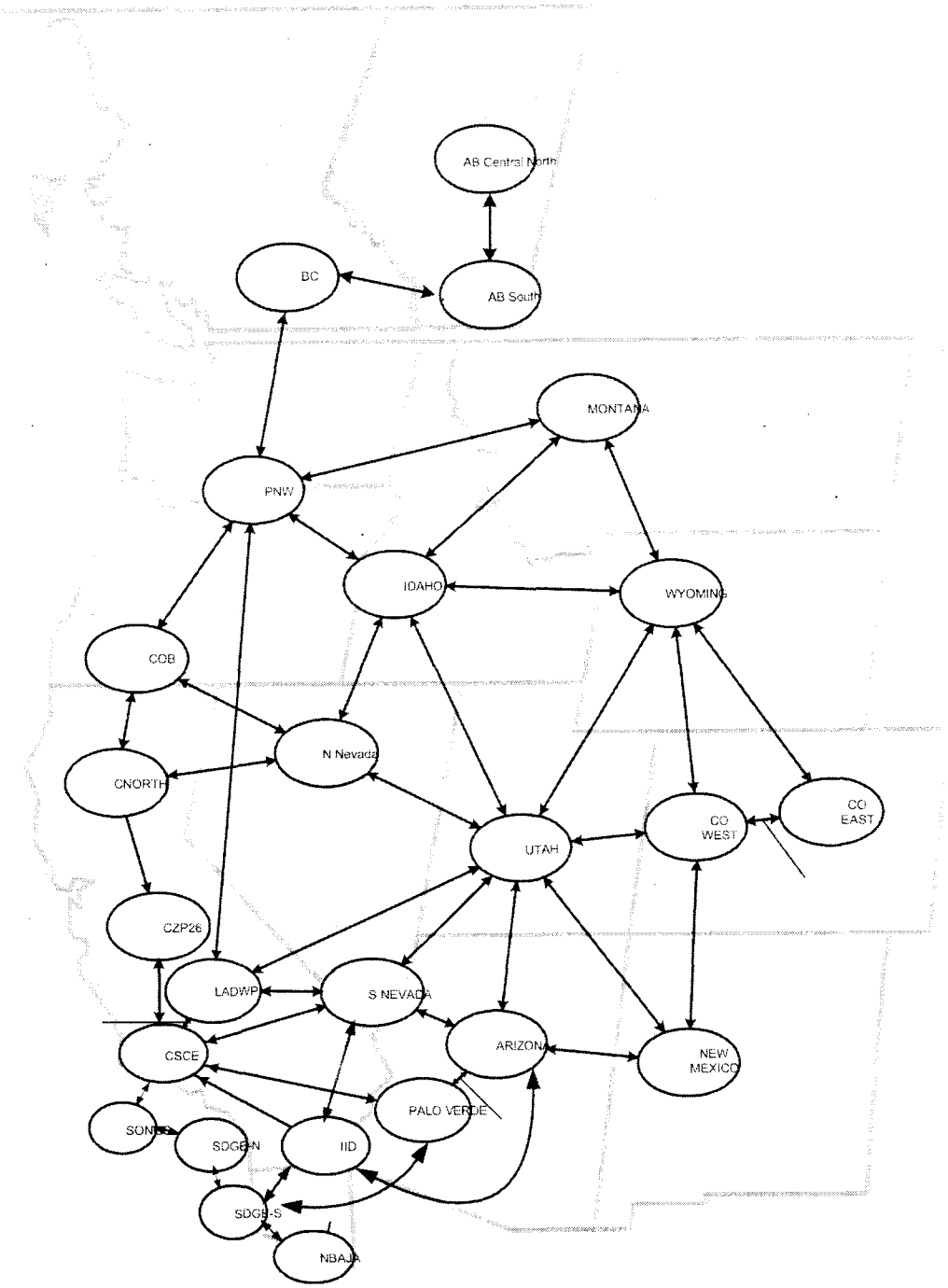
[32] To be fairly certain, entities sponsoring new transmission must make affirmative steps toward construction such as entering projects in the WECC rating process, making monetary investments like purchasing land or major facilities, or applying for regulatory permits necessary to construct.

[33] Thermal ratings were enforced for deterministic analysis, operational transmission rating of the Southern California Import Transmission nomogram was enforced in stochastic analysis.

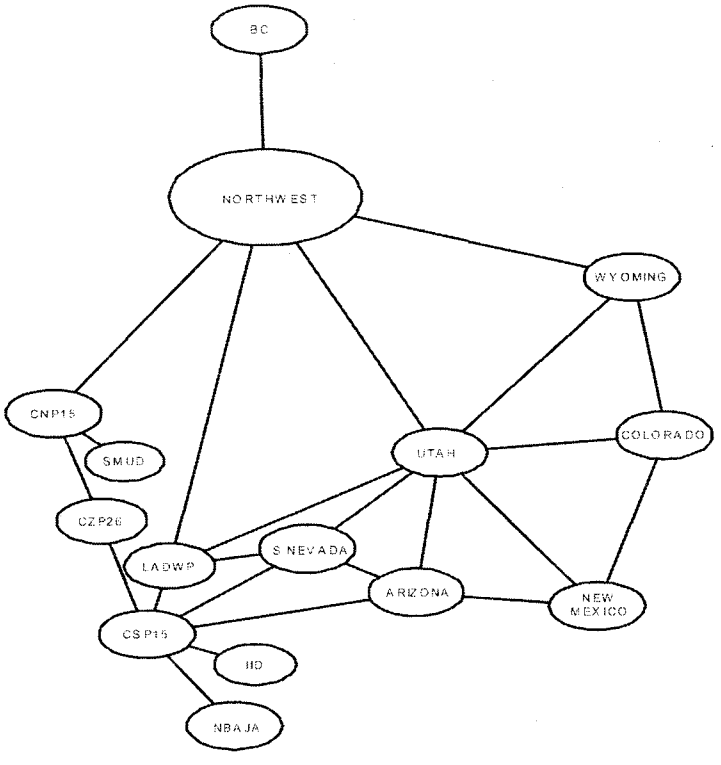
Figure 10 – Deterministic Topology



Production simulation outputs include production costs, Market Clearing Prices (MCP), total air emissions, and Energy Not Served (ENS).

These MCPs are calculated using a stochastic production module to take into account the uncertainty and volatility of important input assumptions (available hydro generation, natural gas prices, and magnitude of demand)[34]. The topology of zones and paths used in stochastic analysis is shown below in Figure 11. As can be seen, the zones and paths in California are largely unaffected by the reduction, rather the zones in neighboring states have been condensed.

Figure 11 – 15 Zone Stochastic Topology



[34] Henwood's MARKETSYM stochastic module.

B. Network Modeling

SCE's zonal model is a reasonable characterization of the WECC network. Figures 10 and 11 above demonstrate that the model SCE utilized appropriately captures transmission paths entering California from the southwest. These paths represent all major transmission lines capable of importing energy into California. It is also important to sufficiently model the California energy market since benefits are measured for CAISO ratepayers within California. Again, Figures 10 and 11 above illustrate numerous zones used to forecast California market prices. These zones represent all generation supply and loads in California. In addition to this zonal representation, SCE also provides complementary network representation indicating estimate power flows in Appendix A of the DPV2 Technical report.

C. Southern California Import Transmission Nomogram

Transmission lines can have operational limits which are lower than their maximum ratings[35]. Transmission lines importing energy into southern California are operated according to the Southern California Import Transmission (SCIT) nomogram. A nomogram is a chart showing the operational limits of a set of particular lines. The existing Devers-Palo Verde No. 1 – 500 kV transmission line is one of the lines whose rating is governed by the SCIT nomogram. DPV2's capability will also be governed by the SCIT nomogram once it is built. Since transmission power flows are managed by nomograms such as the SCIT, it is necessary to capture these operational limits in the DPV2 analysis. The production simulation used in the DPV2 analysis incorporated the current and expected[36] SCIT operational limits on applicable transmission lines.

MarketSym, the production simulation used for the DPV2 analysis, can be programmed to change the capability on a single path, but does not have the capability to change a particular transmission line's capability based upon the flow of another path[37]. The latter is needed to precisely model nomograms. Since, MarketSym does not have this capability; a new method was devised to estimate the energy flow relationship between SCIT transmission lines. The new method determined the maximum flow on SCIT lines by examining daily peak power flows for each SCIT line over a five year history (1998-2002). Based on historical flow levels, the line ratings were reduced such that the aggregate line limits totaled the existing SCIT operational

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[35] Line Rating is the WECC approved non-simultaneous capacity of the line. Line capability reflects adjustments to the Line Rating due to operational limits.

[36] Revised SCIT limits were estimated for new facilities such as DPV2 and Series Capacitor Upgrades project.

[37] For example, the rating on path A, cannot be automatically changed based upon the flows on Path B.

limit. This reduction was achieved by limiting line flow at the 95th percentile of historical flows, and an additional pro-rata reduction to certain paths[38]. MarketSym was then programmed with these flow limits to represent the operational limits of the SCIT nomogram for existing transmission paths and estimated SCIT values[39] for new facilities yet to be constructed. This method is a reasonable approach, since it is based upon historical flows, and attempts to assure that the aggregate line flows are within the SCIT operating limit.

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[38] SCIT ratings for new projects such as upgrading series capacitors or constructing DPV2 were estimated using engineering analysis.

[39] New facilities which increase available transmission capacity are expected to increase operational limits, such as the SCIT nomogram.

V. Appendix B - Transmission Additions to Base Case

		Non-Simultaneous Ratings		
Utility Link Name	**Change Date**	**Old Rating (MW)**	**New Rating (MW)**	**Note**
Palo Verde to Phoenix	Jun-04	6,200	7,700	APS/SRP Southwest Valley Project Upgrade in direction Palo Verde to Phoenix only
PSE portion of West of Hatwai	Nov-04	84	105	Addition of Bell-Grande Coulee 500kv line
BPA portion of West of Hatwai	Nov-04	981	1,226	Addition of Bell-Grande Coulee 500kv line
PacifiCorp UT to SPPCO	May-05	220	440	Falcon-Gonder Project
SPPCO to PacifiCorp UT	May-05	80	235	Falcon-Gonder Project
Miguel Mission	Jun-05	1,690	2,250	Miguel Mission
Palo Verde to San Diego	Jun-06	1,133	1,283	Path 49 Series Capcacitor Upgrades Project
Palo Verde to SCE	Jun-06	1,550	1,718	Path 49 Series Capcacitor Upgrades Project
Southern Nevada to LADWP	Jun-06	3,823	3,905	Path 49 Series Capcacitor Upgrades Project
Arizona to Southern Nevada	Jun-06	4,634	4,802	Path 49 Series Capcacitor Upgrades Project
Southern Nevada to Arizona	Jun-06	4,785	4,953	Path 49 Series Capcacitor Upgrades Project
Devers Palo Verde	Jun-09	1,718	2,918	Devers Palo Verde II

VI. Appendix C - Generation Additions to the base case.

Note: Generic CCGT and GT additions have been included to maintain reasonable reserve levels in the noted geographical areas.

Unit Name	Unit No	Installation Date	Unit Type	Max Rating	Full Load HR	TA
Calgary Energy Cntr	1	4/1/2003	CCDF	300	7280	AB_S
Pincher Creek	1	10/1/2003	WT	37.296	10000	AB_S
GenCC_AB_S06	1	1/1/2006	GenCC	245	7280	AB_S
GenCC_AB_S08	1	1/1/2008	GenCC	245	7180	AB_S
GenCC_AB_S09	1	1/1/2009	GenCC	245	7180	AB_S
GenCCX_AB_S10	1	1/1/2010	GenCC	245	7180	AB_S
GenGT_AB_S12	1	1/1/2012	GenGT	180	10500	AB_S
GenGT_AB_S12	2	1/1/2012	GenGT	180	10500	AB_S
Foster Creek	1	3/1/2003	CG	66	8000	ABCN
McBride	1	9/1/2003	WT	12.7	10000	ABCN
McBride	2	12/1/2003	WT	13.6	10000	ABCN
GenGT_ABCN12	1	1/1/2012	GenGT	180	10500	ABCN
West Phoenix	5a	6/1/2003	CCDF	265	7380	Arizona
West Phoenix	5b	6/1/2003	CCDF	265	7380	Arizona
Santan Exp CC	1	6/1/2005	CCDF	275	7380	Arizona
Santan Exp CC	2	6/1/2005	CCDF	275	7380	Arizona
Santan Exp CC	3	6/1/2005	CCDF	275	7380	Arizona
GenGT_Ariz12	1	1/1/2012	GenGT	180	10500	Arizona
GenCC_BC05	1	1/1/2005	GenCC	245	7100	BC
GenCC_BC07	1	1/1/2007	GenCC	245	7280	BC
GenCC_BC07	2	1/1/2007	GenCC	245	7280	BC
GenCC_BC08	1	1/1/2008	GenCC	245	7180	BC
GenCC_BC08	2	1/1/2008	GenCC	245	7180	BC
GenCC_BC08	3	1/1/2008	GenCC	245	7180	BC
GenCC_BC08	4	1/1/2008	GenCC	245	7180	BC
GenGT_BC08	1	1/1/2008	GenGT	180	10500	BC
GenGT_BC08	2	1/1/2008	GenGT	180	10500	BC
GenGT_BC08	3	1/1/2008	GenGT	180	10500	BC
GenGT_BC08	4	1/1/2008	GenGT	180	10500	BC
GenCC_BC09	1	1/1/2009	GenCC	245	7180	BC
GenCCX_BC11	1	1/1/2011	GenCC	245	7180	BC
GenCCX_BC11	2	1/1/2011	GenCC	245	7180	BC
Wolfskill	1	1/1/2003	GT	45	10500	CNP15
Los Esteros Critical	1	3/1/2003	GT	45	10500	CNP15
Los Esteros Critical	2	3/1/2003	GT	45	10500	CNP15
Riverview Energy	1	3/30/2003	GT	45	10500	CNP15
Tracy Peaker	1	4/1/2003	GT	84.4	11000	CNP15
Tracy Peaker	2	4/1/2003	GT	84.4	11000	CNP15
Tracy Peaker	3	4/1/2003	GT	84.4	11000	CNP15
Woodland CC	2	5/1/2003	CCDF	80	8311	CNP15
Pico	1	1/1/2005	GT	160	10184	CNP15
Consumnes River	1	3/15/2005	CC	250	7180	CNP15
Consumnes River	2	3/15/2005	CC	250	7180	CNP15
Metcalf Energy	1a	6/1/2005	CCDF	289.4	7360	CNP15
Metcalf Energy	1b	6/1/2005	CCDF	289.4	7360	CNP15
San Fran Airport	1	6/1/2005	GT	160	10184	CNP15

Unit Name	Unit No	Installation Date	Unit Type	Max Rating	Full Load HR	TA
San Fran Airport	2	6/1/2005	GT	160	10184	CNP15
Kings River Peaker	1	7/1/2005	GT	160	10184	CNP15
Walnut CC	1	3/1/2006	CC	250	7180	CNP15
GenGT_CNP112	1	1/1/2012	GenGT	180	10500	CNP15
Blue Spruce Energy C	1	5/1/2003	GT	155	10850	CO_East
Blue Spruce Energy C	2	5/1/2003	GT	155	10850	CO_East
Front Range	1a	5/1/2003	CC	240	7100	CO_East
Front Range	1b	5/1/2003	CC	240	7100	CO_East
Rocky Mountain Energ	1a	5/1/2004	CCDF	300.5	7280	CO_East
Rocky Mountain Energ	1b	5/1/2004	CCDF	300.5	7280	CO_East
GenGT_CO_E12	1	1/1/2012	GenGT	180	10500	CO_East
GenGT_CO_W12	1	1/1/2012	GenGT	180	10500	CO_West
NewRen07	1	1/1/2003	GE	350	10000	CSCE
NewRen07	2	1/1/2003	GE	350	10000	CSCE
THUMS Long Beach	1	2/15/2003	CG	47	8000	CSCE
High Desert Power	1a	6/1/2003	CCDF	250	7400	CSCE
High Desert Power	1b	6/1/2003	CCDF	250	7400	CSCE
High Desert Power	1c	6/1/2003	CCDF	250	7400	CSCE
Agua Mansa	1	7/1/2003	GT	48	9700	CSCE
Huntington Beach	4M	8/1/2003	ST	225	10396	CSCE
Glenarm Expansion	3	9/1/2003	GT	47	9700	CSCE
Glenarm Expansion	4	9/1/2003	GT	47	9700	CSCE
Vernon GT	1	5/1/2005	GT	160	10184	CSCE
Mountainview CC	1a	1/1/2006	CCDF	255	7220	CSCE
Mountainview CC	1b	1/1/2006	CCDF	255	7220	CSCE
Mountainview CC	2a	1/1/2006	CCDF	255	7220	CSCE
Mountainview CC	2b	1/1/2006	CCDF	255	7220	CSCE
Elk Hills CC	1	3/1/2003	CCDF	275	7360	CZP26
Elk Hills CC	2	3/1/2003	CCDF	275	7360	CZP26
Sunrise Power CC	1a	7/1/2003	CC	280	7180	CZP26
Sunrise Power CC	1b	7/1/2003	CC	280	7180	CZP26
Pastoria CC	1a	6/1/2007	CC	250	7180	CZP26
Pastoria CC	1b	6/1/2007	CC	250	7180	CZP26
Pastoria CC	1c	6/1/2007	CC	250	7180	CZP26
GenGT_Idah12	1	1/1/2012	GenGT	180	10500	Idaho
NewRen02	1	1/1/2003	GE	350	10000	IID
NewRen02	2	1/1/2003	GE	350	10000	IID
Mesquite Lake	1	4/1/2003	CG	13.1	12500	IID
Salton Sea #6	1	7/1/2005	GE	185	21000	IID
Valley LADWP CC	1A	6/1/2003	CCDF	264.25	7360	LADWP
Valley LADWP CC	1B	6/1/2003	CCDF	264.25	7360	LADWP
Haynes Repowering	1a	12/1/2004	CC	287.5	7180	LADWP
Haynes Repowering	1b	12/1/2004	CC	287.5	7180	LADWP
Magnolia CC	1	3/1/2005	CC	250	7180	LADWP
First Megawatts CC	1A	7/1/2003	CC	120	7438	Montana
First Megawatts CC	1B	7/1/2003	CC	120	7438	Montana
Thompson River	1	12/1/2003	CG	10	9540	Montana
GenGT_Mont12	1	1/1/2012	GenGT	180	10500	Montana
Presco Rye Patch	1	1/1/2003	GE	12	23924	N Nevada
GenGT_N Ne12	1	1/1/2012	GenGT	180	10500	N Nevada
La Rosita (Azteca)	1a	7/1/2003	CC	295	7200	NBAJA
La Rosita (Azteca)	1b	7/1/2003	CC	295	7200	NBAJA
Pyramid Power Plant	1	4/1/2003	GT	38	9700	NewMexico

Unit Name	Unit No	Installation Date	Unit Type	Max Rating	Full Load HR	TA
Pyramid Power Plant	2	4/1/2003	GT	38	9700	NewMexico
Pyramid Power Plant	3	4/1/2003	GT	38	9700	NewMexico
Pyramid Power Plant	4	4/1/2003	GT	38	9700	NewMexico
GenGT_NewM12	1	1/1/2012	GenGT	180	10500	NewMexico
Goldendale	1	7/1/2003	CC	253	7100	Northwest
SP Newsprint	1	7/1/2003	CG	35	8000	Northwest
Chehalis CC	1a	11/1/2003	CC	260	7100	Northwest
Chehalis CC	1b	11/1/2003	CC	260	7100	Northwest
GenCC_Nort09	1	1/1/2009	GenCC	245	7180	Northwest
GenCC_Nort09	2	1/1/2009	GenCC	245	7180	Northwest
GenCC_Nort09	3	1/1/2009	GenCC	245	7180	Northwest
GenCCX_Nort10	1	1/1/2010	GenCC	245	7180	Northwest
GenCCX_Nort10	2	1/1/2010	GenCC	245	7180	Northwest
GenCCX_Nort10	3	1/1/2010	GenCC	245	7180	Northwest
GenCCX_Nort10	4	1/1/2010	GenCC	245	7180	Northwest
GenCCX_Nort10	5	1/1/2010	GenCC	245	7180	Northwest
GenCCX_Nort10	6	1/1/2010	GenCC	245	7180	Northwest
GenCCX_Nort11	1	1/1/2011	GenCC	245	7180	Northwest
GenCCX_Nort11	2	1/1/2011	GenCC	245	7180	Northwest
GenCCX_Nort11	3	1/1/2011	GenCC	245	7180	Northwest
GenCCX_Nort12	1	1/1/2012	GenCC	245	7180	Northwest
GenGT_Nort12	1	1/1/2012	GenGT	180	10500	Northwest
GenGT_Nort12	2	1/1/2012	GenGT	180	10500	Northwest
GenGT_Nort12	3	1/1/2012	GenGT	180	10500	Northwest
Gila River	1a	4/1/2003	CCDF	293.5	7380	PV
Gila River	1b	4/1/2003	CCDF	293.5	7380	PV
Gila River	2a	5/1/2003	CCDF	293.5	7380	PV
Gila River	2b	5/1/2003	CCDF	293.5	7380	PV
Gila River	3a	6/1/2003	CCDF	293.5	7380	PV
Gila River	3b	6/1/2003	CCDF	293.5	7380	PV
Harquahala	1a	6/1/2003	CC	260	7200	PV
Harquahala	1b	6/1/2003	CC	260	7200	PV
Harquahala	2a	6/1/2003	CC	260	7200	PV
Harquahala	2b	6/1/2003	CC	260	7200	PV
Mesquite CC	1	6/1/2003	CC	312.5	7200	PV
Mesquite CC	2	6/1/2003	CC	312.5	7200	PV
Gila River	4a	8/1/2003	CCDF	293.5	7380	PV
Gila River	4b	8/1/2003	CCDF	293.5	7380	PV
Mesquite CC	3	11/1/2003	CC	312.5	7200	PV
Mesquite CC	4	11/1/2003	CC	312.5	7200	PV
Apex Industrial	1a	3/1/2003	CC	250	7200	S Nevada
Apex Industrial	1b	3/1/2003	CC	250	7200	S Nevada
Blythe	1a	3/1/2003	CC	260	7200	S Nevada
Blythe	1b	3/1/2003	CC	260	7200	S Nevada
Reliant Bighorn	1a	10/1/2003	CC	290	7380	S Nevada
Reliant Bighorn	1b	10/1/2003	CC	290	7380	S Nevada
Silverhawk CC	1	6/1/2005	CCDF	275	7380	S Nevada
Silverhawk CC	2	6/1/2005	CCDF	275	7380	S Nevada
GenGT_S Ne12	1	1/1/2012	GenGT	180	10500	S Nevada
SDGE GenCCGT 1*	1a	6/1/2006	CCDF	261	7360	SDGEN
SDGE GenCCGT 1*	1b	6/1/2006	CCDF	261	7360	SDGEN
SDGE GenCCGT 2*	1	6/1/2007	CCDF	272.5	7389.7	SDGEN
SDGE GenCCGT 2*	2	6/1/2007	CCDF	272.5	7389.7	SDGEN
La Rosita (Baja)	2	6/1/2003	CC	310	7180	SDGES
La Rosita (Azteca)	1c	7/1/2003	CC	160	7180	SDGES

Unit Name	Unit No	Installation Date	Unit Type	Max Rating	Full Load HR	TA
TDM CC	1	8/1/2003	CCDF	300	7360	SDGES
TDM CC	2	8/1/2003	CCDF	300	7360	SDGES
GenCCX_CSDG12	1	1/1/2012	GenCC	245	7180	SDGES
GenCCX_Utah12	1	1/1/2012	GenCC	245	7180	Utah
GenGT_Utah12	1	1/1/2012	GenGT	180	10500	Utah
Wygen	1	3/1/2003	ST	80	10000	Wyoming

* Specific generation resource additions are representative of reasonable expectations in this region

VII. Appendix D - Generation Retirements in the base case.

Unit Name	Unit No	Retirement Date	Unit Type	Max Rating	Full Load HR	TA
Medicine Hat	7	1/1/2008	ST	30	10742	AB_S
Wabamun	1	1/1/2004	ST	67	14246	ABCN
Wabamun	2	1/1/2004	ST	56	14840	ABCN
Wabamun	4	1/1/2010	ST	280	11740	ABCN
Rossdale	10	10/1/2010	ST	72	12739	ABCN
Rossdale	8	10/1/2010	ST	71	13384	ABCN
Rossdale	9	10/1/2010	ST	73	12948	ABCN
Kyrene	1	1/1/2007	ST	34	12383	Arizona
Kyrene	2	1/1/2009	ST	72	11134	Arizona
Saguaro	1	1/1/2009	ST	100	11195	Arizona
Saguaro	2	1/1/2010	ST	99	11702	Arizona
Agua Fria	1	1/1/2012	ST	114	9896	Arizona
Lytton Diesel	1	1/1/2006	IC	4	11000	BC
Pittsburg	3	10/1/2003	ST	154	10645	CNP15
Pittsburg	4	10/1/2003	ST	150	10623	CNP15
Hunters Point	4	1/1/2006	ST	163	10385	CNP15
Hunters Point	GT1	1/1/2006	GT	52	12813	CNP15
Pittsburg	1	1/1/2009	ST	163	11408	CNP15
Pittsburg	2	1/1/2009	ST	154	11017	CNP15
Humboldt Bay	1	1/1/2011	ST	53	12379	CNP15
Zuni	1	1/1/2003	ST	39	13630	CO_East
Trinidad	1-4	1/1/2005	IC	10	13000	CO_East
Arapahoe	3	1/1/2006	ST	45	11810	CO_East
Birdsall	1	1/1/2008	ST	16	13500	CO_East
Birdsall	2	1/1/2009	ST	17	13500	CO_East
Raton	4-5	1/1/2009	ST	12	14200	CO_East
Zuni	2	1/1/2009	ST	68	13440	CO_East
Arapahoe	4	1/1/2010	ST	111	10700	CO_East
W.N. Clark	1	1/1/2010	ST	17	10669	CO_East
Birdsall	3	1/1/2012	ST	23	13500	CO_East
Bullock	1-2	1/1/2007	ST	12	18000	CO_West
Cameo	1	1/1/2012	ST	24	12440	CO_West
Klamath Expansion	1	6/1/2004	GT	50	9700	COB
Klamath Expansion	2	6/1/2004	GT	50	9700	COB
Etiwanda	1	1/1/2003	ST	132	12746	CSCE
Etiwanda	2	1/1/2003	ST	132	12380	CSCE
Alamitos GT	7	12/31/2003	GT	147	18510	CSCE
Etiwanda	5	12/31/2003	GT	142	20006	CSCE
Redondo Beach	5	1/1/2009	ST	175	10345	CSCE

Unit Name	Unit No	Retirement Date	Unit Type	Max Rating	Full Load HR	TA
Redondo Beach	6	1/1/2012	ST	175	12000	CSCE
Sunrise Power	1	4/1/2003	GT	160	10184	CZP26
Sunrise Power	2	4/1/2003	GT	160	10066	CZP26
Morro Bay	1	9/30/2003	ST	163	10443	CZP26
Morro Bay	2	9/30/2003	ST	163	10651	CZP26
El Centro	3	1/1/2012	ST	48	10619	IID
Grayson GT	7	1/1/2003	GT	21	12500	LADWP
Grayson GT	6	7/1/2003	GT	18	13000	LADWP
Haynes	4	11/1/2003	ST	222	9794	LADWP
Magnolia GT	5	12/31/2003	GT	22	14268	LADWP
Olive	3	12/31/2003	GT	24	14339	LADWP
Olive	4	12/31/2003	ST	31	14339	LADWP
Valley LADWP	1	4/15/2004	ST	95	11345	LADWP
Valley LADWP	2	4/15/2004	ST	95	10968	LADWP
Valley LADWP	3	4/15/2004	ST	163	10804	LADWP
Valley LADWP	4	4/15/2004	ST	160	10854	LADWP
Haynes	3	9/1/2004	ST	222	9705	LADWP
Magnolia	3	9/30/2004	ST	21.5	11827	LADWP
Magnolia	4	9/30/2004	ST	32	11100	LADWP
Grayson	3	1/1/2009	ST	19	13000	LADWP
Afton GT	1	10/1/2003	GT	135	11000	NewMexico
Los Alamos	1	1/1/2005	ST	5	14024	NewMexico
Los Alamos	2	1/1/2005	ST	4	14024	NewMexico
Los Alamos	3	1/1/2007	ST	9	13475	NewMexico
Rio Grande	6	1/1/2012	ST	48	11844	NewMexico
Pierce Power	1	1/1/2003	GT	154	9700	Northwest
Mohave	1	1/1/2006	ST	790	9771	S Nevada
Mohave	2	1/1/2006	ST	790	10123	S Nevada
Clark ST	1	1/1/2010	ST	42	11719	S Nevada
Clark ST	2	1/1/2012	ST	69	11260	S Nevada
Naval Station	1	1/1/2003	GT	29	14357	SDGEN
Naval Training Ctr	1	1/1/2003	GT	16	16239	SDGEN
North Island	1	1/1/2003	GT	22	14950	SDGEN
North Island	2	1/1/2003	GT	22	15220	SDGEN
South Bay	4	1/1/2003	ST	222	12461	SDGEN
South Bay	1	12/31/2008	ST	146	10567	SDGEN
South Bay	2	12/31/2008	ST	150	10259	SDGEN
Encina	1	1/1/2009	ST	104	11287	SDGEN
Encina	2	1/1/2011	ST	105	11428	SDGEN
Provo City	4	1/1/2004	ST	8	14500	Utah
Gadsby	1	1/1/2006	ST	60	12806	Utah
Gadsby	2	1/1/2007	ST	75	11734	Utah
Carbon	1	1/1/2009	ST	70	10235	Utah
Gadsby	3	1/1/2010	ST	100	10894	Utah
Carbon	2	1/1/2012	ST	105	10542	Utah
Osage	1	1/1/2003	ST	10	14700	Wyoming
Osage	2	1/1/2005	ST	10	14750	Wyoming
Osage	3	1/1/2007	ST	10	14400	Wyoming

Retirements shown herein are announced retirements or have a life expectancy of 55 years.

VIII. Appendix E – CAISO Requested Information

A. WECC Total Production Costs

The CAISO requested the change in WECC wide production costs to determine societal benefits of the project. Below is a figure showing the changes in total production costs that include generation fixed and variable costs, and costs of transmission losses, emissions, wheeling charges and energy not served. Total production costs were calculated for the WECC region with and without DPV2. Figure 12 shows constructing DPV2 reduces production costs by about $25 million per year (Real 2003). These estimates doe not include the other benefits described above and therefore do not represent a complete evaluation of DPV2.

Figure 12 – WECC Wide Production Costs (Real 2003 $M)

	2009	2010	2011	2012
Without DPVII	10,680.19	18,128.94	19,299.12	20,052.32
With DPVII	10,664.56	18,103.21	19,273.84	20,025.70
Net	**15.63**	**25.73**	**25.28**	**26.62**

B. Impact to Arizona

The CAISO requested data showing the impact to Arizona ratepayers. Below is a figure which includes estimates of consumer surplus, production surplus of Arizona utility owned generation, and transmission congestion revenues of Arizona transmission owners. Using stochastic analysis, constructing DPV2 was found to have a net negative impact of around $16 to $20 million per year to Arizona as shown in Figure 13 below. Generation plants locating in Arizona will stimulate the Arizona economy. For example, the Arizona economy is stimulated from the creation of new jobs due to generation plants, a secondary economic ripple effect the generation industry and employment have on other parts of the economy, and corresponding increased tax base.

Figure 13 – Arizona Producer and Ratepayer Benefits (Real 2003 $M)

	2009	2010	2011	2012
Consumer Surplus	(57.44)	(78.90)	(79.59)	(92.11)
URG Producer Surplus	45.33	63.07	63.69	73.29
Transmission Congestion Revenues	0.18	(0.17)	(0.09)	(0.21)
Net Impact	**(11.93)**	**(16.00)**	**(15.99)**	**(19.02)**

APPENDIX H
AGENCY COMMUNICATIONS

BANNING
CALIFORNIA
ESTABLISHED 1913

CITY of BANNING

99 E. Ramsey St. • P.O. Box 998 • Banning, CA 92220-0998 • (909) 922-3130 • Fax (909) 922-3141

PUBLIC WORKS
DEPARTMENT

March 22, 2004

Lin Juniper, Region Manager
Public Affairs
Southern California Edison
36100 Cathedral Canyon Dr.
Cathedral City, CA 92234

Dear Ms. Juniper:

The City of Banning would like to confirm that we have been briefed on your proposed Devers Palo Verde 2 (DPV2) Transmission Project. It is our understanding that SCE intends to file an application for this project in early 2005 with the California Public Utilities Commission, with the intent, upon approval, to begin project implementation in 2006.

Based on the information provided, the City has not identified any environmental issues or concerns at this time. It is our understanding that DPV2 Project would add the needed transmission facilities resulting into increased system reliability and lower cost of electricity to all California residents.

We would appreciate if you can provide us additional updates on the progress of the Project.

Sincerely,

Paul Toor
Assistant City Manager

Copy: R.P. Brar, Assistant Director Electric Utility

CITY OF BLYTHE

235 North Broadway / Blythe, California 92225
Phone (760) 922-6161 / Fax (760) 922-4938

February 23, 2005

VIA FAX ONLY: (909)928-8308

Southern California Edison
Attn: Mr. Robert Lopez
Regional Manager
26100 Menifee Road
Romoland, California 92585

Re: Devers-Palo Verde No. 2 Project

Dear Mr. Lopez:

The City of Blythe is aware and supports Southern California Edison (SCE) filing an application with the California Public Utilities Commission (CPUC) to build a new electric transmission line between Arizona and California and perform certain system upgrades in California. As I spoke in favor of the project at the California Energy Commission Public Workshop of November 10, 2004, the purpose of this letter is to endorse the project from the City's local perspective.

The Devers-Palo Verde No. 2 (DPV2) project will lower the cost of electricity purchased to serve California customers. This project would also increase energy producer's access to the California energy market which may provide an incentive for new generation development to serve California electricity customers. The project is expected to increase competition among energy suppliers and to benefit Californians through lower electricity costs. The construction of a large scale project like this will boost the local economy short term. Long term, the City and Palo Verde Valley hope to also enjoy reduced electricity costs. With the Blythe Energy Project in literally our back yard, and certainly if the second power plant becomes reality, this transmission line then becomes a critical component to that infrastructure.

Please contact me directly at (760)921-2740 if you would like to discuss this matter further.

Sincerely,

Charles Hull,
Assistant City Manager

cc: Kathleen DeRosa, SCE at (760)202-4136FAX

City of Palm Springs

David H. Ready, City Manager

3200 Tahquitz Canyon Way • Palm Springs, California 92262

TEL: (760) 323-8201 • FAX: (760) 323-8207 • TDD: (760) 864-9527

February 3, 2005

Lin Juniper
SCE Palm Springs Service Center
36100 Cathedral Canyon Drive
Cathedral City, CA 92234

Re: Devers Palo Verde #2

Dear Ms Juniper:

We have been briefed by means of the Project Summary Documents and FAQ's provided by SCE for the subject project. We understand that the project, consisting of new and replacement overhead power lines in the vicinity of I-10, runs through a portion of Palm Springs. We fully understand that the portion of the project within I-10 is within existing Southern California Edison rights of way. On the basis that this project would add transmission facilities needed to import additional lower cost electricity from out of state into California, and that electricity rates would therefore be lower with this project than they would be otherwise, we support SCE's pursuit of the Devers Palo Verde #2 Project.

We request that SCE coordinate with City staff for the portions of the project within the City and that copies of all environmental documents be made available to our Planning Department for review and comment.

Sincerely,

David H. Ready
City Manager

xc: David J Barakian
Alex Meyerhoff

Board of Supervisors
County of San Bernardino

JOSIE GONZALES
SUPERVISOR, FIFTH DISTRICT

January 14, 2005

Mr. Ray R. Gonzales, Region Manager
Southern California Edison (SCE)
Public Affairs
287 Tennessee Street
Redlands, CA 92373

RE: DEVERS PALO VERDE NO. 2 (DBV2) PROJECT

Dear Mr. Gonzales:

Thank you for taking the time to brief me on the proposed new electrical transmission line between Arizona and California. It is my understanding you will be submitting applications to the California Public Utilities Commission (CPUC), with the intent, upon approval, to begin this project in 2006.

I have not identified any specific issues or concerns with this project; however, I ask that you keep my informed of the status of the project throughout your filing process. As updates and/or issues arise that you feel may impact the Fifth District, please advise me.

Again, thank you for sharing your information with us on January 11, 2005

Sincerely,

JOSIE GONZALES
Supervisor, Fifth District

JG:tlm

San Bernardino County Government Center • 385 North Arrowhead Avenue, Fifth Floor • San Bernardino, CA 92415-0110 • (909) 387-4565 • Fax (909) 387-5392

Grand Terrace
CALIFORNIA

22795 Barton Road
Grand Terrace
California
92313-5295

Civic Center
(909) 824-6621
Fax (909) 783-7629
Fax (909) 783-2600

Maryetta Ferré
Mayor

Bea Cortes
Mayor Pro Tempore

Council Members
Lee Ann Garcia
Herman Hilkey
Jim T. Miller

Thomas J. Schwab
City Manager

January 12, 2005

Southern California Edison (SCE)
ATTN: Beverly Powell
287 Tennessee St.
Redlands, CA 92374

RE: Proposed Devers-Palo Verde No. 2 (DPV2) Project

Dear Ms. Powell:

On behalf of the Mayor and the City Council of Grand Terrace, we would like to thank SCE for the information presented to our citizens and businesses concerning the proposed Devers-Palo Verde No. 2 (DPV2) Project. Your team has been very informative, attending council meetings, providing community workshops, and advertising in our local newspaper, The Blue Mountain Outlook.

If you have any questions, please contact my office at 909-430-2245.

Sincerely,

Thomas J. Schwab
City Manager

cc: Mayor and City Council

City of Redlands
City Manager

John Davidson

January 12, 2005

Ms. Beverly Powell
Regional Manager
SCE Redlands Service Center
287 Tennessee Street
Redlands, CA 92373

Re: Proposed Devers - Palo Verde No. 2 (DPV2) Project Coordination

Dear Ms. Powell,

On behalf of the Mayor and City Council, I wish to express the City's appreciation for your continued effort to educate and update City staff and the community on SCE's proposed transmission line upgrades in the City of Redlands. As a result of your public outreach efforts, our community is better informed of the DPV2 Project.

Thank you very much for your continued efforts and involvement, and we look forward to continued dialogue as the project planning process moves forward.

Sincerely,

John Davidson
City Manager

cc R. Mutter, Public Works Director
J. Shaw, Community Development Director

City of Beaumont

550 E. 6th Street
Beaumont, CA 92223
(909) 769-8520
FAX (909) 769-8526
Email: cityhall@ci.beaumont.ca.us
www.ci.beaumont.ca.us

January 7, 2005

Lin Juniper, Region Manager
Public Affairs
Southern California Edison
36100 Cathedral Canyon Dr.
Cathedral City, CA 92234

Dear Ms. Juniper:

The City of Beaumont would like to confirm that we have been briefed on your proposed Devers Palo Verde 2 (DPV2) Transmission Project. It is our understanding that SCE intends to file an application for this project in early 2005 with the California Public Utilities Commission, with the intent, upon approval, to begin project implementation in 2006.

Currently the City has not identified any specific issues or concerns with this project; however, we ask that you keep us informed of the status of the project throughout your filing process, along with any updates and/or issues that you feel may impact any areas within the current boundaries of potentially annexed areas of our City.

Thank you for keeping us briefed on this project.

Sincerely,

Alan C. Kapanicas
City Manager

Cathedral City

January 6, 2005

Lin Juniper
Region Manager, Public Affairs
Southern California Edison Company
36100 Cathedral Canyon
Cathedral City, CA 92234

Dear Ms. Juniper,

Thank you for briefing the City Council and staff December 20 on the Devers Palo Verde 2 project and for SCE's sponsorship of the open house I was able to attend September 28 at the Joslyn Senior Center in Palm Desert regarding plans for the new high-voltage electric transmission line.

We certainly support the project, which we hope will help to control the rising cost of energy and request that we be kept up to date on progress as the application proceeds through the CPUC, as well as during construction.

There is no major area of concern for Cathedral City, except to assure, in the interest of homeland security, that the transportation corridor of Date Palm Drive be maintained even in the event of any unforeseen act of terrorism. Is there any possibility of the line's being buried under Date Palm Drive? The I-10-Date Palm Drive interchange is one of Desert Hot Springs main transportation routes and the intersection and roadway itself will become increasingly vital as development begins to occur north of the freeway.

Again, we appreciate your efforts to keep city officials apprised of plans and progress.

Sincerely,

Donald E. Bradley
City Manager

DEB:JB/tlm

cc: Julie Baumer, Deputy City Manager; Bill Bayne, City Engineer

68-700 AVENIDA LALO GUERRERO • CATHEDRAL CITY, CA 92234 • 760/770-0340 • FAX: 760/202-1460

MAYOR

Deirdre H. Bennett
RDA Chair

MAYOR PRO TEM

Ramon M. Hernandez

COUNCIL MEMBERS

Ramon M. Hernandez
District 1
RDA Vice Chair

Richard A. DeLaRosa
District 2

Kelly J. Chastain
District 3

Helen A. Ramos
District 4

John D. Mitchell
District 5

Isaac T. Suchil
District 6

CITY MANAGER

Daryl J. Parrish

December 15, 2004

Ray Gonzalez
Region Manager
Southern California Edison
287 Tennessee
Redlands, CA 92373

Subject: Devers-Palo Verde No. 2

Dear Ray,

This letter is in response to your request for written comments regarding the Devers-Palo Verde No. 2 project. The City of Colton has concerns regarding the upgrades planned for the Vista Substation, which is our interconnection point to SCE. As you know, any planned outages at Vista Substation would mean that our entire city would be without power for that duration. Therefore, the City of Colton would very much like to be included in any discussions regarding outage mitigation with respect to the upgrades planned for Vista. If you have any questions, please contact me at (909) 370-5051 or Jeannette Olko, Electric Utility General Manager at (909) 370-6196.

Sincerely,

Daryl Parrish
City Manager
City of Colton

CIVIC CENTER
650 N. La Cadena Drive
Colton, CA 92324
(909) 370-5099

City of Loma Linda

25541 Barton Road, Loma Linda, California 92354-3160 • (909) 799-2800 • FAX (909) 799-2890

Sister Cities: Manipal, Karnataka, India - Libertadore, San Martin, Argentina • www.lomalinda-ca.gov

December 9, 2004

Ms. Beverly Powell, Regional Manager
Southern California Edison (SCE)
Public Affairs
287 Tennessee Street
Redlands, CA 92373

RE: DEVERS PALO VERDE NO. 2 (DPV2) PROJECT

Dear Ms. Powell:

Thank you for the opportunity to review the proposal and participate in the public review process for the DPV2 Project. Due to your public outreach efforts, the City of Loma Linda is very well aware of the DPV2 Project. The open house that SCE staff held for the community on September 7, 2004 and presentation to the City's Trails Development Committee on November 18, 2004 provided valuable information to City staff, Loma Linda and other area residents and interested parties. Staff's understanding is that the project will not result in a need for additional easements or right-of-ways and the potential environmental impacts of the project (i.e., aesthetics, land use) will not be significant because the SCE Easement already exists. Based on the preceding, staff has no comments or concerns about the project at this time.

Please feel free to contact me at (909) 799-2810 if you have any questions or concerns about this correspondence.

Sincerely,

Dennis R. Halloway
City Manager

cc: T. Jarb Thaipejr, PE, REA, Public Works Director/City Engineer
Deborah Woldruff, AICP, Community Development Director

I:\Planning Letters\2004\PL04-31 SCE DPV2 Project Ltr.doc

Recycled Paper

City Of Calimesa

December 8, 2004

Ms. Beverly Powell
Regional Manager
SCE Redlands Service Center
287 Tennessee Street
Redlands, CA 92373

Re: Proposed Devers-Palo Verde No. 2 (DPV2) Project Coordination

Dear Ms. Powell,

On behalf of the Mayor and City Council I wish to express the City's appreciation for your continued effort to educate and up date City staff and the community on SCE 's proposed transmission line upgrades in the City of Calimesa. Although community response to the many community workshops has been as varied as the questions themselves, the general community attitude has been positive.

Your community outreach, and involvement with City staff is to be complemented, as we look forward to continued dialogue as the project planning process proceeds.

Sincerely,

George Hansen
City Manager

CC: City Council

Executive Office
County of Riverside

Larry Parrish
County Executive Officer

December 6, 2004

Robert Lopez
SCE San Jacinto Valley Service Center
26100 Menifee Road
Romoland, CA 92380

Re: Devers-Palo Verde No. 2 Project

Dear Mr. Lopez,

Thank you for providing the information brochures on the Devers-Palo Verde No. 2 Project, a proposed 230 mile-long high-voltage electric transmission line between California and Arizona, with approximately 120 miles of transmission line through the County of Riverside. The County understands that the new line will parallel the existing transmission line but that SCE will need to acquire additional property rights in some areas. With regard to any property acquisition, the County would expect compliance with its Multi-Species Conservation Habitat Plan. The County also recognizes that the benefits the proposed project is expected create, including a reduction in the cost of electricity purchased to serve California customers.

At this time, the County's position on this project is neutral. We look forward to receiving and responding to any scoping documents, EIR review and other environmental information. Should you have any questions or need additional information, please contact Rhonda King at 951.955.1186.

Sincerely,

Larry Parrish
County Executive Officer

Robert T. Andersen Administrative Center
4080 Lemon Street • 4th Floor • Riverside, California 92501 • (951) 955-1100 • Fax (951) 955-1105

Application for a
Certificate of Environmental Compatibility

Devers-Palo Verde No. 2
Transmission Line Project

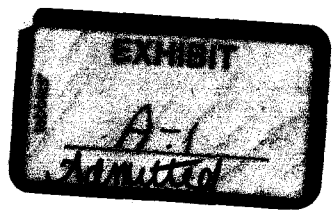
Prepared for:

Arizona Power Plant and
Transmission Line Siting Committee

Submitted by:

Southern California Edison Company

Date: _____
Case No. _____



BEFORE THE
ARIZONA POWER PLANT AND TRANSMISSION LINE SITING COMMITTEE

In the matter of the Application of Southern California Edison Company and its assignees in conformance with the requirements of Arizona Revised Statutes Sections 40-360.03 and 40-360.06 for a certificate of environmental compatibility authorizing construction of a 500kV alternating current transmission line and related facilities in Maricopa and La Paz Counties in Arizona originating at the Harquahala Switchyard west of Phoenix, Arizona and terminating at the Devers Substation in Riverside County, California.

Case No. _____

APPLICATION FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY

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2 Name, address and telephone number of a representative of the Applicant who has access to technical knowledge and background information concerning this application, and who will be available to answer questions or furnish additional information 1
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LIST OF ACRONYMS AND ABBREVIATIONS

AC	Alternating Current
ACC	Arizona Corporation Commission
Applicant	Southern California Edison Co. *or* SCE *or* Edison
APS	Arizona Public Service
A.R.S.	Arizona Revised Statutes
BLM	Bureau of Land Management
CAP	Central Arizona Project
CEC	Certificate of Environmental Compatibility
CPUC	California Public Utilities Commission
CRC	Certificate of Right-of-Way Compatibility
DOI	Department of Interior
DPV1	Devers-Palo Verde No. 1 500kV Transmission Line
DPV2	Devers-Palo Verde No. 2 Project (*this application*)
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPG	Environmental Planning Group *or* EPG, Inc.
HGC	Harquahala Generating Company
I-10	Interstate 10
kV	Kilovolt
MW	Megawatts
NEPA	National Environmental Policy Act
NWR	National Wildlife Refuge
Project	Devers-Palo Verde No. 2 Project (this application)
PEA	Proponent's Environmental Assessment
PVNGS	Palo Verde Nuclear Generating Station
ROD	Record of Decision
SCE	Southern California Edison Company
Siting Committee	Arizona Power Plant and Transmission Line Siting Committee
SPS	Special Protection System
SVC	Static VAR Compensator
USFWS	U.S. Fish and Wildlife Service
VAR	Voltage Ampere Reactive

INTRODUCTION

INTRODUCTION

Southern California Edison Company (SCE or Applicant or Edison) requests a Certificate of Environmental Compatibility (CEC) from the Arizona Power Plant and Transmission Line Siting Committee (Siting Committee) for authority to construct approximately 102 miles of a proposed 500 kilovolt (kV) transmission line and related facilities (Project), in western Maricopa County and La Paz County, Arizona. The remaining 128 miles of the proposed 500kV transmission line would be located in Riverside County, California. The Project is called the Devers-Palo Verde No. 2 project or DPV2. The DPV2 project also includes an upgrade to SCE's 230kV transmission system in Riverside and San Bernardino counties west of SCE's existing Devers Substation.

SCE is an investor-owned public utility engaged in the business of generating, transmitting, and distributing electric energy in portions of central and southern California. In addition to its properties in California SCE owns, in some cases jointly with others, facilities in Arizona, Nevada, and New Mexico. In conducting such business, SCE operates an interconnected and integrated electric utility system.

PROJECT OVERVIEW

The proposed transmission line, known as the Devers-Harquahala 500kV transmission line, would originate at the Harquahala Generating Station Switchyard (Harquahala Switchyard), located approximately 17 miles northwest of the Palo Verde Nuclear Generating Station (PVNGS) and 60 miles west of Phoenix, and would terminate at SCE's existing Devers Substation in Riverside County, California, as shown on Figure 1 (Project Vicinity Map). The proposed line would parallel the existing Devers-Palo Verde No. 1 500kV line (DPV1) within BLM-designated utility corridors for the majority of the proposed route. CECs for the DPV1 were issued by the Arizona Corporation Commission (ACC) in Case No. 34 (Decision No. 49226) and Case No. 48 (Decision No. 51170).

Construction of the proposed 500kV line would utilize the same types of towers as the existing DPV1 transmission line, as shown in Exhibit G-1. Of the approximately 343 transmission structures that would be constructed in Arizona, approximately 320 would be single-circuit lattice steel towers. The 5-mile segment of the proposed route, east of the Harquahala Generating Station, would be constructed on 23 single-circuit tubular-steel poles, as shown in Exhibit G-2. The remaining portion of the proposed Devers-Harquahala line includes 13 existing double-circuit structures (as shown in Exhibit G-3) that presently support the DPV1 and DPV2 conductors in the Copper Bottom Pass, about 10 miles east of the Colorado River.

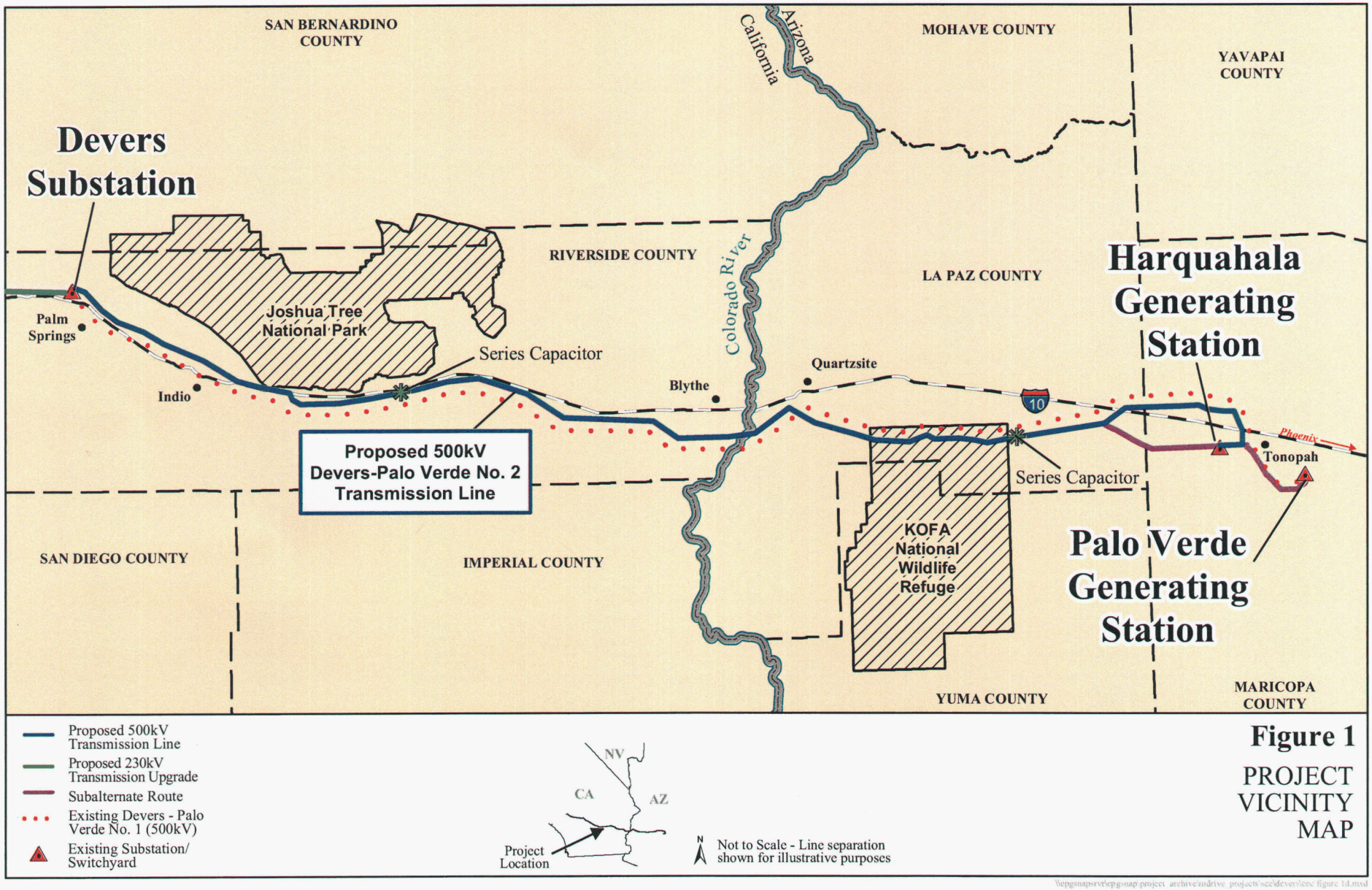

Figure 1

PROJECT VICINITY MAP

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Other major related facilities to be constructed would include the following:

- Telecommunications system modifications, including an optical ground wire on the transmission line structures, a new telecommunications facility on Harquahala Mountain in Arizona, and an optical repeater facility located 3 miles west of Blythe, California within the Devers-Harquahala transmission line right-of-way.

- Two series capacitor banks, each adjacent to an existing DPV1 series capacitor bank: one in Arizona approximately 55 miles west of the Harquahala Switchyard and one in California approximately 64 miles east of the Devers Substation.

- A Static Voltage Ampere Reactive (VAR) Compensator would be installed at the Devers Substation in California.

- Shunt reactors, dead-end structures, circuit breakers, and disconnect switches at the Harquahala Switchyard in Arizona and Devers Substation in California.

- Special Protection System (SPS) relays may be installed at SCE's substations in California to drop load for mitigation of the system reliability impacts due to the simultaneous loss of DPV1 and Devers-Harquahala.

Project construction is scheduled to begin in early 2007 with completion and operation anticipated for 2009.

As part of DPV2, SCE plans to purchase the existing 500kV transmission line and related facilities that connect the Harquahala Switchyard to the Hassayampa 500kV Switchyard.

PROPOSED AND ALTERNATE ROUTES

Proposed Route

The Arizona portion of the proposed DPV2 project would consist of the construction of 102 miles of 500kV transmission line from the existing Harquahala Switchyard, located in Maricopa County to the Colorado River, as illustrated in Figure 2. While the proposed route would terminate at the Harquahala Switchyard, SCE would utilize the existing Harquahala-Hassayampa 500kV transmission line and the existing Hassayampa-PVNGS 500kV interconnection to provide a path to the PVNGS Switchyard. A CEC for the Harquahala-Hassayampa transmission line project was issued by the ACC in Case No. 96 (Decision No. 62655). The line was constructed in 2001. The proposed Devers-Harquahala 500kV transmission line would exit the Harquahala Switchyard and parallel the Harquahala-Hassayampa 500kV line in an easterly direction for approximately 5 miles to its intersection with the DPV1 right-of-way.

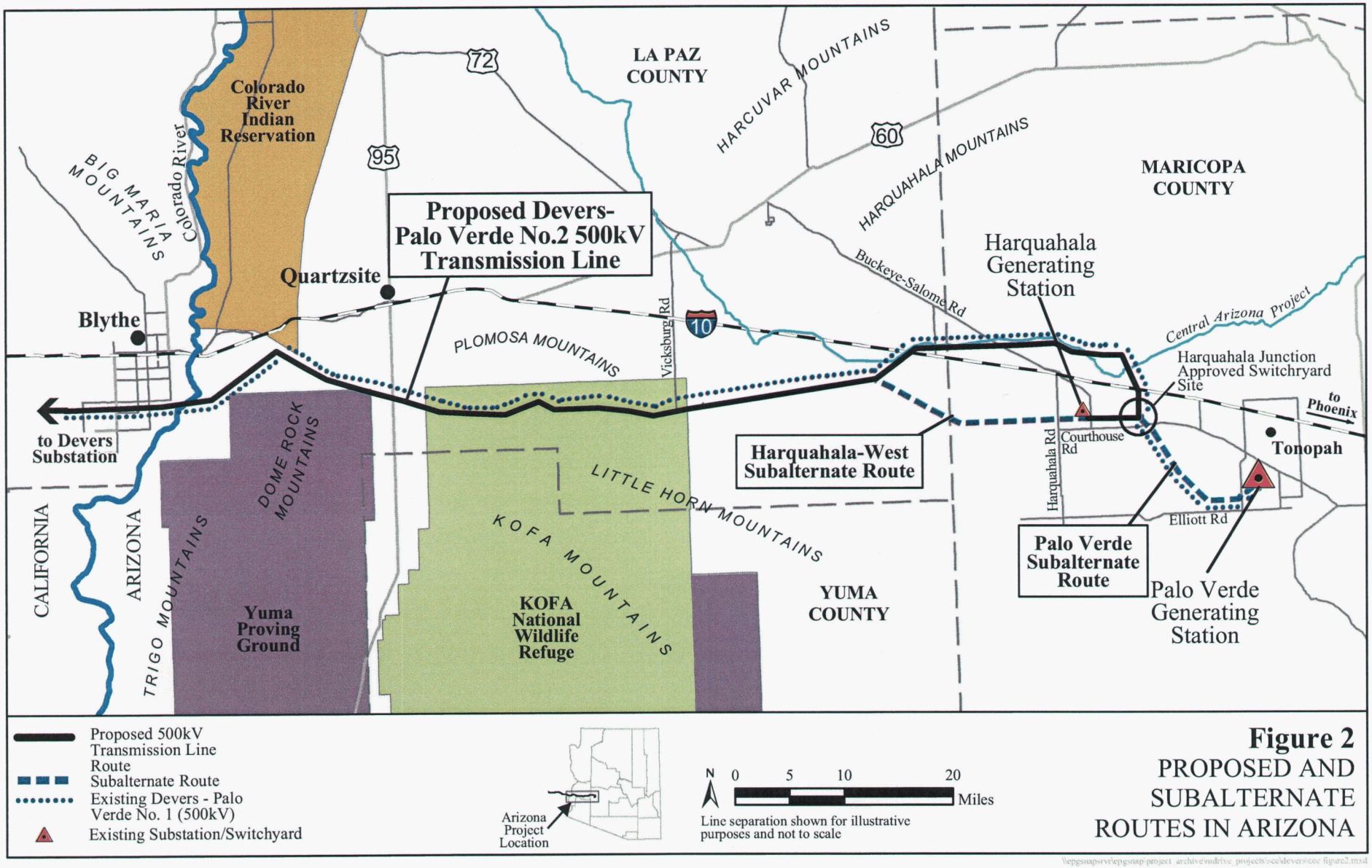

Figure 2
PROPOSED AND SUBALTERNATE ROUTES IN ARIZONA

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From that point, the route would then turn north and parallel the DPV1 single-circuit 500kV line for approximately 2.7 miles to Interstate 10 (I-10), where it would cross the interstate highway and proceed to a point 1 mile northwest of Burnt Mountain. The route would then turn west and generally parallel the I-10 and Central Arizona Project (CAP) canal for approximately 20 miles through the Big Horn Mountains and across the Harquahala Plain to a point 0.5 mile north of I-10. The route would then turn southwest, crossing I-10, and proceed approximately 5 miles to intersect the El Paso Natural Gas Company's existing pipeline right-of-way just north of its Wenden Pump Station north of the Eagletail Mountains.

The route would parallel the El Paso Natural Gas pipeline and the DPV1 line for approximately 56 miles, crossing the Ranegras Plain, through approximately 25 miles of the KOFA National Wildlife Refuge (NWR) and the La Posa Plain, crossing Arizona State Highway 95 before it continues through the Dome Rock Mountains to the summit of Copper Bottom Pass. The route would then turn southwest away from the pipeline, descend the western slope of the Dome Rock Mountains and proceed approximately 9 miles to a crossing of the Colorado River.

Along the 5-mile segment of the route parallel to the existing Harquahala-Hassayampa 500kV line, the Devers-Harquahala 500kV line would be constructed on new single-circuit tubular-steel poles to match the structures of the existing line. Once the Devers-Harquahala 500kV line turns north to parallel the existing DPV1 line, new single-circuit lattice steel towers would be constructed to match the existing DPV1 towers along the route to Copper Bottom Pass. When DPV1 was constructed, conductors for the DPV2 line were installed on the double-circuit towers as the second circuit on 13 four-legged lattice steel towers, along approximately 3 miles through Copper Bottom Pass.

The California portion of the Devers-Harquahala 500kV transmission line is illustrated in Figure 1. It would extend 128 miles from the Colorado River to the Devers Substation near Palm Springs in Riverside County, California.

The majority of the proposed 500kV line route is located within a designated utility corridor on public land managed by the Bureau of Land Management (BLM) as specified in the BLM Resource Management Plans. The proposed Devers-Harquahala line would be located within a nominal 130-foot-wide right-of-way that was granted in perpetuity to SCE by the BLM in 1989 and is adjacent to the DPV1 right-of-way. Additional rights-of-way would be acquired on private, state, and other federal land, including approximately 5 miles of additional right-of-way between the junction of the proposed Devers-Harquahala route with the DPV1 line and the Harquahala Switchyard, adjacent to a portion of the existing Harquahala-Hassayampa 500kV line. The proposed route also would parallel Arizona Public Service's planned Palo Verde to TS5 500kV line, recently approved by the ACC Case No. 128 (Decision No. 68063), for approximately 5.5 miles from the point where the proposed Devers-Harquahala line would turn north (after paralleling the Harquahala-Hassayampa line) to the point where it would then turn west.

Harquahala-West Subalternate Route

This subalternate route would exit the Harquahala Switchyard directly to the west for 12 miles, and then follow the El Paso Natural Gas pipeline corridor northwest for 9 miles to its intersection with the proposed Devers-Harquahala 500kV route. The route would be located in a designated BLM utility corridor for the portion that parallels the pipeline right-of-way. New right-of-way would need to be acquired across private, state, and BLM land for this entire route. The Harquahala-West Subalternate route would be 14 miles shorter than the proposed route (a total distance of 216 miles) and would require about 48 fewer 500kV towers than the proposed route. This alternative would have a greater level of environmental impact than the proposed route and is not the Applicant's preferred route.

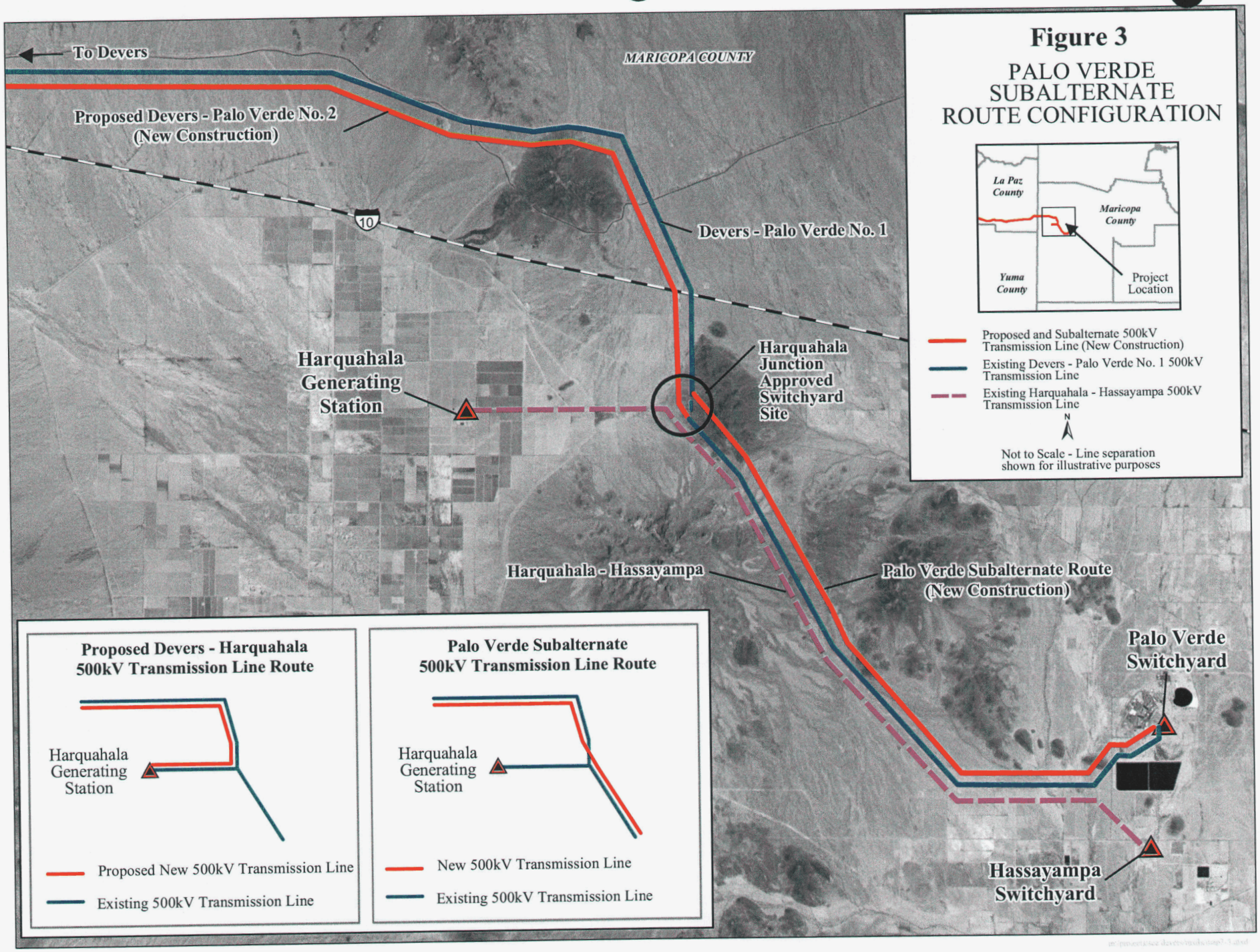
Palo Verde Subalternate Route – Interconnection Option

The proposed route for the Devers-Harquahala 500kV transmission line is generally parallel to SCE's existing DPV1 500kV line, except for the 5-mile segment from Harquahala Junction to the Harquahala Switchyard. Unlike the DPV1 and DPV2 routes described in the 1989 BLM right-of-way grant, the proposed project involves building a new 500kV transmission line from Devers to the Harquahala Switchyard and interconnecting to the existing Harquahala-Hassayampa 500kV transmission line.

As an interconnection option to termination of the Devers-Harquahala 500kV transmission line at Harquahala, the Palo Verde Subalternate route would terminate at the PVNGS Switchyard (Figure 3). This would require the construction of a new 500kV transmission line parallel to the DPV1 transmission line, a distance of approximately 15 miles from the Harquahala Junction to the PVNGS Switchyard, as an alternative to interconnecting with the Harquahala-Hassayampa line. This alternative is not the Applicant's preferred route.

Harquahala Junction Switchyard – Interconnection Option

This option would be the same as the proposed route, but would reduce the length of the 500kV transmission line required for the proposed Devers-Harquahala route by approximately 5 miles. SCE, Arizona Public Service Company (APS) and Harquahala Generating Company (HGC) have been discussing a potential joint project arrangement in which the parties (subject to the parties' ability to reach a mutually acceptable agreement) would share the existing Harquahala-Hassayampa 500kV transmission line and thereby defer the need for APS to construct an additional 500kV line into the Palo Verde Hub. This arrangement would provide for the interconnection of the proposed Devers-Harquahala line, the existing Harquahala-Hassayampa line, and the certificated APS Palo Verde Hub-TS5 line at a new Harquahala Junction Switchyard. The Palo Verde Hub-TS5 line and Harquahala Junction Switchyard were certificated in 2005 in Case No. 128 (Decision No. 68063).


To Devers
MARICOPA COUNTY
Proposed Devers - Palo Verde No. 2
(New Construction)
10
Devers - Palo Verde No. 1
Harquahala
Generating
Station
Harquahala
Junction
Approved
Switchyard
Site
Harquahala - Hassayampa
Palo Verde Subalternate Route
(New Construction)
Palo Verde
Switchyard
Hassayampa
Switchyard
Figure 3
PALO VERDE
SUBALTERNATE
ROUTE CONFIGURATION
La Paz
County
Maricopa
County
Yuma
County
Project
Location
Proposed and Subalternate 500kV
Transmission Line (New Construction)
Existing Devers - Palo Verde No. 1 500kV
Transmission Line
Existing Harquahala - Hassayampa 500kV
Transmission Line
N
Not to Scale - Line separation
shown for illustrative purposes
Proposed Devers - Harquahala
500kV Transmission Line Route
Harquahala
Generating
Station
Proposed New 500kV Transmission Line
Existing 500kV Transmission Line
Palo Verde Subalternate
500kV Transmission Line Route
Harquahala
Generating
Station
New 500kV Transmission Line
Existing 500kV Transmission Line

Detailed discussions among the parties regarding the proposed joint project arrangement are ongoing and are the subject of a non-disclosure agreement.

ROUTE SELECTION AND ENVIRONMENTAL STUDIES

In the development phase of the DPV1 project, an extensive range of routes was developed by the Applicant based on the results of environmental studies, input from governmental agency resource plans and private interests, and consideration of engineering, economic, and right-of-way acquisition factors. Alternatives to the proposed route also were considered and reevaluated during the Project development for DPV2 in the 1980s as documented in the BLM's Supplemental Environmental Impact Statement (EIS) (Exhibit B-1) and concluding in the Record of Decision (ROD) issued by the Department of Interior (DOI) in 1989 for compliance with the National Environmental Policy Act (NEPA). The ROD and right-of-way grant issued by the BLM in 1989 are attached to this application in Exhibit B-2 (PEA, Volume II, Appendix B). The U.S. Fish and Wildlife Service (USFWS) issued a Certificate of Right-of-Way Compatibility (CRC) in 1989 for the portion of the proposed project crossing the KOFA NWR (see Exhibit B-2, Volume II, Appendix C). The USFWS has indicated that it will re-evaluate and update the 1989 CRC. SCE applied for a new Right-of-Way Permit in 2005 (see Exhibit B-3).

The results of subsequent reviews and evaluation of alternatives conducted by the Applicant show that the proposed route remains as the environmentally preferred route. These studies are documented in the Proponent's Environmental Assessment (PEA), attached as Exhibit B-2. The PEA was filed in support of SCE's application for a Certificate of Public Convenience and Necessity with the California Public Utilities Commission (CPUC) on April 11, 2005.

In December 2005, the BLM together with the CPUC issued a Notice of Intent to prepare a joint EIS/Environmental Impact Report (EIR) for the proposed project. The EIS/EIR will meet the requirements of the NEPA and the California Environmental Quality Act (CEQA). Public scoping meetings were held in the fall of 2005 in California and in January 2006 in Arizona. Scoping reports were issued in December 2005 and February 2006 which categorized comments received on the proposed project based on the human and physical environment, alternatives, cumulative projects, and the environmental review and decision-making process.

Two subalternate routes at the eastern portion of the proposed route for the Devers-Harquahala 500kV line were considered: (1) Harquahala – West and (2) Palo Verde. Construction of the Harquahala-West Subalternate route would result in a greater amount of adverse environmental impact than the proposed route. Because this subalternate route would not parallel an existing transmission line, visual impacts to residential viewers would occur. Also, construction of a new access road for a portion of the subalternate route would be required, causing more ground disturbance than the proposed Devers-Harquahala route.

Although the Palo Verde Subalternate route would be environmentally compatible, SCE's preference is to construct the proposed Devers-Harquahala route. The Palo Verde Subalternate route would be used if SCE would not be able to utilize the existing Harquahala-Hassayampa transmission line, in order to provide a direct interconnection with the PVNGS Switchyard.

The option to interconnect with the Harquahala Junction Switchyard would reduce the length of the 500kV line required for the Devers-Harquahala route by approximately 5 miles, and therefore reduce the amount of ground disturbance that would result from construction of new towers between Harquahala Junction and the Harquahala Generating Station.

PUBLIC INVOLVEMENT OVERVIEW

The Applicant has endeavored to keep the public and all interested agencies informed and involved in the various steps of the Project development process. SCE conducted public outreach activities for the DPV2 project to encourage communication with local communities, local businesses, elected and appointed officials, and other interested parties. Public outreach and information activities included distribution of a project fact sheet, in-person interviews, media briefings, open houses, and meetings with individuals and small groups. In addition, public scoping meetings were held in January 2006 in Arizona for the EIS/EIR. SCE sponsored public open house meetings at three locations in Arizona in April 2006. A more detailed description of these activities is contained in Exhibit J and Exhibit B-2 (PEA, Volume II, Appendix E).

The Applicant sent letters to government agencies to solicit their comments. A list of the entities that have been contacted is included in Exhibit H. All responses will be included in a supplemental filing.

PROJECT NEED

DPV2 would provide strategic and economic benefits to Arizona, California, and the Southwest including enhanced power pooling opportunities, increased emergency interconnection support, improved reliability, and increased utilization of existing Arizona generation facilities.

Generating companies have located in the Palo Verde area to access two large markets: Arizona and Southern California. DPV2 enhances this market by adding additional transmission capacity between Arizona and Southern California. Expanding this market is beneficial to Arizona as it adds high-paying jobs in the energy marketplace, creates economic multiplier impacts due to these jobs, and increases corporate and personal tax base.

DPV2 is expected to provide employment and related tax benefits to Arizona (see Exhibit J-3). These include the following:

- Provide approximately 150 jobs during the two-year construction phase.

- Create positive economic impacts from all direct, indirect, and induced employment totaling an estimated $85 million.

- Generate property tax revenues to state and local government during the construction phase and the first 10 years of operation of approximately $24 million.

SUMMARY

The Project in Arizona is environmentally compatible for the following reasons:

- The majority of the proposed route is either within and/or adjacent to an existing utility right-of-way (DPV1 line) and within a BLM designated utility corridor.

- Existing access roads will be used to the maximum extent possible to minimize land disturbance during construction.

- No residences are within the proposed right-of-way or would be affected by the proposed Devers-Harquahala transmission line route.

- No conflicts with any existing or planned residential or recreational uses along the proposed route are anticipated.

- No long-term adverse effects to special status species, unique habitats, or archaeological and historic sites are anticipated.

- The Project will match existing transmission structure types wherever possible, use non-specular conductors, and use dulled-steel finish structures to reduce visual impacts.

- No adverse noise effects or interference with communications signals are anticipated.

APPLICATION FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY

APPLICATION FOR
A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY

(Pursuant to A.R.S. Sections 40-360.03 and 40-360.06)

1. Name and address of the Applicant:

Name: Southern California Edison Company
Address: 2244 Walnut Grove Avenue
Rosemead, California 91770

2. Name, address and telephone number of a representative of the Applicant who has access to technical knowledge and background information concerning this application, and who will be available to answer questions or furnish additional information:

Name: Michael Mackness, Senior Attorney
Address: 2244 Walnut Grove Avenue
Rosemead, California 91770
Telephone: (626) 302-2863
Fax: (626) 302-2610
E-mail: Mike.Mackness@SCE.com

3. Dates on which the Applicant filed a Ten Year Plan in compliance with Arizona Revised Statutes (A.R.S.) Section 40-360.02, which the facilities for which this application is made were described:

Under A.R.S. Section 40-360.02, SCE filed a Ten-Year Plan for the Devers-Palo Verde No. 2 Project with the Arizona Corporation Commission on January 30, 2006.

4. Description of the proposed facilities:

4.1 Description of electric generating plant:

Not applicable.

4.2 Description of the proposed transmission line:

4.2.1 General description:

4.2.1.1 Nominal voltage for which the lines are designed:

500kV alternating current (AC).

The transmission line would be designed to operate at a nominal voltage of 500kV phase to phase and a maximum voltage of 550kV phase to phase. The line would increase the electrical transfer capability between Arizona and California by 1,200 megawatts (MW) on a continuous basis.

4.2.1.2 Description of proposed structures:

The proposed 500kV line would utilize new and existing structures:

- 771 new single-circuit structures total, including 343 structures in Arizona (approximately)
- 13 existing double-circuit structures in Arizona

Exhibit G contains conceptual illustrations of the proposed structures to be utilized for the Project.

The single-circuit structures in Arizona would be constructed using approximately 320 lattice steel towers and 23 tubular-steel poles. The lattice steel structures (Exhibit G-1) will include galvanized lattice steel angle members connected together by bolts and will support one circuit consisting of three phases of conductors. Each phase would be a two-conductor bundle. Two static wires, one of which would contain optical fibers for telecommunications, would be included.

Along the portion of the Project paralleling the Harquahala-Hassayampa 500kV line, 23 new single-circuit tubular-steel poles (Exhibit G-2) would be used to match the structure type of the existing line.

The 13 double-circuit existing structures were constructed for the DPV1 line through the Copper Bottom Pass in the Dome Rock Mountains, approximately 10 miles east of the Colorado River in

Arizona. These towers support two circuits, each consisting of three phases of conductors that were installed for both DPV1 and DPV2 when DPV1 was constructed in the early 1980s (see Exhibit G-3).

4.2.1.3 Description of proposed switchyards:

No new switchyards would be constructed as part of the proposed project, but expansions of the existing switchyards and series capacitor stations would be needed. As part of DPV2, SCE is considering purchase of the existing 500kV transmission line from Harquahala to the Hassayampa 500kV Substation. For the proposed Devers-Harquahala transmission line, improvements to the existing Harquahala Switchyard would be required to implement that interconnection.

At the Harquahala Switchyard, a new line dead-end structure, circuit breakers, disconnect switches, and associated equipment such as relays and control cable would be installed to accommodate the line termination. With the proposed project, the terminating transmission tower or turning pole would be the tallest structure at the substation, ranging between 150 and 180 feet. Most of the equipment required for remote operation and control would be contained in a new telecommunication room.

A 500kV shunt-line reactor bank and associated disconnect devices would be installed for the proposed project at a location immediately adjacent and north of the Harquahala Switchyard within the Harquahala Generating Station property. Outdoor night lighting for the shunt reactor would be designed to illuminate the reactors and would be manually switched. The shunt reactor would be installed on approximately 2 acres of property to be acquired for this purpose. Temporary laydown and construction would require approximately 1 acre.

Two new 500kV series capacitor banks (one in Arizona) would be located adjacent to the two existing DPV1 series capacitor banks. Each of the two series capacitor banks would consist of the following major components:

- Series capacitors

- Dead-end structures located on either side of the series capacitor banks where the transmission line conductors enter the series capacitor sites
- Telecommunication equipment
- AC and direct current power to operate facility equipment
- Manually switched outdoor night lighting to illuminate the series capacitors
- Grounding grid placed beneath the surface of the facility as a safety measure
- Mechanical-electrical equipment room

The proposed Arizona series capacitor site would be located approximately 55 miles west of the Harquahala Switchyard on the Ranegras Plain on BLM land. The new site would be south of and adjacent to the existing DPV1 series capacitor bank. The site is approximately 7 miles south of I-10 and is accessed from the nearby El Paso Natural Gas pipeline access road.

The proposed California series capacitor site would be located approximately 64 miles to the east of the Devers Substation in the Chuckwalla Valley on BLM land. Both facilities would occupy approximately 2 acres inside the fenced site and temporarily use a 1-acre fenced area for material laydown, storage, and staging.

A SPS is proposed to mitigate post-transient voltage violations of system planning criteria for the simultaneous loss of DPV1 and the proposed project. The technical studies to define the design for this SPS have not been completed. However, preliminary technical studies indicated the SPS would need to drop approximately 2000 MW of SCE load and develop an operating procedure to bypass the phase shifting transformer in the Mead-Phoenix Transmission Project. Relays to support the SPS would be installed at existing substation sites as needed.

4.2.1.4 Purpose for constructing said transmission line:

The DPV2 project is primarily driven by the need to provide additional high-voltage electrical transmission infrastructure to enhance competition among energy suppliers, and increase reliability of supply, which will enable California utilities to reduce energy costs to customers over the life of the Project. Specifically, DPV2 will increase regional transmission capacity by

1,200 MW. Chapter 2 of Exhibit B-2 (PEA) contains a more detailed discussion of the purpose and need for the Project.

The DPV2 project is expected to provide a number of economic benefits to Arizona including employment and related tax revenues during construction, and property tax revenues in future years (see Exhibit J-3). These include the following:

- Provide approximately 150 jobs during the two-year construction phase
- Create positive economic impacts from all direct, indirect, and induced employment totaling an estimated $85 million
- Generate property tax revenues to state and local government during the construction phase and the first 10 years of operation of approximately $24 million

DPV2 would provide strategic and economic benefits to Arizona, California, and the Southwest including enhanced power pooling opportunities, increased emergency interconnection support, improved reliability, and increased utilization of existing Arizona generation facilities.

4.2.2 General location:

4.2.2.1 Description of the geographic points between which the transmission line will run:

The proposed 500kV transmission line route would originate at the Harquahala Switchyard located in Section 31, Township 2 North, Range 8 West, Gila and Salt River Base and Meridian, in Maricopa County, Arizona and terminate at SCE's Devers Substation in Riverside County, California.

Three switchyard interconnection options are possible for the proposed project including (1) Harquahala Generating Station, (2) Palo Verde, and (3) the potential Harquahala Junction Switchyard. For the Harquahala-West Subalternate route, the line would originate at Harquahala Switchyard and terminate at the Devers Substation, as described above. For the Palo Verde Subalternate route, the line would originate at the PVNGS

Switchyard located in Section 34, Township 1 North, Range 6 West, Gila and Salt River Baseline and Meridian.

The Harquahala Junction Switchyard was described as an interconnection option for the APS Palo Verde Hub to TS5 CEC (Case No. 128) and also is an interconnection option for DPV2 under the ongoing joint project discussions among APS, SCE, and HGC. The Harquahala Junction Switchyard would be located in Section 25, Township 2 North, Range 8 West, Gila and Salt River Baseline and Meridian.

4.2.2.2 Straight-line distance between such geographic points:

The total straight-line distance of the proposed 500kV transmission line route between the Harquahala and Devers switchyards is approximately 170 miles. The distance between the Palo Verde and Devers switchyards is approximately 186 miles.

The straight-line distance in Arizona from the state line to the Harquahala Switchyard is approximately 83 miles; approximately 99 miles to the Palo Verde Switchyard; and approximately 88 miles to the proposed Harquahala Junction Switchyard.

4.2.2.3 Length of the transmission line for each alternate route:

The length of the proposed route is approximately 230 miles between Harquahala and Devers, including approximately 102 miles of transmission line in Arizona. The length of the Harquahala West Subalternate route is approximately 216 miles between Harquahala and Devers. The Palo Verde Subalternate route is approximately 240 miles between Palo Verde and Devers.

The total length of the Devers-Harquahala Junction 500kV route, with origination at the Harquahala Junction Switchyard, would be approximately 225 miles.

4.2.3 Detailed dimensions:

4.2.3.1 Nominal width of right-of-way requested:

SCE is requesting approval of a nominal 130-foot-wide right-of-way on BLM and state land, and a nominal 160-foot-wide right-of-

way on private land. In 1989, approximately 134 miles (2,112 acres) of right-of-way were granted to SCE in perpetuity by the BLM, which includes 92.7 miles in Arizona and 57.2 miles of the proposed route in California. The majority of the right-of-way for the proposed route is located adjacent to existing 500kV transmission line rights-of-way including the DPV1 right-of-way. In this Application, SCE requests that a 1,000-foot-wide corridor be reserved for the following route segments within which the exact location of the transmission line would be determined according to right-of-way considerations, site-specific design, and environmental requirements:

- the 5-mile segment parallel to the Harquahala-Hassayampa transmission line between the Harquahala Generating Station and Harquahala Junction, 500 feet on either side of the existing transmission line;

- the Harquahala-West Subalternate route, 500 feet on either side of the section lines and natural gas pipeline right-of-way;

- and the Palo Verde Subalternate route, 500 feet on either side of the existing DPV1 transmission line.

4.2.3.2 Nominal length of span:

The span length between structures would range from a minimum of 400 feet to a maximum of 2,200 feet with an average of 1,550 feet or about 3.4 towers per mile of line for lattice steel towers. Typical span lengths for the 500kV tubular-steel poles would be 1,320 feet or about 4 poles per mile. Final design characteristics would be determined in the detailed design phase of the Project and would be influenced by the terrain, land use, and economics. The span lengths are also, in part, subject to variation to achieve site-specific mitigation objectives.

4.2.3.3 Maximum height of supporting structures:

The height of a typical single-circuit lattice steel tower would be approximately 150 feet, and 140 feet for a typical tubular-steel pole. The maximum height of a single-circuit lattice steel tower may be 195 feet and the maximum height of a tubular steel pole

may be 160 feet depending on final engineering. The heights of the existing double-circuit structures range from 240 feet to 289 feet.

4.2.3.4 Minimum height of conductor above ground:

The conductor height would vary with the minimum height above ground at least 35 feet.

4.2.4 Estimated costs of proposed transmission line:

The estimated cost of the Arizona portion of the DPV2 project is approximately $143 million (in 2005 dollars) for the proposed Devers-Harquahala 500kV transmission line route. The table below provides the estimated construction and right-of-way costs for the proposed and subalternate routes. These estimates exclude allocated costs such as administrative and general, pensions and benefits, and financing costs.

Route Description	Length of Route (miles)	Construction Cost (millions)	Right-of-Way Cost (millions)
Proposed Devers-Harquahala Route	102	$137	$6
Harquahala-West Subalternate Route	88	$121	$4
Palo Verde Subalternate Route	112	$149	$2

4.2.5 Description of the proposed and subalternate routes:

Proposed Route

The Arizona portion of the proposed DPV2 project would consist of the construction of 102 miles of 500kV transmission line from the existing Harquahala Switchyard, located in Maricopa County to the Colorado River, as illustrated in Figure 2. While the proposed route would terminate at the Harquahala Switchyard, SCE would utilize the existing Harquahala-Hassayampa 500kV transmission line and the existing Hassayampa-PVNGS 500kV interconnection to provide a path to the PVNGS Switchyard. A CEC for the Harquahala-Hassayampa transmission line project was issued by the ACC in Case No. 96 (Decision No. 62655). The line was constructed in 2001. The proposed Devers-Harquahala 500kV transmission line would exit the Harquahala Switchyard and parallel the Harquahala-Hassayampa 500kV line in an easterly direction for approximately 5 miles to its intersection with the DPV1 right-of-way.

From that point, the route would then turn north and parallel the DPV1 single-circuit 500kV line for approximately 2.7 miles to I-10, where it would cross the interstate highway and proceed to a point 1 mile northwest of Burnt Mountain. The route would then turn west and generally parallel the I-10 and CAP canal for approximately 20 miles through the Big Horn Mountains and across the Harquahala Plain to a point 0.5 mile north of I-10. The route would then turn southwest, crossing I-10, and proceed approximately 5 miles to intersect the El Paso Natural Gas Company's existing pipeline right-of-way just north of its Wenden Pump Station north of the Eagletail Mountains.

The route would parallel the El Paso Natural Gas pipeline right-of-way and the DPV1 line for approximately 56 miles, crossing the Ranegras Plain, through approximately 25 miles of the KOFA NWR and the La Posa Plain, crossing Arizona State Highway 95 before it continues through the Dome Rock Mountains to the summit of Copper Bottom Pass. The route would then turn southwest away from the pipeline, descend the western slope of the Dome Rock Mountains, and proceed approximately 9 miles to a crossing of the Colorado River.

Along the 5-mile segment of the route parallel to the existing Harquahala-Hassayampa 500kV line, the Devers-Harquahala 500kV line would be constructed on new single-circuit tubular-steel poles to match the structures of the existing line. Once the Devers-Harquahala 500kV line turns north to parallel the existing DPV1 line, new single-circuit lattice steel towers would be constructed to match the existing DPV1 towers along the route to Copper Bottom Pass. When DPV1 was constructed, conductors for the DPV2 line were installed on the double-circuit towers as the second circuit on 13 four-legged lattice steel towers, along approximately 3 miles through Copper Bottom Pass.

The California portion of the Devers-Harquahala 500kV transmission line is illustrated in Figure 1. It would extend 128 miles from the Colorado River to the Devers Substation near Palm Springs in Riverside County, California.

The majority of the proposed 500kV line route is located within a designated utility corridor on public land managed by the BLM as specified in the BLM Resource Management Plans. Construction of the proposed Devers-Harquahala line would be located within a nominal 130-foot-wide right-of-way that was granted in perpetuity to SCE by the BLM in 1989 and is adjacent to the DPV1 right-of-way. Additional rights-of-way would be acquired on private, state, and other federal land, including approximately 5 miles of additional right-of-way between the junction of the proposed Devers-Harquahala route with the DPV1 line and the Harquahala Switchyard,

adjacent to a portion of the existing Harquahala-Hassayampa 500kV line. The proposed route also would parallel APS' planned Palo Verde to TS5 500kV line, recently approved by the ACC Case No. 128 (Decision No. 68063), for approximately 5.5 miles from the point where the proposed Devers-Harquahala line would turn north (after paralleling the Harquahala-Hassayampa line) to the point where it would then turn west.

Harquahala-West Subalternate Route

This subalternate route would exit the Harquahala Switchyard directly to the west for 12 miles, and then follow the El Paso Natural Gas pipeline corridor northwest for 9 miles to its intersection with the proposed Devers-Harquahala 500kV route. The route would be located in a designated BLM utility corridor for the portion that parallels the pipeline right-of-way. New right-of-way would need to be acquired across private, state, and BLM land for this entire route. The Harquahala-West Subalternate route would be 14 miles shorter than the proposed route (a total distance of 216 miles) and would require about 48 fewer 500kV towers than the proposed route. This alternative would have a greater level of environmental impact than the proposed route and is not the Applicant's preferred route.

Palo Verde Subalternate Route – Interconnection Option

The proposed route for the Devers-Harquahala 500kV transmission line is generally parallel to SCE's existing DPV1 500kV line, except for the 5-mile segment from Harquahala Junction to the Harquahala Switchyard. Unlike the DPV1 and DPV2 routes described in the 1989 BLM right-of-way grant, the proposed project involves building a new 500kV transmission line from Devers to the Harquahala Switchyard and interconnecting to the existing Harquahala-Hassayampa 500kV transmission line.

As an interconnection option to termination of the Devers-Harquahala 500kV transmission line at Harquahala, the Palo Verde Subalternate route would terminate at the PVNGS Switchyard (see Figure 3). This would require the construction of a new 500kV transmission line parallel to the DPV1 transmission line, a distance of approximately 15 miles from the Harquahala Junction to the PVNGS Switchyard, as an alternative to interconnecting with the Harquahala-Hassayampa line. This alternative is not the Applicant's preferred route.

Harquahala Junction Switchyard – Interconnection Option

This option would be the same as the proposed route, but would reduce the length of the 500kV transmission line required for the proposed Devers-Harquahala route by approximately 5 miles. SCE, Arizona Public Service Company (APS) and Harquahala Generating Company (HGC) have been discussing a potential joint project arrangement in which the parties (subject to the parties' ability to reach a mutually acceptable agreement) would share the existing Harquahala-Hassayampa 500kV transmission line and thereby defer the need for APS to construct an additional 500kV line into the Palo Verde Hub. This arrangement would provide for the interconnection of the proposed Devers-Harquahala line, the existing Harquahala-Hassayampa line, and the certificated APS Palo Verde Hub-TS5 line at a new Harquahala Junction Switchyard. The Palo Verde Hub-TS5 line and Harquahala Junction Switchyard were certificated in 2005. Detailed discussions among the parties regarding the proposed joint project arrangement are ongoing and are the subject of a non-disclosure agreement.

4.2.6 Land ownership:

In Arizona, the proposed route traverses approximately 55.4 miles of BLM land, 23.8 miles of USFWS land, 10.8 miles of Arizona State Land Department (ASLD) land, 12.1 miles of private land, and 0.1 mile of Department of Defense – Yuma Proving Ground land.

In 1989, 92.7 miles (1,461 acres) of right-of-way for the DPV2 transmission line in Arizona were granted to SCE in perpetuity by the BLM (Exhibit B-2). The grant included 55.4 miles of BLM land traversed by the proposed Devers-Harquahala line, 23.8 miles of USFWS land, and approximately 10 additional miles of the DPV2 line that would terminate at PVNGS. (The total length of the DPV2 transmission line right-of-way grant differs from the length of the proposed route due to inaccuracy in the previous method of measurement.)

5. Jurisdictions:

5.1 Areas of jurisdiction (as defined in A.R.S. Section 40-360) affected by this route:

Jurisdictions crossed by the proposed route are Maricopa and La Paz counties; no incorporated towns or cities would be affected.

5.2 Designation of proposed sites or routes, if any, which are contrary to the zoning ordinances or master plans of affected areas of jurisdiction:

The proposed route is not located contrary to zoning ordinances or general plans of any affected areas of jurisdiction. The proposed route is located near or in existing utility rights-of-way and within a BLM designated utility corridor.

6. Description of the environmental studies the Applicant has performed:

Relevant previous studies performed by the Applicant and related agency documents and actions are listed in the following table.

DEVERS – PALO VERDE NO. 2
PREVIOUS STUDIES, AGENCY APPROVALS AND ACTIONS

Document	Date	Agency	Action
Certificate of Public Convenience and Necessity (CPCN) Application and Proponents Environmental Assessment (PEA)	12/85	CPUC	Initial filing
Draft Environmental Impact Report (DEIR)	03/87	CPUC	State of California public and agency review
Supplemental Draft Environmental Impact Statement (SEIS)	05/87	DOI/BLM	Review in compliance with NEPA
Final EIR	08/05/87	CPUC	Compliance with CEQA
Arizona CEC Application filed (Case No. 76)	11/16/87	ACC	Filed application for State of Arizona review (withdrawn)
Amended PEA filed (No. 85-12-012)	08/88	CPUC	Incorporated SCE/CPUC cost/benefit study
Addendum to Final EIR	09/88	CPUC	Review required pursuant to amended PEA
Final SEIS[1]	10/88	DOI/BLM	Proposed project and route adjacent to the DPV1 approved
Interim Opinion (Decision No. 88-12-030)	12/09/88	CPUC	Interim Order Granting conditional approval for CPCN and route
Record of Decision[2]	02/21/89	BLM	Approved project and preferred route in compliance with NEPA
Certificate of Right-of-Way Compatibility[2]	03/01/89	USFWS	Certifies compatibility of 500kV transmission line on KOFA NWR land
Right-of-Way Grant (CA-17905/AZ-23805)[2]	08/11/89	BLM	Right-of-way permitted across federal land
PEA[2]	04/11/05	CPUC	Application for CPCN and PEA filed
Application for Right-of-Way Amendment	05/20/05	BLM	Application to amend existing grant to add two series capacitor sites, Midpoint Substation site, and parcel addition
Right-of-Way Permit Application[3]	10/31/05	USFWS	Application for right-of-way crossing the KOFA NWR
SCE Ten-Year Plan	01/30/06	ACC	Notice of SCE's plan to construct in Arizona
Notice of Intent for EIS/EIR	12/7/05	BLM, CPUC	Notice of BLM and CPUC's intent to prepare a joint EIS/EIR

[1]Exhibit B-1 [2]Exhibit B-2 [3]Exhibit B-3

Beginning in 2003, the Environmental Planning Group (EPG) consulting firm coordinated the preparation of environmental studies to support this application, including the PEA (Exhibit B-2).

Environmental resource studies, including data collection and impact assessment, were conducted. Potential impacts to the natural, human, and cultural environment were evaluated including but not limited to land use, visual, biological, and cultural resources. Existing data from various agencies, aerial photographs, maps, and literature were reviewed and field surveys were conducted. A study corridor measuring 2 miles on each side of the proposed route's centerline was studied for potential land use and visual resource impacts. In addition, intensive cultural resource and biological resource field surveys were conducted for the proposed and subalternate routes.

Potential impacts were identified through an impact assessment process that compared the proposed project and the existing environment. Mitigation measures incorporated into the scope of the proposed project were based on those specified in the Right-of-Way Grant issued by the BLM for the DPV2 project. Examples included the use of non-specular conductors; matching existing structure types, heights, and spans; dulled metal structure surfaces; use of existing access; and biological and cultural resource monitoring, as necessary, among other mitigation measures.

Construction of the Harquahala-West Subalternate route would result in a greater amount of adverse environmental impact than the proposed route. Because this subalternate route would not parallel an existing transmission line, visual impacts to residential viewers would occur. Also, construction of a new access road for a portion of the subalternate route would be required, causing more ground disturbance than the proposed Devers-Harquahala route.

Although the construction and operation of the Palo Verde Subalternate route would be environmentally compatible, SCE's preference is to construct the proposed Devers-Harquahala route. The Palo Verde Subalternate route is proposed to be used if SCE were not able to acquire the existing Harquahala-Hassayampa transmission line, in order to provide a direct interconnection with the PVNGS Switchyard.

The option to interconnect with the Harquahala Junction Switchyard would reduce the length of the 500kV line required for the Devers-Harquahala route by approximately 5 miles, and therefore reduce the amount of ground disturbance that would result from construction of new towers between Harquahala Junction and the Harquahala Generating Station.

7. Rationale for route preference:

The proposed route impacts described in this application are within the range of impacts deemed "environmentally compatible" in past Siting Committee decisions. The proposed

route is the preferred route in Arizona based on environmental, system planning, mitigation, and cost considerations. Environmental advantages include the following:

- The majority of the proposed route is both within and/or adjacent to an existing utility right-of-way (DPV1 line) and within a BLM designated utility corridor.
- Existing access roads will be used to the maximum extent possible to minimize land disturbance during construction.
- No residences are within the proposed right-of-way or would be affected by the proposed Devers-Harquahala transmission line route.
- No conflicts with any planned residential or recreational uses along the proposed route are anticipated.
- No long-term adverse effects to special status species, unique habitats, or archaeological and historic sites are anticipated.
- The Project will match existing transmission structure types wherever possible, use non-specular conductors, and use dulled steel finish structures to reduce visual impacts.
- No adverse noise effects or interference with communications signals are anticipated.

SOUTHERN CALIFORNIA EDISON

BY: _____

Original and 25 copies of the foregoing hand delivered and filed with the Director of Utilities, Arizona Corporation Commission, this 1st day of MAY, 2006.

EXHIBIT A
LOCATION AND LAND USE MAPS

EXHIBIT A
LOCATION AND LAND USE MAPS

As stated in Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

"*Where commercially available, a topographic map, 1:250,000 scale, showing any proposed transmission line route of more than 50 miles in length and the adjacent area. For routes less than 50 miles in length, use a scale of 1:62,500. If application is made for alternative transmission line routes, all routes may be shown on the same map, if practicable, designated by the applicant's order of preference.*"

Provided below is a list of the exhibits and their titles:

Exhibit A-1 – Proposed and Subalternate Routes
Exhibit A-2 – Land Ownership and Jurisdiction
Exhibit A-3 – Existing and Planned Land Use

OVERSIZED MAP

-Exhibit A-1: Proposed and Subalternate Routes

Devers- Palo Verde No. 2 Transmission Line Project

TO REVIEW SEE DOCKET SUPERVISOR

DOCKET L-00000A-06-0295-00130

Exhibit A-2
LAND OWNERSHIP AND JURSIDICTION

Devers - Palo Verde No. 2
Transmission Line Project

Sources

United States Geological Survey (USGS), Phoenix, AZ (1969), Salton Sea, AZ (1969), 1:250,000-scale topographic maps. Arizona land ownership, EPG, Inc. 2000. Arizona land jurisdiction, Town of Quartzsite, 2003. KOFA, U.S. Fish and Wildlife Service. U.S. Bureau of Land Management, California State Office, June 1998. U.S. Department of the Interior, Bureau of Land Management, BLM Arizona Access Guide (La Posa), October 1999. Devers to Palo Verde No.2 PEA (1988), SEIS (1988).

Prepared By: Environmental Planning Group, Inc. May 2, 2006

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SOUTHERN CALIFORNIA EDISON
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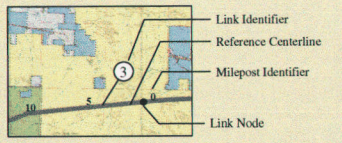
Ownership

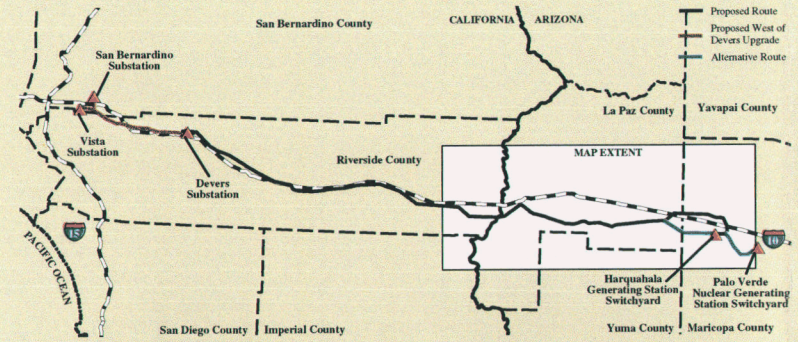
- Bureau of Land Management
- Bureau of Reclamation
- U.S. Fish and Wildlife Service
- Native American Tribe
- Yuma Proving Ground
- State
- Private

General Reference Features

- Proposed 500kV Transmission Line Route
- Alternative 500kV Transmission Line Route
- Existing 500kV Transmission Line
- Existing 230kV Transmission Line
- Existing 161kV Transmission Line
- Natural Gas Pipeline
- Central Arizona Project Canal (USBR)
- State Boundary
- County Boundary
- Substation/Switchyard
- Series Capacitor



Index Map



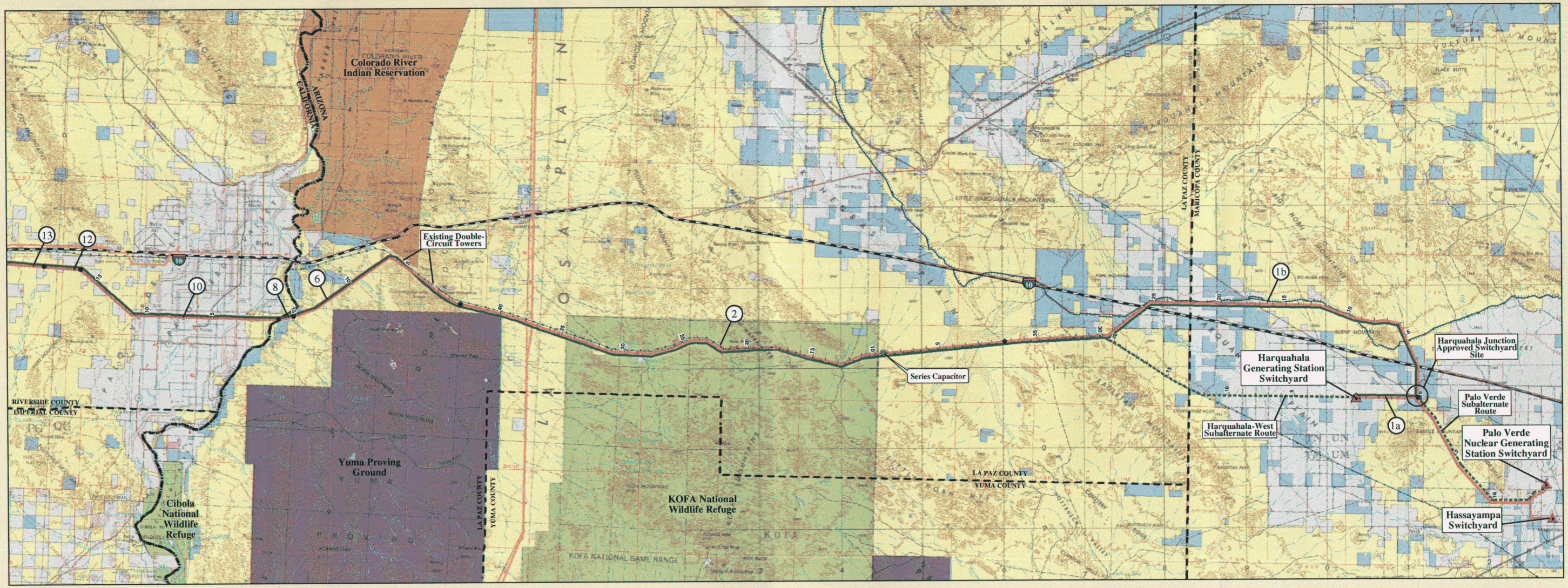


Exhibit A-3
EXISTING AND PLANNED LAND USE
Devers - Palo Verde No. 2 Transmission Line Project
Panel 1 of 2

Sources

United States Geological Survey (USGS), hillshade derived from USGS 30-meter Digital Elevation Models. Land use data, EPG, Inc. 2003.

Prepared By: Environmental Planning Group, Inc. May 2, 2006

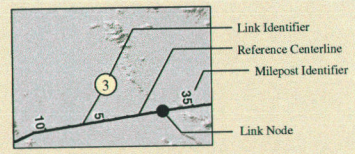
Land Use

EXISTING LAND USE
- Wilderness
- Residential - Low Density
- Single Family Dwelling Unit
- Industrial
- Agriculture
- Agriculture - Outstructure
- Communication Facility
- Abandoned Building
- Rest Area
- Airstrip

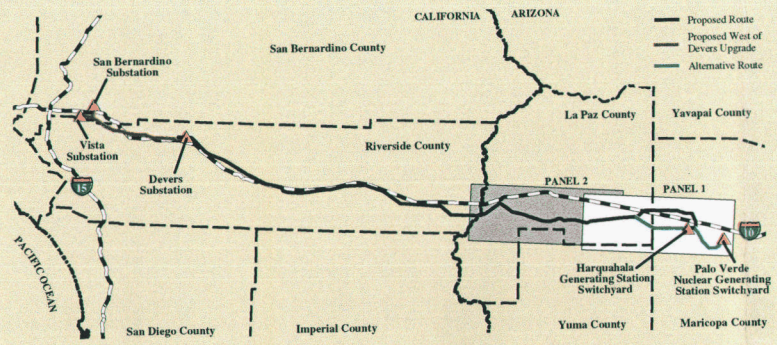
PLANNED LAND USE
- Rural Residential
- Utility
- Undesignated
- Platted Subdivision
- BLM Designated Utility Corridor

General Reference Features

- Proposed 500kV Transmission Line Route
- Subalternate Route
- Existing 500kV Transmission Line
- County Boundary
- Substation/Switchyard
- Interstate/Highway
- Central Arizona Project Canal
- Natural Gas Pipeline
- Roads
- Township and Range
- KOFA National Wildlife Refuge
- Series Capacitor



Panel Index Map



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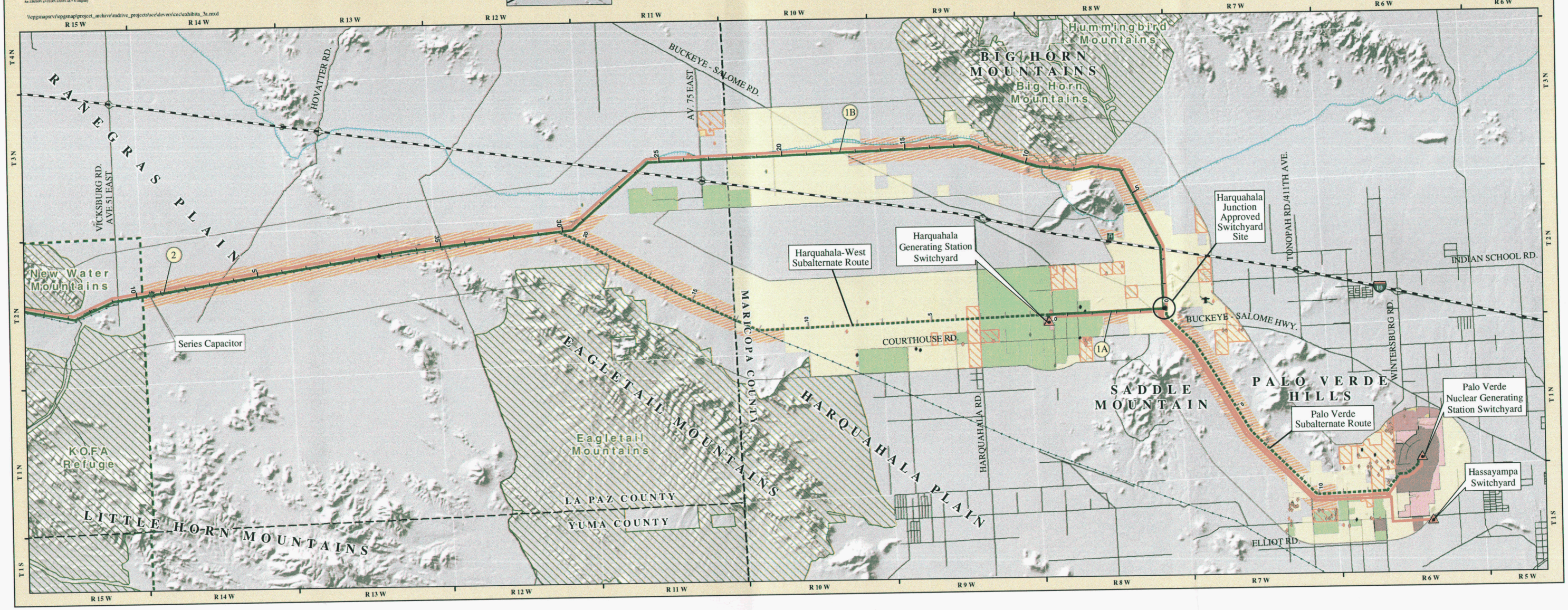


Exhibit A-3
EXISTING AND PLANNED LAND USE

Devers - Palo Verde No. 2 Transmission Line Project

Panel 2 of 2

Sources

United States Geological Survey (USGS), hillshade derived from USGS 30-meter Digital Elevation Models. Land use data, EPG, Inc. 2003.

Prepared By: Environmental Planning Group, Inc. May 2, 2006

Land Use

EXISTING LAND USE

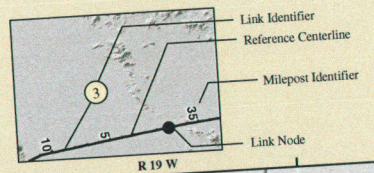
- Wilderness
- Residential - Low Density
- Single Family Dwelling Unit
- Communication Facility

PLANNED LAND USE

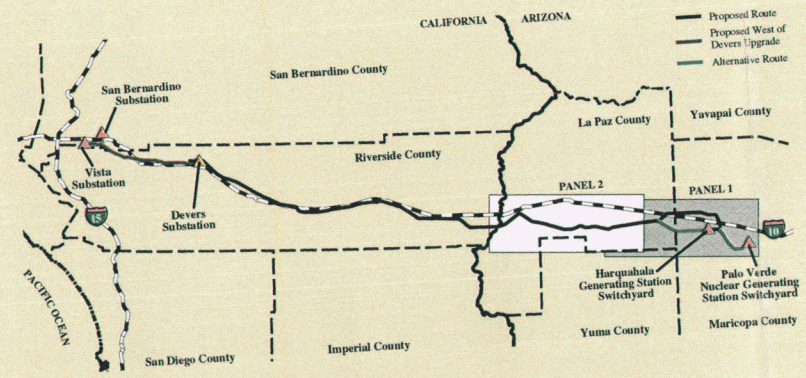
- Undesignated
- BLM Designated Utility Corridor

General Reference Features

- Proposed 500kV Transmission Line Route
- Existing 500kV Transmission Line
- Existing 161kV Transmission Line
- State Boundary
- County Boundary
- Interstate/Highway
- Central Arizona Project Canal
- Natural Gas Pipeline
- Roads
- Township and Range
- Series Capacitor



Panel Index Map



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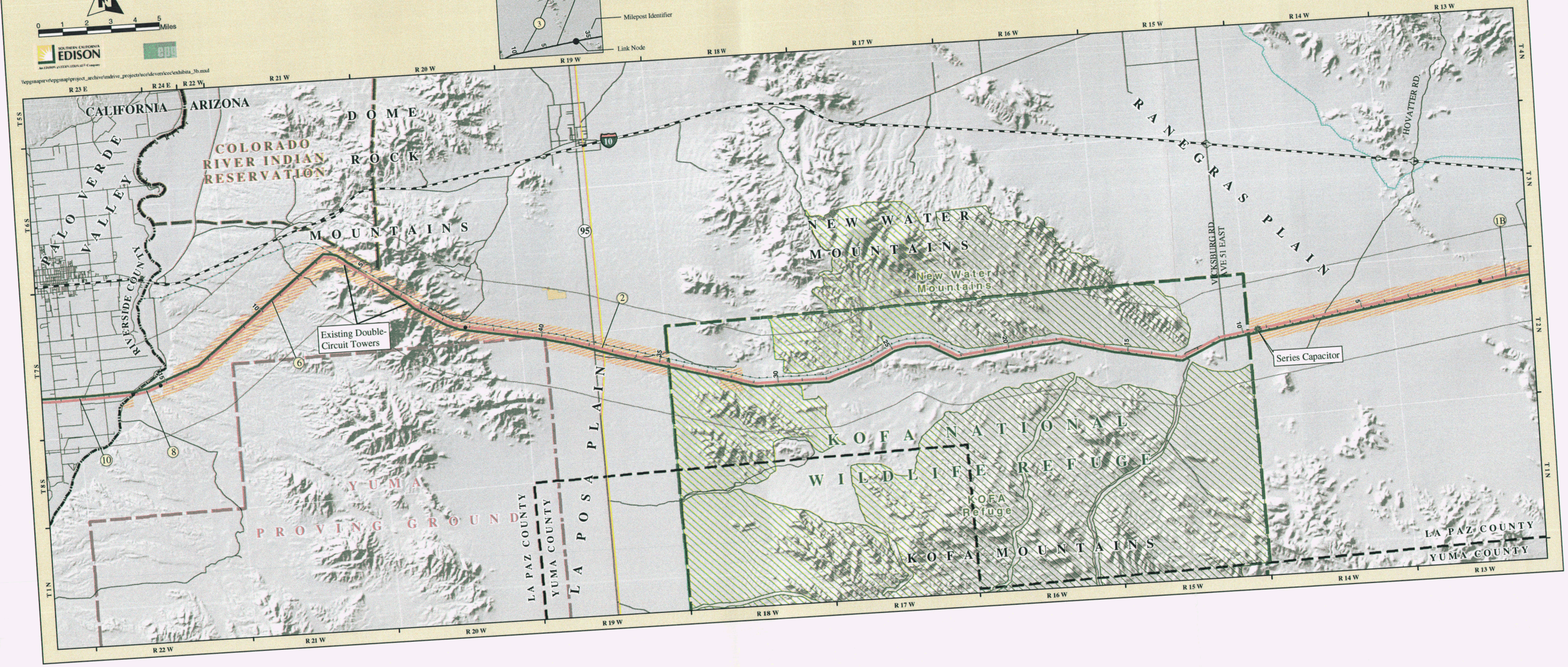


EXHIBIT B
ENVIRONMENTAL REPORTS

EXHIBIT B
ENVIRONMENTAL REPORTS

As stated in Arizona Corporation Commission Rules of Practice R-14-3-219:

"Attach any environmental studies which applicant has made or obtained in connection with the proposed site(s) or route(s). If an environmental report has been prepared for any federal agency or if a federal agency has prepared an environmental statement pursuant to Section 102 of the National Environmental Policy Act, a copy shall be included as part of this exhibit."

Provided for this exhibit are the following reports:

Exhibit B-1 Final Supplemental Environmental Impact Statement (FSEIS) – *Under Separate Cover*

The U.S. Department of Interior – BLM approved the DPV2 project and the proposed route following completion of a Final Supplemental Environmental Impact Statement and issued a Record of Decision in 1989 in compliance with the NEPA. Later that year, BLM issued a Right-of-Way Grant to SCE for the construction, operation, and maintenance of the DPV2 across federal lands, pursuant to Title V of the Federal Land Policy and Management Act of 1976. The majority of the proposed DPV2 500kV transmission line would be constructed within the 130-foot-wide right-of-way on public lands granted in perpetuity to SCE by the BLM in 1989.

Exhibit B-2 Proponent's Environmental Assessment (PEA) – *Under Separate Cover*

The PEA was prepared in support of the Application for Certificate of Convenience and Necessity that was filed by SCE with the California Public Utilities Commission. This document provides a description of the purpose and need, details of the proposed project, description of the existing environmental setting, environmental impact assessment summary, and proposed mitigation. Appendices to the PEA include the socioeconomic, biological resources, cultural resources, and electrical and magnetic effects technical reports.

Exhibit B-3 USFWS Right-of-Way Permit Application

This application was for a permit to construct, operate, and maintain the portion of the proposed Devers-Harquahala 500kV transmission line that would cross the KOFA National Wildlife Refuge, pursuant to 50 CFR Section 29.21, et seq. The application was submitted to the U.S. Fish and Wildlife Service by SCE on October 31, 2005.

EXHIBIT B-3
USFWS RIGHT-OF-WAY PERMIT APPLICATION

SOUTHERN CALIFORNIA
EDISON
An *EDISON INTERNATIONAL* Company

United States Department of the Interior
U. S. Fish & Wildlife Service
P. O. Box 1306
500 Gold Ave. SW
Albuquerque, New Mexico 87103

October 31, 2005

Attn.: Barbara Rose

Subject: DPV2 500kV Transmission Line Project

Southern California Edison Company (SCE) is proposing to construct a new 500kilovolt (kV) transmission line (T/L) between California and Arizona known as the Devers-Harquahala 500kV T/L. Operation of the proposed line would require that upgrades be made to certain existing SCE electrical transmission facilities in California. The proposed line and transmission facility upgrades are known as the Devers-Paloi Verde No. 2 Transmission Project (DPV2).

Enclosed are 8 copies of an application and maps for the proposed project across lands of the Kofa National Wildlife Refuge. Also enclosed are 2 copies of the Proponent's Environmental Assessment (PEA).

Please have these documents distributed to the Refuge and other Fish & Wildlife Service Divisions as you see fit. Additional copies of the PEA are available upon request.

Please have these documents reviewed and provide the necessary documentation for SCE to proceed with this project.

Corporate Real Estate
9500 Cleveland Ave, #100
Rancho Cucamonga, CA 91730
Fax: 909-944-4416

If you have any questions or need additional information, please call me at (909) 944-4413.

Sincerely,

Laura L. Verdugo
Right of Way Agent

Llv
Enclosures

RIGHT-OF WAY PERMIT APPLICATION

FOR

THE DEVERS-PALO VERDE NO. 2 500 KV TRANSMISSION LINE

CROSSING OF THE

KOFA NATIONAL WILDLIFE REFUGE

YUMA COUNTY, ARIZONA

Submitted to the U.S. Fish and Wildlife Service

Prepared by Southern California Edison Company
2244 Walnut Grove Avenue
Rosemead, CA 91770

October 28, 2005

APPLICATION PURPOSE

This document is an application to the U. S. Fish and Wildlife Service (USFWS) for a right-of-way (ROW) permit to construct, operate and maintain the portion of the Devers-Palo Verde No. 2 (DPV2) Transmission Line Project that would cross the KOFA National Wildlife Refuge (KOFA). This application is made pursuant to 50 CFR Section 29.21, et seq.. As shown in Figure 1 (Attachment A), the proposed line would be located in the center of a new 130 foot right-of-way that is immediately adjacent to and southerly of the existing Devers-Palo Verde No.1 (DPV1) 500 kV transmission line right-of-way. The length of the proposed line through the KOFA is 23.8 miles. The right-of-way would encompass an estimated 375 acres that would be used for the line and spur roads from the existing access road to the proposed towers.

PROJECT DESCRIPTION

Southern California Edison Company (SCE) proposes to construct a new 230-mile, high-voltage electric transmission line between California and Arizona known as the Devers-Harquahala 500 kilovolt (kV) transmission line. Operation of the proposed line would require that upgrades be made to certain existing SCE electrical transmission facilities in California. The proposed line and transmission facility upgrades are known as the Devers-Palo Verde No. 2 Transmission Project (DPV2).

SCE filed an Application for a Certificate of Public Convenience and Necessity (CPCN) with the California Public Utilities Commission (CPUC) for DPV2 on April 11, 2005. A Proponent's Environmental Assessment (PEA) was included in the CPUC filing. A copy of the PEA is enclosed in this application for reference purposes. A detailed description of the DPV2 Project is provided in Chapter 3 of the enclosed PEA.

The proposed route for the Devers-Harquahala 500 kV transmission line is located generally parallel to SCE's existing Devers-Palo Verde No.1 500 kV transmission line (DPV1) as shown in Figure 1 (Attachment A). A portion of the line would parallel the DPV1 line across 23.8 miles of the KOFA with the centerline of the new DPV2 structures being located 130 feet south of the DPV1 line on a proposed new 130 foot right-of-way as shown in Figure 3-6 of the PEA.

In February, 1989, the US Department of the Interior – Bureau of Land Management (BLM) issued a Record of Decision (Attachment B) approving the proposed route for the DPV2 Project as described in the December 1988 Supplemental Environmental Impact Statement (SEIS). The DPV2 route that was approved in 1989 followed the entire length of the existing DPV1 line, including the KOFA, and terminated at the Palo Verde Nuclear Generating Station (PVNGS). Now the proposed DPV2 transmission line would terminate at the existing Harquahala Generating Station switchyard, located approximately 16 miles directly northwest of PVNGS (see PEA Map 1-1). The 1989 BLM approved route is the same route proposed in 1989 except for a distance of 4.8

miles from the DPV1 corridor to the Harquahala Generating Station[1]. The 1989 BLM approved DPV2 route includes the proposed DPV2 line route across the KOFA. In August 1989, the BLM issued a Right-of-Way Grant (AZ- 23805) to SCE for the construction, operation, and maintenance of DPV2 across federal land pursuant to Title V of the Federal Land Policy and Management Act of 1976. The BLM Right-of-Way Grant contains only a listing of land sections managed by the BLM.

The proposed DPV2 line route crossing of the KOFA is on land under the jurisdiction of the USFWS. A Certificate of Right-of-Way Compatibility (CRC) (Attachment C) was issued March 1, 1989 by the USFWS Regional Director for the proposed DPV2 line route. However, a Right-of-Way Permit for the proposed DPV2 line has not been issued by the USFWS. This Application requests that the USFWS issue that Right-of-Way Permit.

ENVIRONMENTAL ANALYSIS

SCE understands that the USFWS may want to re-evaluate the CRC issued in 1989 for the proposed line. To assist in this re-evaluation, SCE has enclosed: (i) the above referenced PEA which contains the information required by 50 CFR Subpart B, Article 29.21-2(a)(4); and (ii) a series of strip maps showing the right-of-way across the KOFA in compliance with 50 CFR Subpart B, Article 29.21-2(b). The PEA describes the entire DPV2 Project. The PEA contains information regarding environmental information required by the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The USFWS may use the PEA for any necessary environmental review. Several PEA sections that are relevant to the proposed transmission line crossing of the KOFA include:

1) Section 3.1.1 (pages 3-1 through 3-3): this section presents an overview and history of the proposed project, including previous CRC issuance.

2) Section 3.1.2.1 (pages 3-5 through 3-13): this section describes alternative routes considered, including Subalternate Route 1 north of the KOFA, which was studied in response to concerns regarding potential impacts to the KOFA and protection of desert bighorn sheep. As shown in Table 3-3 (page 3-6), Subalternate Route 1 is 3.4 miles longer than the proposed route through the KOFA and would result in 82 acres of permanent ground disturbance, compared to 9 acres for the proposed route. This is primarily due to about 43 more miles of access and spur roads that would be required for the subalternate route. The need for new construction access in a separate corridor would result in potentially greater adverse impact to bighorn sheep than the proposed route.

3) Section 5.1.8 (pages 5-24 through 5-27): There are no federally listed threatened or endangered plants that have been documented in the Arizona portion of the study corridor. Impacts to sensitive wildlife species in Arizona are expected to be less than significant. Most species, if impacted at all, would be temporarily disturbed by

[1] As discussed on page 2-21 of the PEA, a 500 kV transmission line was constructed for the Harquahala Generating Company (HGC) from the Harquahala Switchyard to the Hassayampa Switchyard. . For the DPV2 Project, SCE would use the existing Harquahala – Hassayampa 500 kV line to complete the connection of the DPV2 Project to the Hassayampa Switchyard. The Hassayampa Switchyard is a satellite switchyard that is functionally equivalent to connecting at the PVNGS Switchyard.

construction activity and noise, and most would simply move away from the disturbance. The results of studies[2] conducted on desert bighorn sheep in the KOFA between 1978 and 1984 suggest that the effects of construction activities would neither be "negative nor severe". In that study, the most significant effect of construction of the DPV1 line was that radio-collared bighorn spent more time in the construction zone during construction than they did before (four years of data) or after (two years of data) construction.
4) Section 6.1 (pages 6-1 through 6-34): Mitigation measures contained in this section of the PEA were developed by SCE and the BLM to reduce potential impacts to less than significant levels. These measures are contained in the existing BLM right-of-way grant. Mitigation measures in addition to those contained in Section 6.1 of the PEA that are specifically applicable to the KOFA would be discussed and developed by SCE in cooperation with and approval of applicable USFWS representatives, as needed.

MAPS

Strip maps showing the location of the proposed transmission line are enclosed. The locational relationship of the existing DPV1 and proposed DPV2 right-of-ways is shown in Figure 1 (Attachment A). As illustrated in Figure 1, the proposed DPV2 line right-of-way would be located 130 feet immediately south and adjacent to the existing 160-foot wide DPV1 right-of-way.

CONSTRUCTION

As noted in Section 3.5 (page 3-65) of the PEA, construction of the DPV2 500kV transmission line will commence upon approval of the CPUC and other permitting agencies. Construction is currently scheduled to commence in March 2007. The construction of the proposed 500 kV line is presently planned to be performed by contract personnel with SCE responsible for administration and inspection. The estimated number of personnel and amount of equipment for each construction phase on the KOFA is shown in Table 1 (Attachment D). It is estimated that a total of 173 workers (full-time equivalent personnel) will be needed to construct the proposed line on the KOFA. Construction will occur in the six construction phases noted in Table 1 and is estimated to last a total of six months. Construction activities would be scheduled in conformance with seasonal limitations to minimize potential impacts to bighorn sheep, specifically during lambing season (PEA, pages 6-11 through 6-13).

Construction activities within the KOFA are discussed in the following sections of the PEA: 1) tower site surveys (page 3-69); 2) spur road work (page 3-71); 3) foundation installation (page 3-72); 4) tower assembly/erection (page 3-73); 5) conductor operations (page 3-74); and 6) final cleanup (page 3-77). No new main access roads are expected to be needed for the proposed line across the KOFA. Spur roads will be needed from the

[2] Smith, E.L., W.S. Gaud, G.D. Miller, and M.H. Cochran 1986. Studies of Desert Bighorn Sheep (Ovis Canadensis mexicana) in Western Arizona Impacts of the Palo Verde to Devers 500 kV Transmission Line Final Report – Volume II.

existing access road to each tower location. No construction yard will be located on the KOFA. Construction vehicles may be parked on spur roads near tower sites and material may be laid down at tower sites during a specific construction phase (e.g. – steel lay-down during tower erection). All construction activities will be coordinated with the appropriate USFWS/KOFA personnel.

ATTACHMENT A

DPV1/DPV2 RIGHT-OF-WAY CONFIGURATION ACROSS KOFA

Figure 1

PROPOSED DEVERS - PALO VERDE NO. 2 TRANSMISSION LINE

Sources

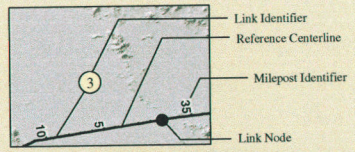
United States Geological Survey (USGS), hillshade derived from USGS 30-meterDigital Elevation Models.

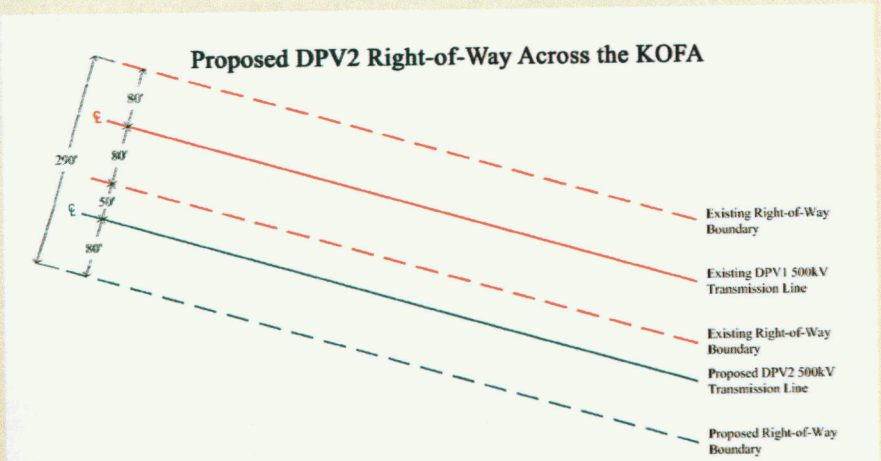
Jurisdiction

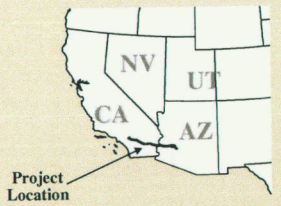
- Wilderness
- KOFA National Wildlife Refuge

General Reference Features

- Proposed 500kV Transmission Line Route
- Existing 500kV Transmission Line
- Natural Gas Pipeline
- County Boundary
- Roads
- Township and Range







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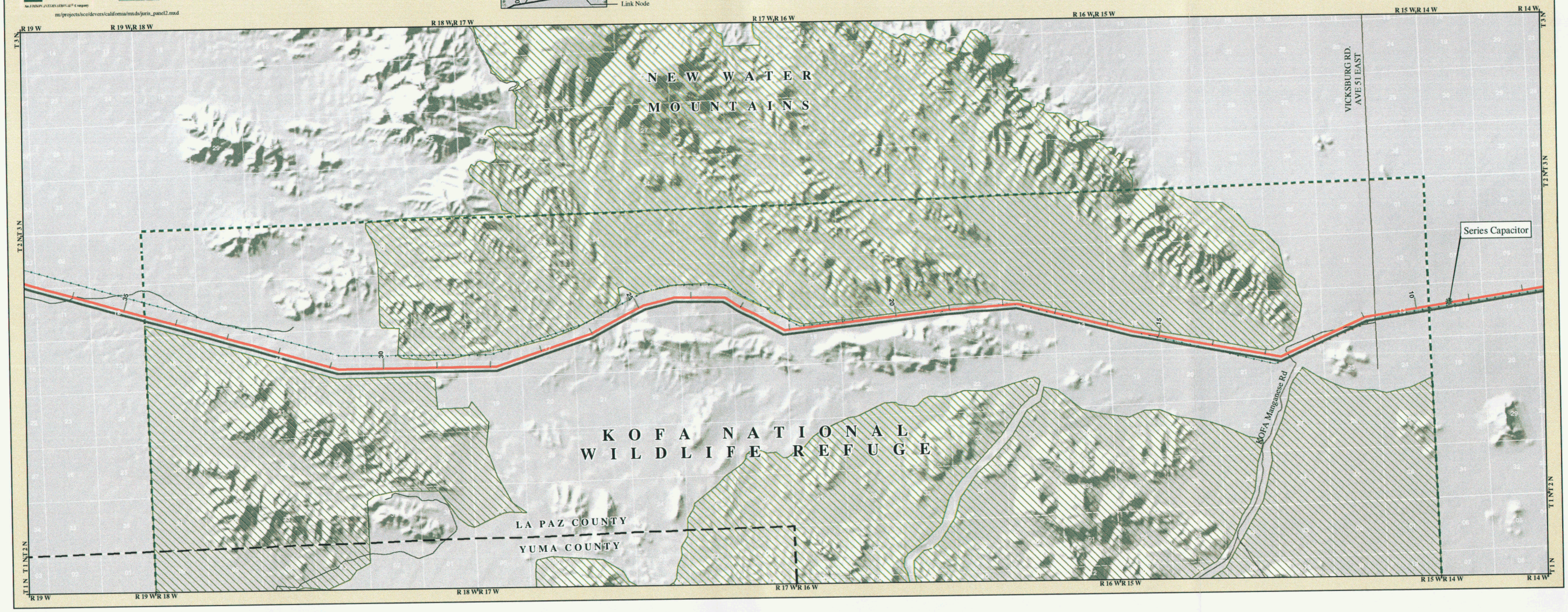


ATTACHMENT B

BUREAU OF LAND MANAGEMENT 1989 RECORD OF DECISION (ROD)

RECORD OF DECISION
DEVERS-PALO VERDE NO. 2 TRANSMISSION LINE PROJECT

Southern California Edison Company (SCE) in concert with other western utility companies proposes to construct a 500 KV transmission line from the vicinity of the Palo Verde Nuclear Generating Station (PVNGS), about 40 miles west of Phoenix, Arizona to the Devers Substation, near Palm Springs, California. The project participants includes SCE, members of the Southern California Public Power Authority (SCPPA) and the Modesto-Santa Clara-Redding Public Power Agency (M-S-R). The SCPPA has entitlements in PVNGS and M-S-R has entitlements in San Juan Unit 4, located in New Mexico. Both SCPPA and M-S-R need transmission line from the Phoenix area to California to deliver power from the two out-of-state energy resources.

The proposed transmission line was analyzed in a Supplemental Environmental Impact Statement (SEIS). A draft supplemental EIS was released for 60-day public review on May 8, 1987 and ended July 8, 1987. A complete description of the proposed project, including maps and diagrams of proposed facilities such as transmission lines and towers were included in that document and are included in this Record of Decision (ROD) by reference.

The Final SEIS was published and made available to the public on December 16, 1988 by a Notice of Availability published in the Federal Register. A thirty day period ended January 16, 1989.

The SEIS evaluated five alternatives, one of which included a no-action alternative:

1. Proposed Project: The proposed route would parallel SCE's existing 238-mile 500 KV Devers-Palo Verde No. 1 transmission line of which 112 miles is in Arizona and 126 miles is located in California.

2. Northern Alternative 1: This alternative's alignment parallels the proposed project and is parallel to DPV No. 1, for the first 51 miles in Arizona. From the proposed route (about 12 miles east of the Kofa National Wildlife Area), it turns northwesterly towards the town of Brenda, and through the Plomosa Mountains. The route then turns westerly through the southern portions of the Colorado Indian Reservation. Crossing the Colorado River, the route skirts the northern edge of Palo Verde Valley and rejoins the proposed route 12 miles west of Blythe. The remainder of the route is the same as proposed project.

3. Northern Alternative 2: This alternative departs the proposed alignment about 12 miles east of the Kofa NWR and proceeds towards Brenda. Southeast of Brenda, the route parallels I-10 through the Plomosa Pass. Then the alignment turns southwesterly along the edge of the mountains to a point about nine miles southwest of Quartzite where it rejoins the proposed route.

4. Southern Alternative: This alternative leaves the proposed route east of the Colorado River and turns southwest and crosses the river and lower Palo Verde Valley about 15 miles southwest of Blythe; it then heads northwest and rejoins the proposed route about 15 miles west of Blythe.

The no-action alternative considered the consequences of denying the proposal entirely.

The route alignment proposed by SCE is the preferred route of the Bureau of Land Management. It is also the environmentally preferred alternative for the following reasons. The route is utilized for interstate pipelines and transmission lines; impacts are confined to a utility corridor where environmental disturbances have already taken place. The original decision to route Devers-Palo Verde (DPV) No. 1 transmission line, which DPV No. 2 parallels, through the Kofa NWR was based on the greater potential for significant impact to bighorn sheep along the other alternatives. Detailed studies before, during and after construction of DPV No. 1 have not identified any significant adverse effect, and DPV No. 2 is expected to result in a similar negligible effects.

U.S. Fish and Wildlife Service is preparing a compatibility statement on the Kofa NWR segment, and has concurred with the Bureau's proposed action.

Northern Alternative 1, Northern Alternative 2, and Southern Alternative routes would require an additional 74 miles, 47 miles, and 32 miles, respectively, of new rights-of-way. The new and additional surface disturbance would involve greater environmental impact than the proposed route, particularly in soil disturbance, biological resources, visual quality, cultural resources, Native American cultural values and land use.

All practical means to avoid adverse impact have been adopted. Construction monitoring will be conducted by the appropriate District Office in each state to ensure compliance with the mitigation measures identified in Appendix A of the SEIS. The U.S. Fish and Wildlife Service will monitor the Kofa NWR segment.

The right-of-way grant will be given a different serial number for California and Arizona. The term of the grant will be perpetuity and will be renewable.

Ed Hastey
California State Director

Feb 21 1989
Date

ATTACHMENT C

U.S. FISH AND WILDLIFE SERVICE 1989 CERTIFICATE OF RIGHT-OF-WAY COMPATIBILITY (CRC)

LA-Arizona
Kofa NWR

CERTIFICATE OF RIGHT-OF-WAY COMPATIBILITY

WHEREAS, the U.S. Fish and Wildlife Service has received an application from Southern California Edison Company for a 500kV electrical transmission line across lands of the Kofa National Wildlife Refuge, Yum County, Arizona.

WHEREAS, this Service is in the process of issuing a permit or easement for this right-of-way under the authority contained in the National Wildlife Refuge System Administration Act of October 15, 1966 (80 Stat. 926; 16 USC 668dd) as amended, and

WHEREAS, Section 4(d)(2) of this Act requires a determination (attached) "that such uses are compatible with the purposes for which these areas are established

I, THEREFORE, NOW certify that this non-programmed use of the above area is compatible with the purpose for which the land was acquired, subject to established mitigation measures and to the stipulation that no further above-ground utility development of this corridor be permitted after construction of this transmission line.

March 1, 1989
Date

Regional Director

Attachment

CERTIFICATE OF RIGHT-OF-WAY (ROW) COMPATIBILITY
KOFA NATIONAL WILDLIFE REFUGE

The proposed ROW under consideration for permit is the designated preferred alte native route for the Devers-Palo Verde #2 500kV Transmission Line depicted in th Supplementary Environmental Impact Statement prepared by the Bureau of Land Management, Riverside, California office. We have reviewed this ROW to determine i compatibility with the purposes for which the Kofa National Wildlife Refuge (Refuge) was established. These purposes, as set for in the Refuge's executive order of establishment, include "the conservation and development of natural wil life resources...and natural forage resources." With emphasis given to the conservation and protection of the desert bighorn sheep Ovis canadensis mexicana, management of the Kofa Refuge also encompasses the similar conservation and protection of all flora and fauna of the desert community lying within its boundaries. The analysis of the ROW has found that, with certain stipulations, it would be compatible with those purposes. The following facts form the basis for our findings:

-- Since 1950, the proposed route has been used for interstate pipelines and transmission lines. These have been constructed both prior to and after the designation of the Kofa Refuge as a unit of the National Wildlife Refuge System with sole jurisdiction by the U.S. Fish and Wildlife Service. There are current three natural gas pipelines and the initial 500kV transmission line occupying th proposed route traversing the Refuge. Therefore impacts of the proposed power line would be confined to an established ROW where environmental disturbances ha already occurred.

-- Previous findings of non-compatibility for the initial transmission line and the line currently under consideration were based on assumptions that a more northerly (off-refuge) route would be a feasible alternative. Because such a route would impact lands and resources contained within the Bureau of Land Manag ment's New Waters Mountains Wilderness Study Area, it cannot be deemed a feasibl alternative and has been eliminated from any further consideration.

-- Although the existing and proposed Devers-Palo Verde transmission lines are routed adjacent to proposed wilderness areas on the Kofa Refuge, they remain within the Crystal Hill-Coyote Peak Exclusion, an area specifically eliminated from consideration for wilderness designation because of its utility ROW develop ment. As stated in the Environmental Impact Statement prepared for the 1974 wil erness proposal, wilderness designation would provide for continuation of existi rights-of-way, easements, and permits, and would not preclude additional routes those lands excluded from wilderness designation if authorized under permit from this agency.

-- Construction of the transmission line facilities will be prohibited in or ne bighorn sheep lambing areas from January 1 to March 31.

-- Determination of specific tower site and spur road locations will be coordinated with Refuge personnel in order to minimize habitat disturbance and/or the loss of valuable habitat features.

-- Data currently available do not indicate any discernable impact on movement bighorn sheep across the existing single transmission line ROW. However, of cr tical importance to the herd integrity of the sheep population is the avoidance any barrier across movement corridors and the fragmentation of sheep habitat. bighorn sheep study conducted for the initial power line ROW documented the fac that sheep on the Refuge and north of the Refuge are components of the same pop lation. There is considerable movement of these animals between the Kofa Moun- tains-Livingston Hills on the Refuge and the Plomosa Mountains lying to the immediate north. Sheep moving between these areas must cross the ROW occupied the Devers-Palo Verde No. 1 and the proposed line. It is not known, nor can an one predict, how many such parallel transmission lines would constitute a barri to sheep movement. Nor is it known if detrimental impacts would be manifested only by restricting movement. Behavioral modification, hesitation, or increase in physiological stress prior to actual crossing may be detrimental factors res ting from increases in numbers of transmission lines. For this reason, in addi tion to spatial considerations to restrict development impinging on lands of th Kofa Refuge, we consider this second line to be the upper limit of utility deve opment in this area. Maintenance and upgrading of facilities would be permitte but, following the construction of Devers-Palo Verde No. 2 Transmission Line, n further above-ground utilities would be constructed in this area.

ATTACHMENT D

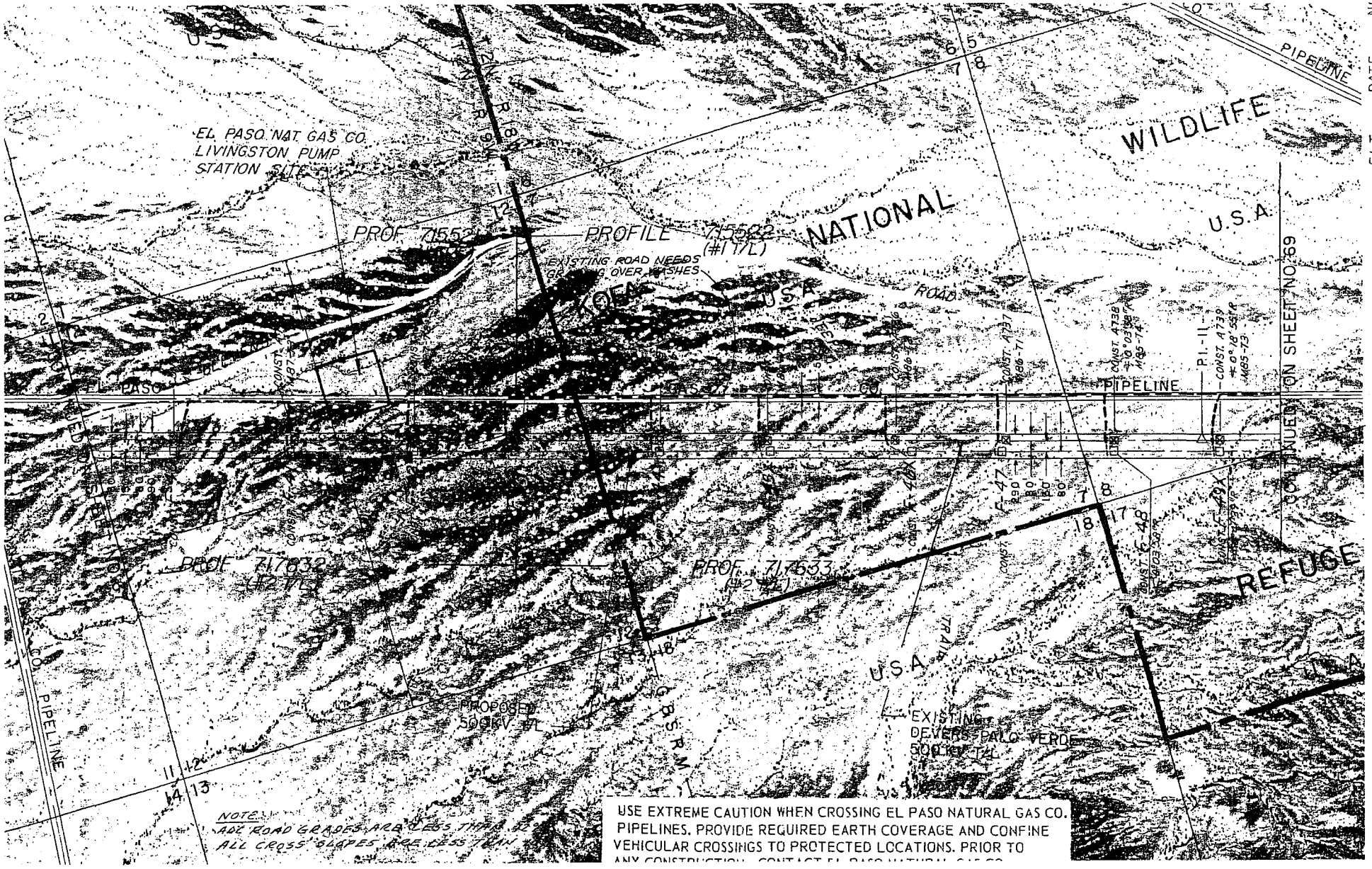
WORKER AND EQUIPMENT TABLE

TABLE 1
PROPOSED DEVERS-HARQUAHALA 500kV TRANSMSSION LINE LABOR FORCE AND EQUIPMENT REQUIREMENTS (KOFA NATIONAL WILDLIFE REFUGE)
23.8 MILES

Construction Element	Personnel	Equipment	Duration (months)
Survey Tower Sites	3	2 - pickup trucks	1
ad Work	12	2 - road graders 2 - dozers 2 - grad-all excavators 1 - water truck 2 - 10-yard dump trucks 3 - pickup trucks	1
Foundation Installation	23	5 - pickup trucks 2 - 2-1/2 ton flatbed trucks 2 - backhoes 3 - drill rigs 3 - boom trucks 2 - off-road loaders 2 - tractor trucks with trailers 1 - water truck 2 - portable generators 4 - concrete trucks	2
Tower Assembly/Erection	75	9 - pickup trucks 9 - 21/2 ton flatbed trucks 9 - truck cranes 9 - crew cab pickup trucks 9 - air compressors 1 - water truck 2 - portable generators 4 - large RT cranes	3
Conductor Installation	54	8 - pickups 8 - crew cab pickup trucks 2 - pole truck and trailers 6 - truck cranes 6 - bucket trucks 1 - digger 1 - backhoe 2 - conductor tensioners 2 - static tensioner 2 - sockline puller 2 - conductor pullers 4 - sagging units (skidders) 12 - reel stand trailers 6 - tractor trucks with trailers 2 - helicopters 4 - portable generators 1 - water truck	2
Final Cleanup	6	1 - pickup 1 - flatbed pickup truck 1 - backhoe 1 - 2 ton flatbed truck 1 - boom truck 1 - road grader 1 - dozer 1 - grade-all excavator 1 - water truck 1 - portable generator 1 - 10-yard dump truck	1
TOTAL MANPOWER:	173		
		DURATION OF CONSTRUCTION WORK:	6

NOTE:
Typical construction operations will work through the area performing the major tasks in a progressive manner. First there will be the surveying of the structure sites and laying out of spur roads, followed by installing the spur roads to structure locations where required. This will be followed by the digging of holes and the installing of foundations for the structures. Then follows the hauling of structure steel and the subsequent assembly and erection of the structures. After all structures are set in a section, the installation of the conductors takes place, followed by the final cleanup of the ROW and construction areas.

The number of vehicles and the duration they will be traveling through the area is dependent on the availability to access the ROW from the various roads in the area. While construction may be completed in the general timeframes indicated, construction vehicles may be utilizing the roads through these areas for longer periods.



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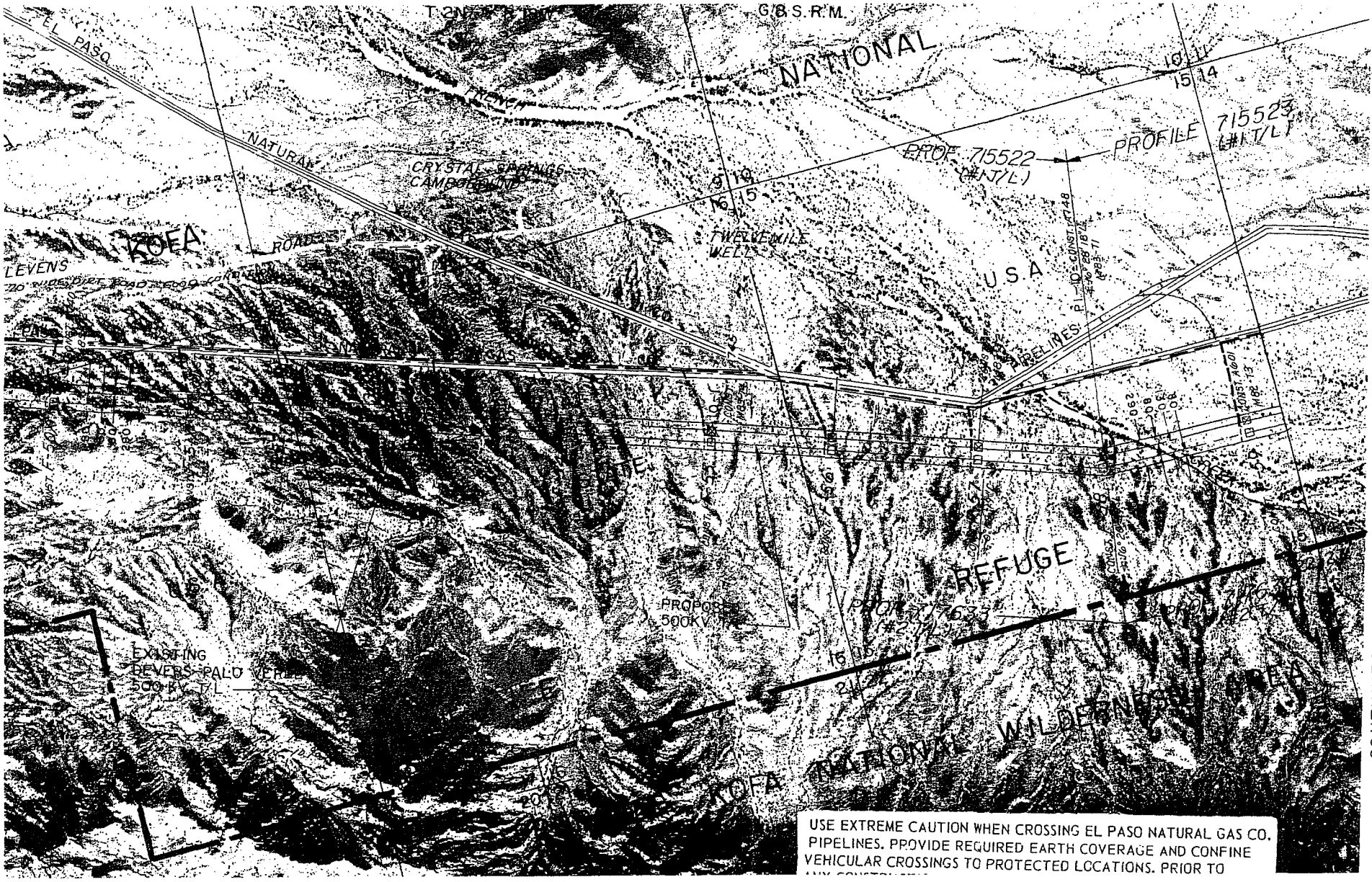

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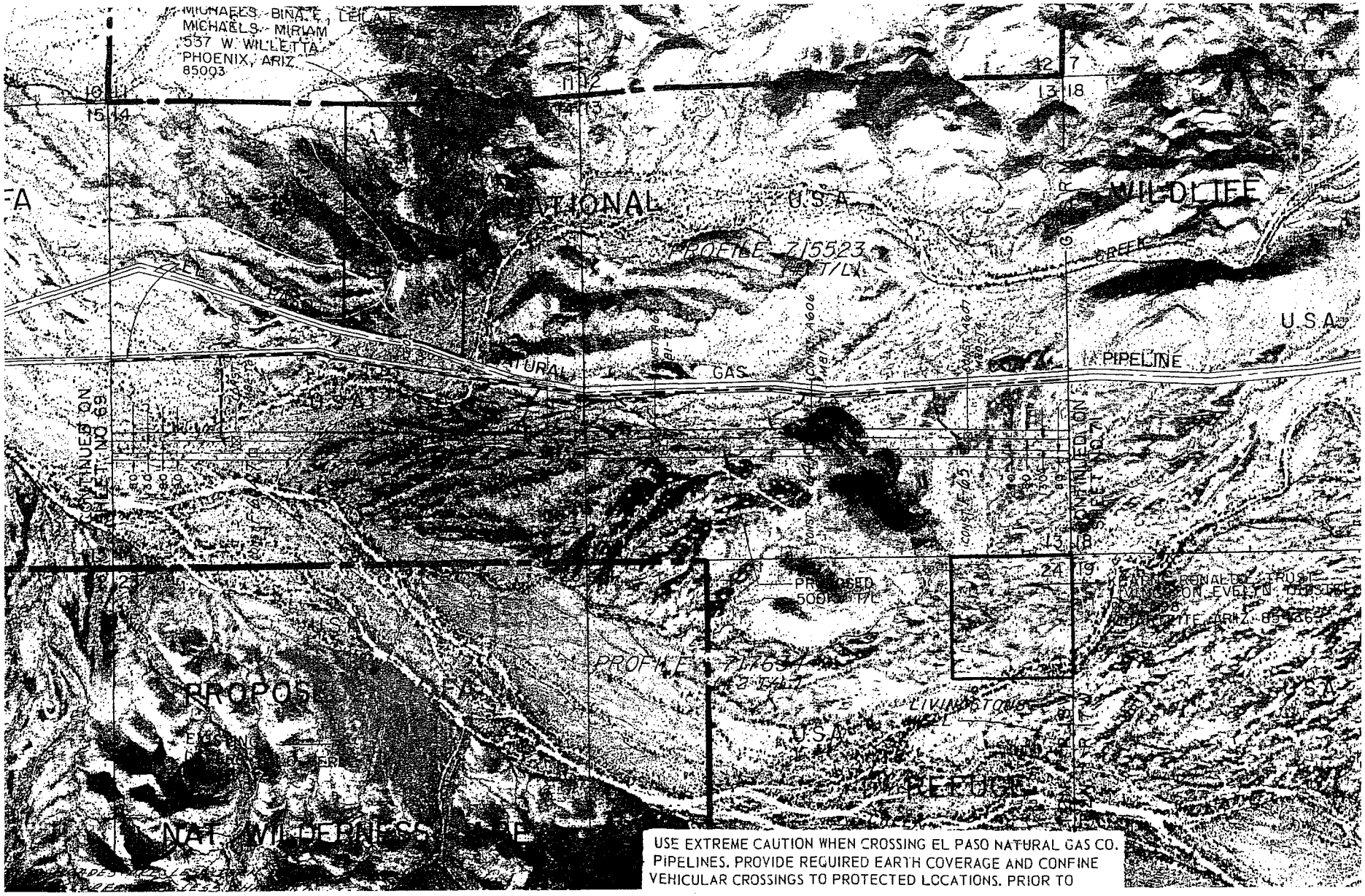

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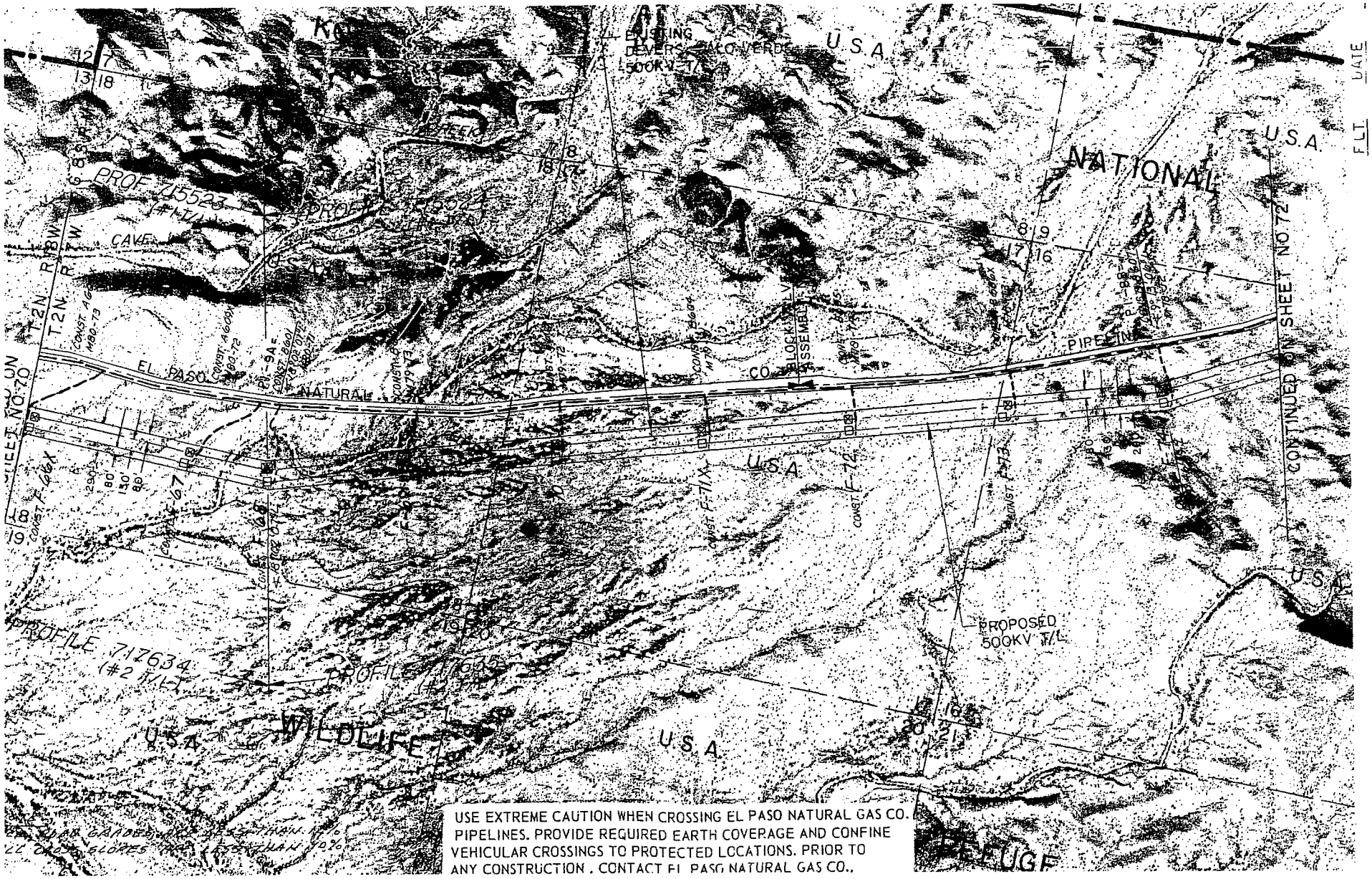

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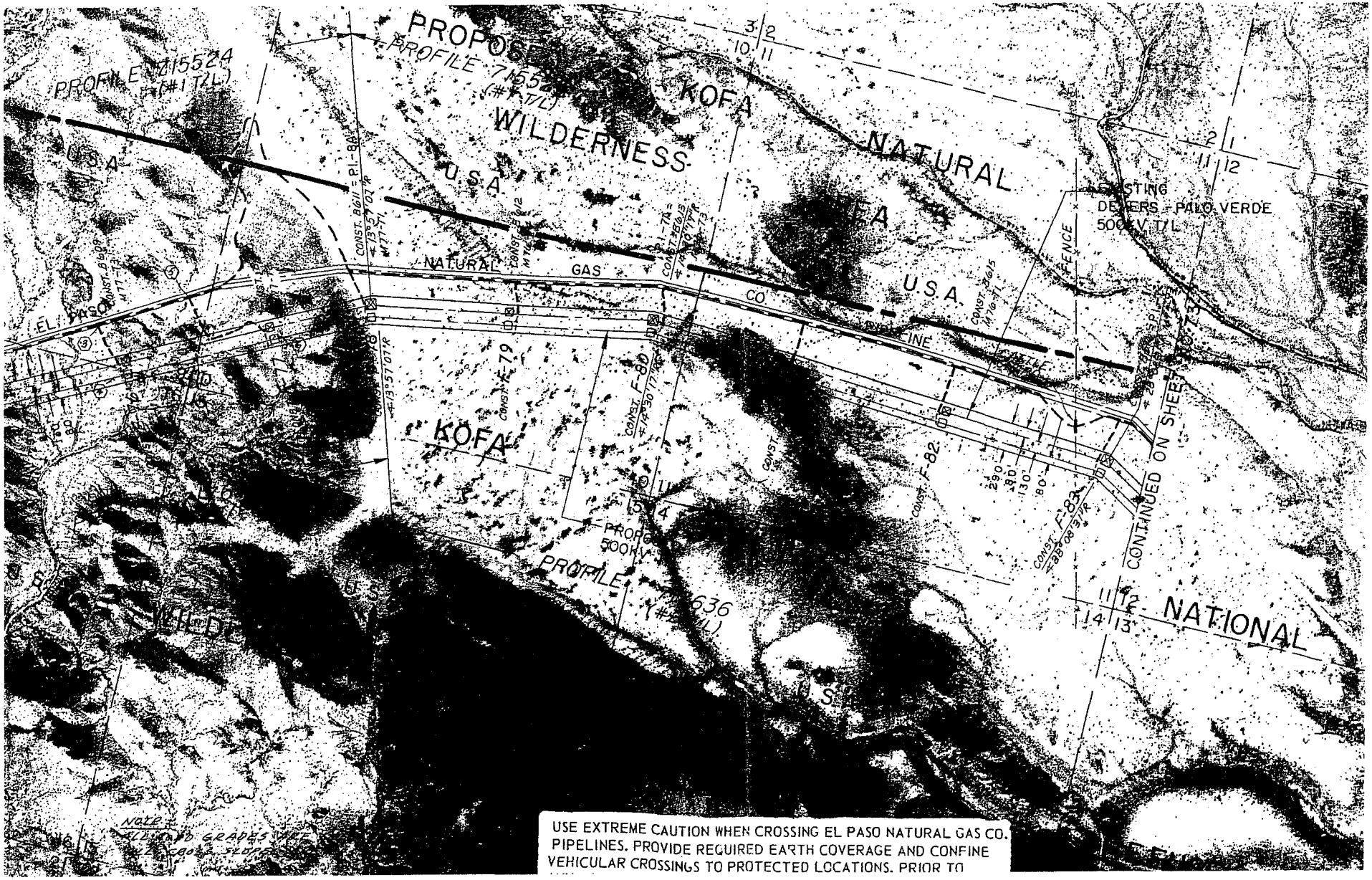

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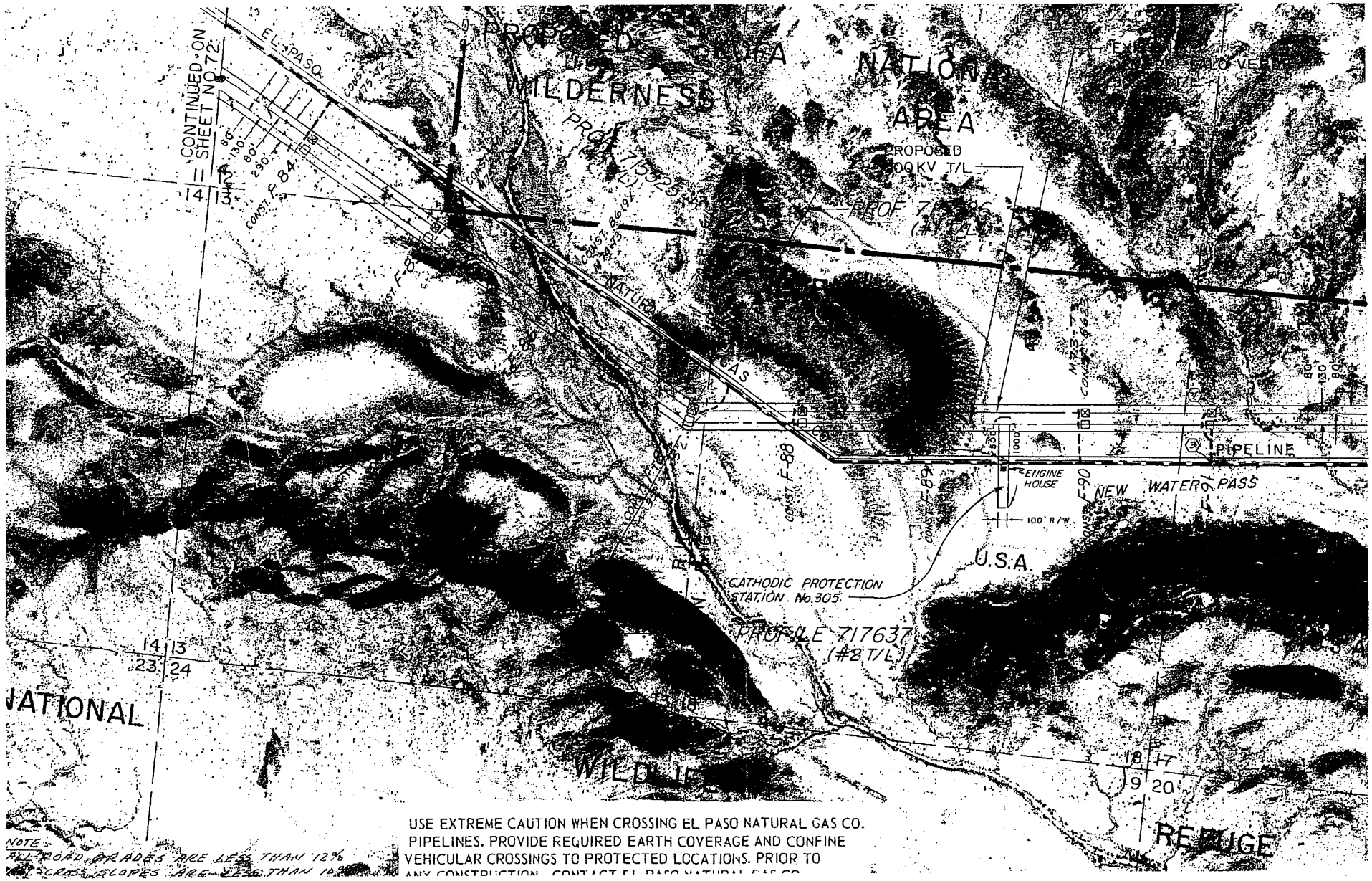

USE EXTREME CAUTION WHEN CROSSING EL PASO NATURAL GAS CO. PIPELINES. PROVIDE REQUIRED EARTH COVERAGE AND CONFINE VEHICULAR CROSSINGS TO PROTECTED LOCATIONS. PRIOR TO ANY CONSTRUCTION, CONTACT EL PASO NATURAL GAS CO.

NOTE
ALL ROAD GRADES ARE LESS THAN 12%
CROSS SLOPES ARE LESS THAN 10%

EXHIBIT C
AREAS OF BIOLOGICAL WEALTH

EXHIBIT C
AREAS OF BIOLOGICAL WEALTH

As stated in Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

"Describe any areas in the vicinity of the proposed site or route which are unique because of biological wealth or because they are habitats for rare and endangered species. Describe the biological wealth or species involved and state the effects, if any, the proposed facilities will have thereon."

Exhibit C includes summaries of areas of biological wealth, as well as the potential impacts the proposed route and subalternate routes in Arizona may have on biological resources. For further information, refer to the Preliminary Environmental Assessment (PEA) (Exhibit B-2), which addresses the entire length of the proposed transmission line in Arizona and California.

BIOLOGICAL WEALTH

Introduction

Special status plant and wildlife species that potentially occur within the project vicinity are listed in Tables C-1 and C-2. These include species listed as endangered or threatened under the Endangered Species Act (ESA); wildlife of special concern identified by the Arizona Game and Fish Department (AGFD), or highly safeguarded plants by the Arizona Department of Agriculture (ADA). Lists of special status species were compiled using information obtained from the U.S. Fish and Wildlife Service (USFWS), AGFD, Heritage Data Management System (HDMS), and the ADA. The proposed project area was reviewed by biologists in the field.

TABLE C-1
SPECIAL STATUS PLANT SPECIES THAT COULD OCCUR WITHIN THE PROJECT VICINITY

Common Name	Scientific Name	Habitat	Status
Kofa barberry	*Berberis harrisoniana*	Deeply shaded alcoves in narrow steep-walled canyons at elevations from 2,200 to 3,500 feet on soils derived from andesite or rhyolite	BLM
Death Valley Mormon tea	*Ephedra funerea*	Sandy dry soil in rocky scrub areas from 1,640 to 4,921 feet elevation	BLM
Flannel bush	*Fremontodendron californicum*	Gravelly loams to clayey soils in foothills and low mountains from 2,953 to 5,906 feet elevation	BLM, SR
Crested or fan-top saguaro	*Carnegiea gigantea*	Rocky hillsides and outwash slopes	HS
Scaly sandplant	*Pholisma arenarium*	Sandy soil at the edges of washes and on low dunes between 328 to 820 feet elevation	BLM, HS

TABLE C-1
SPECIAL STATUS PLANT SPECIES THAT COULD OCCUR WITHIN THE PROJECT VICINITY

Common Name	Scientific Name	Habitat	Status
Arizona rosewood	*Vauquelinia californica* ssp. *sonorensis*	Cliffs, along canyon bottoms, and on moderate to steep slopes from 2,297 to 4,806 feet elevation	BLM

Status Codes:
FE – Federally Endangered
FSC – Federal Species of Concern
BLM – Bureau of Land Management (Arizona) Sensitive species
HS - Highly Safeguarded (ANPL, 1993)
SR – Salvage Restricted (ANPL, 1993)

Sources: ADA 2001; AGFD, HDMS 2003; ARPC 2001

TABLE C-2
SPECIAL STATUS WILDLIFE SPECIES THAT COULD OCCUR WITHIN THE PROJECT VICINITY

Common Name	Scientific Name	Habitat	Status
FISH			
Bonytail chub	*Gila elegans*	Flowing pools and backwaters, usually over mud or rocks	FE, WSC
Razorback sucker	*Xyrauchen texanus*	Silt- to rock-bottomed backwaters near strong currents and deep pools in medium to large rivers	FE, WSC
AMPHIBIANS			
Lowland leopard frog	*Rana yavapaiensis*	Restricted to permanent waters; pools of foothill streams, overflow ponds below 4,800-foot elevation.	FSC, WSC
REPTILES			
Desert tortoise (Sonoran population)	*Gopherus agassizii*	Xeroripariain riverbanks, washes, dunes, and rocky slopes	FSC, WSC
Arizona chuckwalla	*Sauromalus ater*	Rocky areas in desert flats, hillsides, and mountains, with rocky crevices	FSC, BLM
Mojave fringe-toed lizard	*Uma scoparia*	Aeolian sand habitats, at elevations from 300 to 3,000 feet	WSC
Arizona skink	*Eumeces gilberti arizonensis*	Found in a wide variety of habitats, including cottonwood and mesquite riparian areas, chaparral, pinyon-juniper woodland, and conifer forest	FSC, WSC, BLM
Red-backed whiptail	*Cnemidophorus xanthonotus*	Found in habitats ranging from the Arizona Upland Subdivision of the Sonoran Desert up to canyons and hills in juniper woodlands	FSC, BLM
Banded Gila monster	*Heloderma suspectum cinctum*	Found in undulating rocky foothills, bajadas, and canyons	FSC, P
Desert rosy boa	*Charina trivirgata gracia*	Rocky shrubland and desert	FSC, BLM

TABLE C-2
SPECIAL STATUS WILDLIFE SPECIES THAT COULD OCCUR WITHIN THE PROJECT VICINITY

Common Name	Scientific Name	Habitat	Status
BIRDS			
Western least bittern	*Ixobrychus exilis hesperis*	Marshy areas of emergent vegetation	FSC, WSC
Great egret	*Ardea alba*	Salt marshes or various fresh water bodies including lakes and rivers	WSC
Snowy egret	*Egretta thula*	Ponds, steams, and marshes	FSC, WSC
White-faced ibis	*Plegadis chihi*	Lakes, ponds, streams, marshes, and fields	FSC
Bald eagle	*Haliaeetus leucocephalus*	Lakes and rivers	FT, WSC
Peregrine falcon	*Falco peregrinus anatum*	Cliffs, generally distributed, tops of tall urban buildings	FSC, WSC
Yuma clapper rail	*Rallus longirostris yumanensis*	Cattail marshes	FE, WSC
Western snowy plover	*Charadrius alexandrinus nivosus*	Beaches and dry mud or salt flats along the margins of rivers, lakes, and ponds	FT, WSC
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	Riparian areas	FC, WSC
Cactus ferruginous pygmy-owl	*Glaucidium brasilianum cactorum*	Mature cottonwood/willow, mesquite bosques, and Sonoran desertscrub	FE, WSC
Western burrowing owl	*Athene cunicularia hypugaea*	Open areas in deserts, grasslands, and agricultural and range lands	FSC, BLM
Southwestern willow flycatcher	*Empidonax traillii extimus*	Areas of willow, tamarisk, cottonwood with a well-developed lower canopy	FE, WSC
Loggerhead shrike	*Lanius ludovicianus*	Open country, thinly wooded or shrubby areas with clearings, meadows, pastures, agricultural fields, old orchards, and thickets along roadsides	FSC, BLM
MAMMALS			
California leaf-nosed bat	*Macrotus californicus*	Primarily cave and mine dwellers, mostly in Sonoran desertscrub	FSC, WSC, BLM
Yuma myotis	*Myotis yumanensis*	Roosts in manmade structures such as houses, porches or bridges near permanent open water source	FSC
Cave myotis	*Myotis velifer*	Desertscrub with caves or mine tunnels and water nearby	FSC, BLM
Occult little brown bat	*Myotis lucifugus occultus*	Found at higher elevations, generally from the oak-pine zone up into ponderosa	FSC, BLM
Red bat	*Lasiurus borealis*	Roosts in large trees or shrubs along riparian habitats or the edges of fields and urban areas	WSC
Western yellow bat	*Lasiurus xanthinus*	Roosts in palms or broad-leaved trees in riparian habitat	WSC

TABLE C-2
SPECIAL STATUS WILDLIFE SPECIES THAT COULD OCCUR WITHIN THE PROJECT VICINITY

Common Name	Scientific Name	Habitat	Status
Spotted Bat	*Euderma maculatum*	Wide range of habitats, but most often in dry desert environments, and from below sea level to high elevation coniferous forest	FSC, WSC, BLM
Pale big-eared bat	*Plecotus townsendii pallescens*	Low desert up into coniferous forest where it normally roosts in mines or caves	FSC, BLM
Southwestern river otter	*Lontra canadensis sonora*	Rivers and lakes	FSC, WSC
Yuma Puma	*Puma concolor browni*	Mountains and desert along the Colorado River	FSC, WSC
Desert bighorn sheep	*Ovis canadensis mexicana*	Found in precipitous desert mountain ranges	None[1]

Status Codes:
FE – Federally Endangered
FT – Federally Threatened
FSC – Federal Species of Concern
WSC – Wildlife of Special Concern in Arizona
BLM - BLM Sensitive Species
P – Proposed BLM Sensitive Species

[1]Bighorn currently have no listed status in Arizona, but are a managed big game animal species.

Sources: AGFD 2003; Hoffmeister 1986; National Geographic Society 1999; Page and Burr 1991; Stebbins 2003; USFWS 1999, 2002a, 2002b

Vegetation

Kofa barberry (*Berberis harrisoniana*) is found in deeply shaded places such as alcoves in narrow steep-walled canyons at elevations from 2,200 to 3,500 feet on soils derived from andesite and rhyolite (Arizona Rare Plant Committee [ARPC] 2001). The three primary localities for this species in Arizona are in the west end of the Kofa Mountains, the north end of the Ajo Mountains, and at the south end of the Sand Tank Mountains. It is also reported from the Eagletail Mountains (ARPC 2001). The proposed Devers to Palo Verde transmission line corridor would pass on the north side of the Eagletail Mountains and on the north side of the Kofa Mountains. The corridor is generally below 2,000 feet in elevation, and it would not impact any heavily shaded narrow canyons. This species was not observed during sensitive species surveys in 2003.

There are two special status species of plants that could potentially be found in the study corridor. Death Valley Mormon tea (*Ephedra funerea*) is found on sandy dry soil and in rocky scrub areas at elevations from 500 to 1,500 meters (1,640 to 4,921 feet) (Flora of North America, no date). Death Valley Mormon tea is present in the Bouse Wash watershed in La Paz County (NatureServe 2002). The proposed Devers to Palo Verde transmission line would cross the upper end of the Bouse Wash watershed west of the Eagletail Mountains and it would pass through

potential habitat for this species. This species was not observed during sensitive species surveys in 2003.

Flannel bush (*Fremontodendron californicum*) is generally found in foothills and low mountains from 900 to 1,800 meters (2,953 to 5,906 feet) on a variety of soils from gravelly loams to clays (Pavek 1993). Flannel bush generally limited to elevations higher than those found in the study area. Therefore, it is unlikely that this species would be found within the project corridor. This species was not observed during sensitive species surveys in 2003.

Crested or fan-top saguaros (*Carnegiea gigantea*) are a rare growth form thought to be caused by freezing or mechanical injury to the saguaro's apical meristem (Steenbergh and Lowe 1983). The crested saguaro is listed as highly safeguarded in Arizona by the ADA. This growth form could be present wherever saguaros are found in the project area. No crested saguaros were observed within the right-of-way during fieldwork performed for the project.

Scaly sandplant (*Pholisma arenarium*) is found in sandy soil at the edges of washes and on low dunes between 328 to 820 feet. In Arizona, it occurs east and southeast of Parker (ARPC 2001). There are no known populations of scaly sandplant within the project corridor, although there is likely to be suitable habitat for this species. This species was not observed during sensitive species surveys in 2003.

In Arizona, the Arizona rosewood (*Vauquelinia californica* ssp. *sonorensis*) is limited to the Ajo Mountains in Arizona where it occurs at the base of cliffs, along canyon bottoms, and on moderate to steep slopes from 2,297 to 4,806 feet elevation (ARPC 2001). There are no known populations of Arizona rosewood within the project corridor. This species was not observed during sensitive species surveys in 2003.

Wildlife

The bonytail chub (*Gila elegans*) is found in flowing pools and backwaters, usually over mud or rocks (Page and Burr 1991). Bonytail chubs previously occurred throughout the Colorado River and its major tributaries. The last natural population is in Lake Mohave, where there is no evidence of reproduction or recruitment (AGFD 1996). This location is upstream from the proposed Devers to Palo Verde transmission line corridor, and it is unlikely that the bonytail chub could be found within the study area. Moreover, the transmission line spans the Colorado River, so, even if they were there, no impacts to this species would occur.

The razorback sucker (*Xyrauchen texanus*) prefers silt- to rock-bottomed backwaters near strong currents and deep pools in medium to large rivers as well as impoundments (Page and Burr 1991). Razorback suckers formerly occurred in all major rivers and larger streams of the Colorado River drainage. Natural populations have been reduced to a non-recruiting population in Lake Mohave, although a few adults recovered from Grand Canyon, Lake Mead, Lake Havasu, Central Arizona Project Canal, and the Lower Colorado River may represent other small, remnant natural populations (AGFD 1996). The razorback sucker is unlikely to be found

in the proposed Devers to Palo Verde transmission line corridor downstream from Parker Dam. Moreover, the transmission line spans the Colorado River, so, even if they were there, no impacts to this species would occur.

The lowland leopard frog (*Rana yavapaiensis*) may be found in desert, grassland, oak and oak-pine woodland, entering the permanent pools of foothill streams, overflow ponds and side channels of major rivers, permanent springs, and in drier areas, more or less permanent stock tanks, and are generally limited to elevations below 5,500 feet (Stebbins 2003). Historically, this species was found throughout the lower Colorado River and its tributaries in Arizona, California, and Nevada. The distribution of this species on the Colorado River now appears to be limited to the Yuma vicinity (AGFD 2001a). There is a very low probability of lowland leopard frogs being in the vicinity of the proposed crossing over the Colorado River.

Sonoran desert tortoises (*Gopherus agassizii*) are primarily found on rocky slopes and bajadas of Mojave desertscrub and the Arizona Upland and Lower Colorado River Valley subdivisions of Sonoran desertscrub south and east of the Colorado River (Murray and Dickinson 1996). There is a high probability of desert tortoises being present in suitable habitat throughout much of the proposed transmission line corridor in Arizona, and pre-construction surveys and construction monitoring will be required for this species.

The Arizona chuckwalla (*Sauromalus ater*) is restricted to rocky areas in desert flats, hillsides, and mountains, where crevices are available for shelter (Brennan 2003). Portions of the proposed Devers to Palo Verde transmission line corridor would pass through areas where suitable habitat for this species is likely to be present, mainly in the New Water and Dome Rock Mountains of western Arizona.

This Mojave fringe-toed lizard (*Uma scoparia*) is endemic to southern California and a small part of western Arizona, where it is limited to aeolian sand habitats, at elevations from 300 to 3,000 feet (Hollingsworth and Beaman, no date; Stebbins 2003). This species is found near Quartzsite and Parker, mostly on fine, wind-blown sands in and around the Bouse Dunes and Cactus Plains and along the Colorado River, but also on coarser sands (AGFD 1996).

The Arizona skink (*Eumeces gilberti arizonensis*) is found in a wide variety of habitats, including cottonwood and mesquite riparian areas, chaparral, pinyon-juniper woodland, and conifer forest (Stebbins 2003). The Arizona skink is reported to be present in several isolated populations in mountain ranges including the Harcuvar, Harquahala, Santa Maria, Bradshaw, and Weaver Mountains (Stebbins 2003). It is unlikely that these lizards would be present in the proposed Devers to Palo Verde transmission corridor because of a lack of suitable habitat.

The red-backed whiptail (*Cnemidophorus xanthonotus*) is found in habitats ranging from the Arizona Upland Subdivision of the Sonoran Desert up to canyons and hills in juniper woodlands (Brennan 2003). Their diet consists mainly of insects and spiders (Stebbins 2003). The red-backed whiptail is restricted to isolated populations in several mountain ranges between the Coyote, Agua Dulce, and Sierra Estrella mountains (Stebbins 2003). It is remotely possible that these lizards could be present in desert mountain ranges near the east end of the proposed Devers

to Palo Verde transmission corridor, although this area is at least 40 miles northwest of known populations of this species.

Gila monsters prefer undulating rocky foothills, bajadas, and canyons, and they tend to avoid open sandy plains (AGFD 1998). The banded Gila (*Heloderma suspectum cinctum*) monster is found in western Arizona, southern Nevada, a small part of southeastern California, and extreme southwestern Utah. Suitable habitat for this species is present within the proposed Devers to Palo Verde transmission corridor.

The desert rosy boa (*Charina trivirgata gracia*) is found in areas of rocky shrubland and desert. It is often attracted to oases and permanent or intermittent streams, but it does not require permanent water (Stebbins 2003). The desert rosy boa is found in several isolated desert mountain ranges in western and southwestern Arizona (Stebbins 2003). This species is known to be present just north of the existing DPV-1 transmission line near Crystal Hill in the southern New Water Mountains. This snake is probably present in small numbers where suitable rocky habitat is available within the proposed Devers to Palo Verde transmission corridor.

The western least bittern (*Ixobrychus exilis hesperis*) is a locally common breeder from April through September. It is uncommon in the winter around Imperial Dam and south to Yuma and rare farther north (Rosenberg et al. 1991). Breeding has been confirmed for this species along the lower Colorado River (AGFD 1996). The largest populations of least bitterns are found in extensive cattail and bulrush marshes, like those at Topock and near Imperial Dam (Rosenberg et al. 1991). It is unknown whether this species occurs within the proposed Devers to Palo Verde transmission line corridor, between these areas of known occupancy. If cattail or bulrush marshes are available in the vicinity of the proposed transmission line corridor, it is likely that the western least bittern would be present.

The great egret (*Ardea alba*) is generally found in open areas of salt marshes or various fresh water bodies including lakes and rivers where it roosts communally in nearby trees. The great egret is present as a breeding bird along the Colorado River below Bullhead City (AGFD 1996), but it is not known if it breeds in the vicinity of the proposed transmission line crossing. The lack of large trees along the river at the crossing probably precludes breeding of this bird in the vicinity of the project.

The snowy egret (*Egretta thula*) is found in freshwater marshes, lakes, ponds, and rivers and in shallow coastal habitats including saltwater marshes, bays, and estuaries (Small 1977). This species is known to have bred at the Salton Sea, and breeding colonies are present at a few sites along the Colorado River below Bullhead City (AGFD 1996; Small 1977). The snowy egret is likely to be present along the Colorado River in the vicinity of the proposed Devers to Palo Verde transmission line, but it is not known whether they are breeding in this vicinity.

The white-faced ibis (*Plegadis chihi*) is a fairly common transient and an uncommon winter visitor in lakes, ponds, streams, marshes, and fields, but it is not known to breed in Arizona (Monson and Phillips 1981; Witzeman et al. 1997). This species is only present in Arizona as a common migrant or an uncommon winter visitor. It may be found in suitable habitat almost

anywhere in the state, but it is most common along the lower Colorado River in La Paz and Yuma counties (AGFD 2002a). This species is likely to be present as a migrant or winter visitor along the Colorado River in the vicinity of the proposed Devers to Palo Verde transmission line. It is likely to use irrigated agricultural fields in the valley, primarily west of the river.

The bald eagle (*Haliaeetus leucocephalus*) is usually found near large bodies of open water where it feeds primarily on fish. The distribution of bald eagles in the winter along the Colorado River is inversely correlated with human activity (Brown and Stevens 1997). Wintering bald eagles may be found almost anywhere in the state, but they are usually along major rivers, and they are sporadically observed along the Colorado River (AGFD 2002b). Wintering bald eagles could be present at the proposed Colorado River crossing of the Devers to Palo Verde transmission line.

The peregrine falcon (*Falco peregrinus anatum*) is a rare and irregular transient, winter resident, and post-breeding visitor to the Lower Colorado River Valley (Rosenberg et al. 1991). It is an uncommon transient and winter visitor to Maricopa County (Witzeman et al. 1997). Peregrines inhabit open wetlands near cliffs, and they can also be found living in cities with tall buildings or bridges (National Geographic 1999). Peregrine populations have been increasing in recent years, and they could be found almost anywhere along the Colorado River, particularly during the winter.

The Yuma clapper rail (*Rallus longirostris yumanensis*) is a summer resident in some alkaline or freshwater cattail marshes along the lower Colorado River from Topock Marsh south to Mexico, and some birds may also winter in this area (AGFD 1996, 2001b; Monson and Phillips 1981; Phillips et al. 1964). Clapper rails are typically associated with dense marsh vegetation, but they are also found in high densities in some moderately dense cattail/bulrush marshes. Breeding has been confirmed at several sites along the Colorado River, including Topock Marsh, Bill Williams River, and Mittry Lake (AGFD 2001b). It is unknown whether the Yuma clapper rail occurs within the proposed Devers to Palo Verde transmission line corridor. This rail is not likely to be present at the Colorado River because the preferred crossing has no emergent vegetation.

The western snowy plover (*Charadrius alexandrinus nivosus*) is generally associated with beaches and dry mud or salt flats along the margins of rivers, lakes, and ponds (Ehrlich et al. 1988). The snowy plover could use beach areas along the Colorado River for foraging and resting during migration, but individuals of the Pacific Coast population are likely to be very rare in this vicinity.

The western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is a summer resident in cottonwood (*Populus* sp.) and willow riparian forests and in larger mesquite bosques (AGFD 2002c). The yellow-billed cuckoo is not likely to be present because no suitable cottonwood-willow habitat is available at the preferred Colorado River crossing. There is no suitable habitat anywhere else along the corridor.

The cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*) is a year-round resident of Arizona and is found below 4,000 feet. Habitat is typically characterized by highly diverse

Sonoran desertscrub vegetation. This owl is often found along washes, which provide larger trees for nesting cavities and cover. It is unknown whether the cactus ferruginous pygmy-owl is present within the proposed Devers to Palo Verde transmission line corridor. Potential habitat exists for this species within the project area, but vegetation components that comprise ideal habitat are not present. The portion of the transmission line within Maricopa County is in Survey Zone 3 as defined by the USFWS.

The western burrowing owl (*Athene cunicularia hypugaea*) inhabits open areas in deserts, grasslands, and agricultural and range lands. The western burrowing owl is a year-round resident species in Arizona, and they may be present in any part of the state in suitable habitat. Populations are known to be present in the bottomlands of the Colorado River and in agricultural areas of Maricopa County (deVos 1998). Western burrowing owls are likely to be present where the proposed Devers to Palo Verde transmission line corridor crosses the Colorado, and they may be present in other areas if the line crosses agricultural areas.

Suitable habitat for the southwestern willow flycatcher (*Empidonax traillii extimus*) is present along the Colorado River at Ehrenberg, and breeding has been confirmed in this area in recent years (Bureau of Reclamation 2002). The proposed transmission line crossing is at a location with only a few tamarisks of low stature that might provide marginal habitat for this species.

The loggerhead shrike (*Lanius ludovicianus*) is found in a variety of habitats, which generally include open country, thinly wooded or shrubby areas with clearings, meadows, pastures, agricultural fields, old orchards, and thickets along roadsides (Arizona Ornithological Union [AOU] 1998; Terres 1980). The loggerhead shrike is relatively common in the lower elevations of southern Arizona, including deserts, foothills, and the low elevation mountains along the project corridor. During surveys conducted in 1985 they were found to be occasional to uncommon permanent residents along the Arizona portion of the corridor. This species could be present at any location along the proposed Devers to Palo Verde transmission line corridor in Arizona.

The California leaf-nosed bat (*Macrotus californicus*) is primarily a resident of caves and mines in desertscrub habitat, generally below 3,280 feet in elevation (Barbour and Davis 1969; Hoffmeister 1986; National Bat Working Group [NBWG] 2002). Since the California leaf-nosed bat seldom forages far from its roost, bats are likely to be present only where portions of the line pass through areas with suitable mine habitat.

The Yuma myotis (*Myotis yumanensis*) is almost always associated with some kind of open water resource, where it forages over the water (Hoffmeister 1986). The Yuma myotis often roosts in manmade structures such as houses, porches or bridges, and its presence along some portions of the right-of-way is possible. However, since it forages over open water sources, its presence on the project site, other than at the Colorado River, would be restricted to non-foraging flyovers. There is a record of this species from Ehrenberg, Arizona (Hoffmeister 1986).

The cave myotis (*Myotis velifer*) is a bat of lower elevations in xeric habitats such as creosote bush or palo verde-mixed scrub plant associations (Barbour and Davis 1969; Hoffmeister 1986).

The cave myotis seldom occurs more than a few miles from a permanent water source (Hoffmeister 1986). The cave myotis most often inhabits mines and caves where colonies of several thousand may occur (Barbour and Davis 1969; Harvey et al. 1999; NBWG 2002). Since the cave myotis is seldom found more than a few miles from permanent water the only portion of the right-of-way where this species might occur would be within a few miles of the Colorado River. There is a record of the cave myotis from Ehrenberg, Arizona (Hoffmeister 1986).

The occult little brown bat (*Myotis lucifugus occultus*) is generally a bat of higher elevations, generally from the oak-pine zone up into ponderosa (*Pinus ponderosa*) forest. They are sometimes encountered in riparian habitats at somewhat lower elevations (Bat Conservation International [BCI] 2002; Hoffmeister 1986; NBWG 2002). The little occult brown bat seems to have a preference for foraging over water, and may require water available near its roost (Harvey et al. 1999; NBWG 2002). Being a bat of higher elevations, the occult little brown bat would probably not be present anywhere along the proposed transmission line route except along the Colorado River where its presence has been documented between Needles and Yuma.

The red bat (*Lasiurus borealis*) is a solitary species that roosts in large trees or shrubs along riparian habitats or the edges of fields and urban areas (Harvey et al. 1999). The red bat is a migratory summer resident in Arizona (AGFD 1996; Hoffmeister 1986). Due to a lack of large leafy trees such as cottonwoods on the right-of-way, the probability of the presence of the red bat along the transmission line route is low. This species may be present along the Colorado River within foraging distance of the crossing, and could be present there while foraging at night.

In the desert southwest the western yellow bat (*Lasiurus xanthinus*) has often been found roosting in the California fan palm (*Washingtonia filifera*). Other palm species are probably also utilized as roosts, and this bat has also been recorded from riparian areas where it utilizes leafy trees such as hackberry and sycamore as roosts (AGFD 1996; Hoffmeister 1986). The yellow bat could be present within the right-of-way during nocturnal foraging activity where palms or broad-leafed trees are present in the vicinity.

The spotted bat (*Euderma maculatum*) has been recorded from a wide range of habitats, but most often in dry desert environments, and from below sea level to high-elevation coniferous forest (NBWG 2002; Nowak 1994). The entire length of the proposed transmission line route in Arizona is within the known range of the spotted bat (BCI 2002; Harvey et al. 1999). While suitable roosting habitat (e.g., high cliffs) is very limited in the low desert ranges through which the transmission line would pass, there is a slight possibility that the spotted bat could occur within the right-of-way during nocturnal feeding flights.

The pale big-eared bat (*Plecotus townsendii pallescens*) is found from low desert up into coniferous forest where it normally roosts in mines or caves (Harvey et al. 1999; Hoffmeister 1986). These bats are highly sensitive to disturbance, and they will relocate within a mine or cave and eventually abandon a roost as a result of repeated disturbance (Barbour and Davis 1969; Schmidly 1991). The pale big-eared bat could be present along many sections of the right-of-way within foraging distance of mines or caves. The bats would be present only in the corridor during nocturnal foraging.

The river otter (*Lontra canadensis sonora*) was once found along the Colorado River, from the Utah line to the Mexican border and along the Verde River. At present, it is uncertain to what degree this subspecies persists (AGFD 1996). River otters were last reported at Lake Havasu and at Imperial Dam on the Colorado River in 1979 (Hoffmeister 1986). It is highly unlikely that the river otter could be found where the proposed Devers to Palo Verde transmission line corridor crosses the Colorado River into California.

The Yuma puma (*Puma concolor browni*) is a subspecies of the mountain lion that is found primarily along the Colorado River in Mohave, La Paz, and Yuma counties in Arizona (Hoffmeister 1986). The Yuma puma probably occurs in areas through which the proposed transmission line would traverse.

The desert bighorn sheep (*Ovis canadensis mexicana*) is considered to be particularly important to most state and federal land management agencies because of its status as a game species, limited distribution, and since it is a species that has declined or completely disappeared from many mountain ranges. The desert bighorn sheep is found in precipitous, desert mountain ranges in western Arizona and southern California. The proposed route for the DPV-2 transmission line would pass through occupied bighorn habitat in the vicinity of Copper Bottom Pass in the Dome Rock Mountains. The transmission line would also cross bighorn movement corridors from the Livingston Hills and Kofa Mountains to the New Water Mountains and Black Mesa (Dames & Moore 1994). Bighorn sheep are not known to cross Interstate 10 north of Black Mesa and the New Water Mountains.

POTENTIAL IMPACTS – PROPOSED ROUTE

A variety of special status wildlife and plant species may be found in the vicinity of the proposed project, but impacts from this project are not expected to be substantial.

Vegetation

Of the seven plant species that could potentially occur within the vicinity of the project, it is likely that there would be suitable habitat for only three species (Death Valley Mormon tea, crested saguaros, and scaly sandplant) within the project corridor. None of these species was observed during site visits to the project area. Land clearing activities and construction of towers and access roads could directly impact some individuals of this species if they were present in the project corridor. Construction and operation of the proposed transmission line may affect, but is unlikely to adversely affect, any of these three plant species.

Wildlife

There will be no impacts on fish or amphibians because construction and operation of the proposed transmission line will avoid any impacts to the river or the adjacent riparian zone.

Land clearing and construction activities could directly impact desert tortoises by crushing them or destroying their burrows. There also would be temporary impacts to habitats in construction areas and long-term habitat losses at tower sites and access roads, although the area of loss represents a very small fraction of available habitat. Indirect impacts could also result in increased mortality due to increased access from new spur roads and new perch sites for raptors. The transmission line would provide nesting and/or hunting perches for common ravens (*Corvus corax*), loggerhead shrikes (*Lanius ludovicianus*), golden eagles, and several species of hawks, all of which could prey on juvenile desert tortoises. Appropriate mitigation measures will be taken during construction and operation of the proposed transmission line. Such mitigation measures will include the following, for example: provide construction worker tortoise education, maintain speed limits of 25 MPH or less, and keep worksites clean to avoid attracting ravens. As a result, construction and operation of the project may affect, but is unlikely to adversely affect, the Sonoran desert tortoise or its habitat.

Land clearing and construction activities could directly impact chuckwallas, Gila monsters, and rosy boas by crushing them or destroying burrows or crevices used for shelter. There would also be temporary impacts to habitats in construction areas and long-term habitat losses at tower sites and access roads, although the area of loss represents a very small fraction of available habitat. Construction monitoring for desert tortoises could be extended to minimize impacts to these species. Appropriate mitigation measures will be taken (e.g., minimizing ground disturbance to the greatest extent practicable) to ensure that construction and operation of the proposed transmission line may affect, but is unlikely to adversely affect, the Arizona chuckwalla, banded Gila monster, or the rosy boa.

The Mojave fringe-toed lizard, Arizona skink, and red-backed whiptail are not expected to occur in the project corridor due to lack of suitable habitat. No effects are anticipated for these species.

If tower construction and line installation avoid any impacts to areas of emergent vegetation and the Colorado River and its riparian zone, there would be no direct impacts on the western least bittern, great egret, snowy egret, white-faced ibis, western snowy plover, or western yellow-billed cuckoo. A potential indirect impact could result from additional public recreation access to the Colorado River on access and spur roads. There also is some potential collision hazard to birds flying up or down the Colorado River; however, matching the heights of the conductors with the existing transmission line will minimize collision probabilities. Construction and operation of the proposed transmission line may affect, but is unlikely to adversely affect, the western least bittern, great egret, snowy egret, white-faced ibis, western snowy plover, or western yellow-billed cuckoo, or habitat for any of these species.

There are two primary threats to bald eagles related to the construction and operation of this transmission line. There is a risk of death or injury to an eagle resulting from collision with the towers or conductors. Because of the high visibility of these structures and acute vision of the eagles, collisions would be a very rare event. A second risk to bald eagles would be through

electrocution. However, the design of the transmission line is such that electrocutions are not expected because of the separation distance between energized conductors and grounded surfaces. Thus, construction and operation of the proposed transmission line may affect, but is unlikely to adversely affect, the bald eagle or its habitat.

There is a potential for peregrine falcons to collide with conductors or towers, but these birds are extremely fast, agile flyers, and such collisions would be very unlikely. Because the peregrine falcon is unlikely to breed in the vicinity of the transmission line corridor, only wintering and migrating birds would be susceptible to impact. Construction and operation of the proposed transmission line may affect, but is unlikely to adversely affect, the peregrine falcon or its habitat.

The Yuma clapper rail is not likely to be present at the crossing of the Colorado River due to lack of suitable habitat. If tower construction and line installation avoids any impacts to the river or the riparian zone, impacts on this species or its habitat would be very unlikely. Because Yuma clapper rails are relatively weak flyers that normally fly at low levels between marsh areas, collision with conductors are extremely unlikely. These birds could be affected by additional recreational use of the river area resulting from new entry points on access or spur roads. Construction and operation of the proposed transmission line may affect, but is unlikely to adversely affect, the Yuma clapper rail.

If tower construction and line installation avoid any impacts to cactus ferruginous pygmy-owl habitat elements, particularly xeroriparian washes, impacts on this species or its habitat would be very unlikely. Surveys for pygmy-owls must be conducted in areas where suitable habitat for this species exists along the transmission line route in Maricopa County. Construction should not disturb habitat components, including large trees and saguaros, or preclude movements of pygmy-owls by habitat fragmentation or increasing levels of human activity (USFWS 2003).

Western burrowing owls could be directly impacted by land clearing and construction activities that could crush nest burrows with adults, chicks, or eggs. Construction of the transmission line would result in some loss of habitat for these owls, although this area would be a small fraction of the available habitat. Construction and operation of the proposed transmission line may affect, but is unlikely to adversely affect, the western burrowing owl.

Because of the sensitivity of the southwestern willow flycatcher, surveys for this species may be required along the Colorado River at the proposed Devers to Palo Verde transmission line crossing. If construction activities avoid any impact to the zone of riparian vegetation adjacent to the river, and if construction is conducted during the period from mid-September through April when the birds are absent, impacts on this species or its habitat would be very unlikely. If flycatchers are detected during surveys, and appropriate mitigation measures will be taken (e.g. avoid construction during the nesting season; mid-May to mid-July), construction and operation of the proposed transmission line may affect, but is unlikely to adversely affect, the southwestern willow flycatcher.

The loggerhead shrike is likely found all along the proposed transmission line corridor. Clearing and grading activities related to tower site preparation and access road construction could destroy nests or food caches of this species in thorny shrubs. There would be some long-term habitat loss for access roads and tower bases, although this area is a very small fraction of available habitat. Construction and operation of the proposed transmission line may affect, but is unlikely to adversely affect, the loggerhead shrike.

Potential impacts to the California leaf-nosed bat from the construction of the proposed transmission line would be limited to removal of vegetation that supports insect prey species in the vicinity of roosts. Since most of the tower placements along this route will be along established utility corridors, and the footprint of each tower is small, potential impacts to the California leaf-nosed bat from vegetation removal should be minimal. If abandoned mines are present where they could be disturbed by construction activities, the mines should be inspected for evidence of use by bats. Construction and operation of the proposed transmission line may affect, but is unlikely to adversely affect, the California leaf-nosed bat.

Bat species such as the Yuma myotis, cave myotis, occult little brown bat, and spotted bat would only be present in the study corridor during nocturnal foraging activities. Therefore, no impacts are anticipated for these species.

As long as the construction of the transmission line does not impact potential tree roost habitat (e.g. large cottonwood or willow trees) there would be no impacts on the red bat or the western yellow bat.

If abandoned mines are present and would be disturbed by construction of new portions of the right-of-way or placement of towers, the mines should be inspected for evidence of use by bats. If any abandoned mines are impacted by this project, the pale big-eared bat could be affected by loss of suitable roosting habitat. Construction and operation of the proposed transmission line may affect, but is unlikely to adversely affect, the pale big-eared bat or its habitat.

If the transmission line is designed to avoid the river channel and the riparian areas, and because the southwestern river otter is unlikely to be present, construction and operation of the proposed transmission line would have no effect on this species or its habitat.

Although the Yuma puma probably occurs in the study corridor, their nocturnal activity pattern and wary nature would limit their susceptibility to impact. The project is unlikely to impact deer or other potential prey species of the puma. Construction and operation of the proposed transmission line may affect, but is unlikely to adversely affect, the Yuma puma or its habitat.

Potential impacts on the desert bighorn sheep could include disturbance from human presence during construction and construction related noise. Construction and operation of the proposed transmission line would have minimal effects on the sheep and its habitat, provided mitigation efforts are made during construction. This may include imposing seasonal limitations on construction activities to minimize conflict with bighorn sheep, specifically during lambing season (January 1 through April 30).

POTENTIAL IMPACTS – SUBALTERNATE ROUTES

Impacts associated with the Harquahala-West and Palo Verde Subalternate routes would be similar to those for the Proposed Route for special status plants and wildlife. The Palo Verde Subalternate Route will cross approximately 6½ miles of BLM designated Category 2 habitat for the desert tortoise; therefore, potential impacts to the tortoise are unchanged.

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EXHIBIT D
BIOLOGICAL RESOURCES

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As stated in Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

"List the fish, wildlife, plant life and associated forms of life in the vicinity of the proposed site or route and describe the effects, if any, other proposed facilities will have thereon."

Exhibit D includes a summary of biological resources, as well as potential impacts the proposed route and subalternate routes may have on these resources in Arizona. For further information, refer to the PEA (Exhibit B-2), which addresses the entire length of the proposed transmission line in Arizona and California.

BIOLOGICAL RESOURCES

Introduction

A biological field crew surveyed portions of the proposed transmission line route in order to assess the plant communities and associated fauna affected by the project. Plants and animals were identified and noted along with major geographic features. Lists of potentially occurring species of animals were assembled from standard references for the state.

Vegetation

The project study area lies within the Lower Colorado River Valley Subdivision of the Sonoran Desert and is frequently referred to as the "Colorado Desert" (Jaeger 1941; Raven and Axelrod 1978; Turner and Brown 1994). The Lower Colorado River Valley Subdivision characteristically covers broad alluvial valley floors and is usually dominated by creosote bush (*Larrea tridentata*) in association with white bursage (*Ambrosia dumosa*) on gravelly soils and with big galleta grass (*Pleuraphis rigida*) on finer textured soils. Washes that dissect valley bottoms of creosote bush scrub may support woodland-like communities of blue paloverde (*Parkinsonia florida*), ironwood (*Olneya tesota*), and several species of shrubs where soils are coarse and rocky. Where soils are finer textured, mesquite (*Prosopis spp.*) may occur as a dominant. Washes may be dominated by shrubs such as white burrobrush (*Hymenoclea salsola*), smoketree (*Psorothamnus spinosus*), and sweetbush (*Bebbia juncea*).

In the western portions of the Sonoran Desert (i.e., western Arizona and eastern California), floral elements characteristic of the Lower Colorado River Valley Subdivision (e.g., creosote bush) are frequently the dominant species on rocky mountain slopes and bajadas as well as in the alluvial valleys. This dominance is particularly true on hills derived from young, volcanic rock (Turner and Brown 1994).

In Arizona, in the vicinity of mountain ranges (e.g., Dome Rock, New Water, Plomosa, and Eagletail Mountains and associated uplands), elements of the Arizona Upland Subdivision of the Sonoran Desert become an integral part of the flora as mixed paloverde-cacti communities. Desert mountain ranges in western Arizona (i.e., west of a line drawn between Buckeye and Gila Bend and south of Interstate 10 [I-10]) are largely ecotonal between the Lower Colorado River Valley and Arizona Uplands subdivisions of the Sonoran Desert. In these mountains characteristic Arizona Upland community types (i.e., mixed paloverde-cacti) are rather strongly restricted to drainageways with Lower Colorado River Valley Subdivision communities (i.e., creosote bush communities) dominating on interfluvial areas.

This distinction is clearly visible on the bajadas on the west sides of the Dome Rock and Plomosa mountains, on the north side of the New Water Mountains, and on the east side of the Eagletail Mountains. In each of these ranges, there tends to be well-developed communities of foothill paloverde (*Parkinsonia microphylla*), ironwood, and a variety of cacti, including saguaro (*Carnegiea gigantea*), on the bajadas. Examination usually reveals that these communities are almost wholly restricted to drainages, including the smallest runnels, rather than being evenly distributed. Between the drainageways, the landscape is dominated by Lower Colorado River Valley Subdivision communities of creosote bush and bursage, with several species of cholla (*Opuntia* spp.), small columnar cacti, and prickly pear cacti (*Opuntia* spp.). The arborescent communities tend to follow drainages upslope, frequently giving hillsides the appearance of being true mixed paloverde-cacti communities, when in fact the interstitial landscape is dominated by creosote bush, bursage, and white brittlebush (*Encelia farinosa*). Perhaps the finest example of this situation in the study area occurs on the west slope of the southern Plomosa Mountains (west New Water Mountains), between Gold Nugget Road and Quartzite, where one has the distinct impression that lands south of I-10 are wholly dominated by woodlands of paloverde, ironwood, and saguaro. Viewed from the air, however, it is clear that these species are totally riparian and do not occur on interfluvial sites.

Creosote bush communities in the Arizona study area strongly dominate alluvial valley bottoms and are often the dominant vegetation type on mountain slopes. In the western part of the Arizona study area, west from approximately the central Plomosa/New Water Mountain complex, creosote bush communities are found on highly varnished desert pavement, while in the eastern part of the study area (e.g., the Harquahala and Ranegras plains), they occur on fine textured to gravelly soils.

Wash communities in the Arizona study area vary in species dominance depending on soil type. Washes that traverse broad creosote bush flats on fine soils (e.g., Centennial Wash) tend to be dominated by mesquite. Washes traversing rockier soil types support communities of ironwood, paloverde, saguaro, and a variety of shrubs. Smoketree, white burrobrush, and sweetbush are common in larger washes away from major mountain masses. For example, the large washes that drain the west side of the Dome Rock Mountains are dominated by smoketree and burrobrush at their lower ends.

Cacti are a common feature within the Arizona study area. Most species are restricted to rocky upland conditions, although at least one, the night-blooming cereus (*Peniocereus greggii*), is

rather strongly restricted to creosote bush flats with fine soils. Mountain slopes, hills, and rocky outcrops provide habitat for several species of cholla, prickly pear, and columnar cacti. The saguaro tends to become less common from east to west in the study area, and it probably does not occur at all in the study area west of the Colorado River. This obvious decrease in saguaro density is probably related to the diminution of summer rainfall from east to west in Arizona.

Wildlife

The mammalian fauna of the study area is dominated by species of small, nocturnal rodents and bats including several species of mice and kangaroo rats. Big game species present include desert bighorn sheep (*Ovis canadensis mexicana*), mule deer (*Odocoileus hemionus*), and javelina (*Pecari tajacu*). Carnivores present likely include coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), badger (*Taxidea taxus*), bobcat (*Lynx rufus*), and skunks (*Mephitis mephitis and Spilogale gracilis).*

Typical avian species present include black-chinned sparrow (*Amphispiza bilineata*), roadrunner (*Geococcyx californianus*), Gambel's quail (*Callipepla gambelii*), Gila woodpecker (*Melanerpes uropygialis*), curve-billed thrasher (*Toxostoma curvirostre*), and mourning dove (*Zenaida macroura*).

Representative amphibian and reptiles include Sonoran green toad (*Bufo retiformis*), zebratail lizard (*Callisaurus draconoides*), whiptails (*Cnemidophorus* spp.), western diamondback rattlesnake (*Crotalus atrox*), desert tortoise (*Gopherus agassizii*), and horned lizards (*Phrynosoma* spp.).

POTENTIAL IMPACTS – PROPOSED ROUTE

Potential impacts to biological resources associated with the proposed route are related to activities likely to occur during the construction, operation, and maintenance of the line. Additional impacts could result if roads created for this project provide access to previously inaccessible areas. Overall impact levels were determined to be low to moderate, based on the review of the resources present, anticipated level of disturbance to those resources, and effectiveness of applied mitigation.

Vegetation

Impacts to native vegetation associated with construction of the proposed project are not expected to be significant. Removal of plants associated with the project is expected to be minimal. Native vegetation characteristic of the Sonoran Desert is extensive in southern Arizona. Therefore, removal of the relatively small amount of native vegetation present on the project site would not harm this vegetation community as a whole.

Indirect impacts associated with the construction of the proposed transmission line could include an increase in non-native weed establishment and recruitment, particularly at tower sites, crane pads, materials stockpile yards, and concrete batch plant sites.

Wildlife

In areas where native vegetation is cleared there would be a permanent loss of potential habitat for small mammals, reptiles, and birds. Construction activities may result in temporary disturbance of wildlife due to the presence of construction equipment and human activity. Another construction-related impact is the potential for incidental injury or mortality of reptiles and fossorial mammals, although such impacts are expected to be minimal. Fish present in the Colorado River would not be affected by this project. The proposed transmission line would span the river.

POTENTIAL IMPACTS – SUBALTERNATE ROUTES

Impacts associated with the Harquahala-West and Palo Verde Subalternate routes would be similar to those for the Proposed Route for vegetation and wildlife.

TABLE D-1
MAMMAL SPECIES THAT MAY OCCUR IN THE VICINITY OF THE PROPOSED PROJECT

Common Name	Scientific Name	Habitat
Desert shrew	*Notiosorex crawfordi*	Any area with ample ground cover including plant debris, trash, and lumber
California leaf-nosed bat	*Macrotus californicus*	Sonoran desertscrub with caves and mines
Yuma myotis	*Myotis yumanensis*	Areas with rivers, ponds, canals, or other permanent water
Cave myotis	*Myotis velifer*	Desertscrub with caves, mines, or bridges and water nearby
Occult little brown bat	*Myotis lucifugus occultus*	Found at higher elevations, generally from the oak-pine zone up into ponderosa
California myotis	*Myotis californicus*	Desertscrub with rock faces containing crevices, occasionally caves and mines
Western pipistrelle	*Pipistrellus hesperus*	Areas with canyon walls or cliff faces for roosting, streambeds, and tanks for foraging
Big brown bat	*Eptesicus fuscus*	Wooded areas, desertscrub
Red bat	*Lasiurus borealis*	Roosts in large trees or shrubs along riparian habitats or the edges of fields and urban areas
Western yellow bat	*Lasiurus xanthinus*	Roosts in palms or broad-leaved trees in riparian habitat
Spotted bat	*Euderma maculatum*	Uneven rocky cliffs near a riparian area
Townsend's big-eared bat	*Plecotus townsendii*	Areas with caves or mines, structures for night roosts
Pallid bat	*Antrozous pallidus*	Desertscrub with caves, mine, cliffs, bridges, or other structures for roosts
Brazilian free-tailed bat	*Tadarida brasiliensis*	Desertscrub and foothills with mines, caves, bridges or old buildings
Pocketed free-tailed bat	*Tadarida femorosacca*	Rocky cliffs and slopes, structures

TABLE D-1
MAMMAL SPECIES THAT MAY OCCUR IN THE VICINITY OF THE PROPOSED PROJECT

Common Name	Scientific Name	Habitat
Big free-tailed bat	*Tadarida macrotis*	Rocky cliffs with crevices
Desert cottontail	*Sylvilagus audubonii*	Desertscrub, semi-desert grassland
Black-tailed jack rabbit	*Lepus californicus*	Desertscrub and other areas with open ground cover
Harris' antelope squirrel	*Ammospermophilus harrisii*	Rocky areas of creosote bush/saltbush/bursage
Rock squirrel	*Spermophilus variegatus*	Rocky areas above 1,600 feet
Round-tailed ground squirrel	*Spermophilus tereticaudus*	Creosote bush/saltbush desert with sandy or gravelly soil
Botta's pocket gopher	*Thomomys bottae*	Any area with soil suitable for digging burrows
Little pocket mouse	*Perognathus longimembris*	Sandy or gravelly soils in broken or rolling country
Arizona pocket mouse	*Perognathus amplus*	Desertscrub
Rock pocket mouse	*Chaetodipus intermedius*	Rocky areas of desertscrub
Desert pocket mouse	*Chaetodipus penicillatus*	Sandy areas of desertscrub with sparse vegetation
Bailey's pocket mouse	*Chaetodipus baileyi*	Flats and lower slope areas of desertscrub
Merriam's kangaroo rat	*Dipodomys merriami*	Sandy areas of desertscrub
Desert kangaroo rat	*Dipodomys deserti*	Areas with deep sandy soil
Western harvest mouse	*Reithrodontomys megalotis*	Desertscrub or chaparral
Cactus mouse	*Peromyscus eremicus*	Desertscrub, rocky areas, chaparral
Deer mouse	*Peromyscus maniculatus*	Coniferous or riparian woodland, desertscrub adjacent to canals or intermittent creeks
Southern grasshopper mouse	*Onychomys torridus*	Desertscrub or semi-desert grassland with compact soil
Arizona cotton rat	*Sigmodon arizonae*	Mesquite scrub and weedy areas along canals and washes
White-throated wood rat	*Neotoma albigula*	Areas below the conifer belt, especially with *Opuntia* or paloverde
Desert wood rat	*Neotoma lepida*	Desertscrub
Muskrat	*Ondatra zibethicus*	Irrigation canals associated with the Gila River
House mouse	*Mus musculus*	Weedy areas and cultivated fields, usually near human habitation
Coyote	*Canis latrans*	Cosmopolitan, from spruce forest to low desert
Kit fox	*Vulpes macrotis*	Desertscrub and desert grassland with sandy or softer clay soils
Gray fox	*Urocyon cineroargenteus*	Open desertscrub, chaparral, lower elevation woodland
Raccoon	*Procyon lotor*	Areas with permanent water
Ringtail	*Bassariscus astutus*	Steep rocky areas near water
Badger	*Taxidea taxus*	Flats and drainages adjacent to mountains, grasslands
Western spotted skunk	*Spilogale gracilis*	Low and middle elevations, often in rocky areas or around human habitation
Striped skunk	*Mephitis mephitis*	From spruce/fir belt to sea level, usually near permanent water
Southwestern river otter	*Lontra canadensis sonora*	Rivers and lakes
Mountain lion	*Puma concolor*	Rocky or mountainous areas, especially with many deer
Bobcat	*Felis rufus*	Rocky upland areas interspersed with open desert, grassland or woodland

TABLE D-1
MAMMAL SPECIES THAT MAY OCCUR IN THE VICINITY OF THE PROPOSED PROJECT

Common Name	Scientific Name	Habitat
Collared peccary	*Tayassu tajacu*	Desertscrub, especially in thickets along creeks and old streambeds
Mule deer	*Odocoileus hemionus*	Pine forest, oak woodland, chaparral, upland desert
Desert bighorn sheep	*Ovis canadensis mexicana*	Found in precipitous desert mountain ranges

Source: Hoffmeister 1986 possibly include Rosenberg et al 1991?

TABLE D-2
BIRD SPECIES THAT MAY OCCUR IN THE VICINITY OF THE PROPOSED PROJECT

Common Name	Scientific Name	Habitat
Common loon	*Gavia immer*	Lakes, ponds, and aqueducts
Pied-billed grebe	*Podilymbus podiceps*	Lakes, ponds, streams, and canals
Eared grebe	*Podiceps nigricollis*	Lakes and ponds
Western grebe	*Aechmophorus occidentalis*	Lakes, ponds, and lagoons
Double-crested cormorant	*Phalacrocorax auritus*	Lakes, ponds, streams, and aqueducts
Western least bittern	*Ixobrychus exilis hesperis*	Marshy areas of emergent vegetation
Great blue heron	*Ardea herodias*	Lakes, ponds, streams, canals, and marshes
Great egret	*Ardea alba*	Ponds, streams, and marshes
Snowy egret	*Egretta thula*	Ponds, streams, and marshes
Green heron	*Butorides virescens*	Lakes, ponds, streams, marshes, and canals
Black-crowned night heron	*Nycticorax nycticorax*	Lakes, ponds, marshes, and streams
White-faced ibis	*Plegadis chihi*	Lakes, ponds, streams, marshes, and fields
Canada goose	*Branta canadensis*	Lakes, ponds, and fields
Gadwall	*Anas strepera*	Lakes, ponds, and streams
American wigeon	*Anas americana*	Lakes, ponds, and streams
Mallard	*Anas platyrhynchos*	Lakes, ponds, streams, and canals
Blue-winged teal	*Anas discors*	Ponds
Cinnamon teal	*Anas cyanoptera*	Ponds, streams, and canals
Northern shoveler	*Anas clypeata*	Lakes, ponds, and streams
Northern pintail	*Anas acuta*	Lakes, ponds, and streams
Green-winged teal	*Anas crecca*	Lakes, ponds, and streams
Redhead	*Aythya americana*	Lakes and ponds
Ring-necked duck	*Aythya collaris*	Lakes and ponds
Lesser scaup	*Aythya affinis*	Lakes and ponds
Bufflehead	*Bucephala albeola*	Lakes, ponds, and streams
Ruddy duck	*Oxyura jamaicensis*	Lakes and ponds
Turkey vulture	*Cathartes aura*	Open country, woodlands, farms
Osprey	*Pandion haliaetus*	Lakes and streams
Bald eagle	*Haliaeetus leucocephalus*	Lakes and rivers
Northern harrier	*Circus cyaneus*	Wetlands, open fields
Sharp-shinned hawk	*Accipiter striatus*	Generally distributed
Cooper's hawk	*Accipiter cooperii*	Broken woodlands or streamside groves
Swainson's hawk	*Buteo swainsoni*	Fields and desert
Red-tailed hawk	*Buteo jamaicensis*	Plains, prairie groves, desert
Ferruginous hawk	*Buteo regalis*	Dry, open country

TABLE D-2
BIRD SPECIES THAT MAY OCCUR IN THE VICINITY OF THE PROPOSED PROJECT

Common Name	Scientific Name	Habitat
American kestrel	*Falco sparverius*	Open country, cities
Prairie falcon	*Falco mexicanus*	Dry, open country, prairies
Peregrine falcon	*Falco peregrinus*	Cliffs, generally distributed, tops of tall urban buildings
Gambel's quail	*Callipepla gambelii*	Desert scrublands and thickets
Yuma clapper rail	*Rallus longirostris yumanensis*	Cattail marshes and/or bulrush marshes
Western snowy plover	*Charadrius alexandrinus nivosus*	Beaches and dry mud or salt flats along the margins of rivers, lakes, and ponds
Common moorhen	*Gallinula chloropus*	Streams, marshes, and ponds
American coot	*Fulica americana*	Lakes, ponds, streams, and marshes
Killdeer	*Charadrius vociferus*	Ponds, streams, and fields
Greater yellowlegs	*Tringa melanoleuca*	Lakes, ponds, streams, and flooded fields
Spotted sandpiper	*Actitis macularia*	Lakes, ponds, streams, and canals
Western sandpiper	*Calidris mauri*	Ponds and streams
Least sandpiper	*Calidris minutilla*	Ponds and streams
Long-billed dowitcher	*Limnodromus scolopaceus*	Ponds and streams
Wilson's phalarope	*Phalaropus tricolor*	Lakes and ponds
Ring-billed gull	*Larus delawarensis*	Lakes, ponds, and streams
Rock dove	*Columba livia*	Parks, fields, urban settings
White-winged dove	*Zenaida asiatica*	Dense mesquite, mature citrus groves, riparian woodlands, saguaro-paloverde deserts
Mourning dove	*Zenaida macroura*	Wide variety of habitats
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	Riparian areas
Greater roadrunner	*Geococcyx californianus*	Scrub desert and mesquite groves, less common in chaparral and oak woodland
Barn owl	*Tyto alba*	Dark cavities in city and farm buildings, cliffs, trees
Western screech owl	*Otus kennicottii*	Open woodlands, streamside groves, deserts, suburban areas
Great horned owl	*Bubo virginianus*	Common in wide variety of habitats
Cactus ferruginous pygmy-owl	*Glaucidium brasilianum cactorum*	Mature cottonwood/willow, mesquite bosques, and Sonoran desertscrub
Elf owl	*Micrathene whitneyi*	Desert lowlands, canyons, foothills
Burrowing owl	*Athene cunicularia*	Open country, golf courses, airports
Lesser nighthawk	*Chordeiles acutipennis*	Dry, open country, scrubland, desert
Common poorwill	*Phalaenoptilus nuttallii*	Sagebrush and chaparral slopes
White-throated swift	*Aeronautes saxatalis*	Mountains, canyons, and cliffs
Black-chinned hummingbird	*Archilochus alexandri*	Lowlands and low mountains
Costa's hummingbird	*Calypte costae*	Desert washes, dry chaparral
Rufous hummingbird	*Selasphorus rufus*	Suburban and riparian areas
Belted kingfisher	*Ceryle alcyon*	Rivers and brooks, ponds and lakes, estuaries
Gila woodpecker	*Melanerpes uropygialis*	Towns, scrub desert, cactus country, streamside woods
Ladder-backed woodpecker	*Picoides scalaris*	Dry brushlands, mesquite and cactus country, towns and rural areas
Northern flicker	*Colaptes auratus*	Open woodlands, suburban areas
Gilded flicker	*Colaptes chrysoides*	Low desert woodlands, favors saguaro

TABLE D-2
BIRD SPECIES THAT MAY OCCUR IN THE VICINITY OF THE PROPOSED PROJECT

Common Name	Scientific Name	Habitat
Western wood-pewee	*Contopus sordidulus*	Riparian areas, wooded habitats, including suburban areas
Southwestern willow flycatcher	*Empidonax traillii extimus*	Brushy habitats in wet areas
Pacific-slope flycatcher	*Empidonax difficilis*	Migrant through lowlands
Black phoebe	*Sayornis nigricans*	Woodlands, parks, suburbs, prefers to nest near water
Say's phoebe	*Sayornis saya*	Dry, open areas, canyons, cliffs
Vermilion flycatcher	*Pyrocephalus rubinus*	Streamside shrubs, bottomlands, near small wooded ponds
Ash-throated flycatcher	*Myiarchus cinerascens*	Wide variety of habitats
Brown-crested flycatcher	*Myiarchus tyrannulus*	Saguaro desert, river groves, lower mountain woodlands
Western kingbird	*Tyrannus verticalis*	Dry, open country
Common raven	*Corvus corax*	Mountains, deserts, coastal areas
Bell's vireo	*Vireo bellii*	Riparian areas, especially in mesquite trees
Warbling vireo	*Vireo gilvus*	Migrant in lowlands
Horned lark	*Eremophila alpestris*	Dirt fields, gravel ridges, shores
Tree swallow	*Tachycineta bicolor*	Streams, ponds, and lakes
Violet-green swallow	*Tachycineata thalassina*	Riparian areas, streams, ponds, and lakes
Northern rough-winged swallow	*Stelgidopteryx serripennis*	Banks of streams and canals, streams, ponds, and lakes
Cliff swallow	*Petrochelidon pyrrhonota*	Lakeside, cliffs, and canals; nesting under nearby bridges, buildings, and other overhangs; streams and ponds
Barn swallow	*Hirundo rustica*	Streams, ponds, lakes, and agricultural areas
Verdin	*Auriparus flaviceps*	Southwestern desert
Cactus wren	*Campylorhynchus brunneicapillus*	Cholla cactus habitat
Rock wren	*Salpinctes obsoletus*	Arid and semiarid habitats
Canyon wren	*Catherpes mexicanus*	Canyons and cliffs, often near water
Bewick's wren	*Thryomanes bewickii*	Wooded riparian areas
House wren	*Troglodytes aedon*	Dense, brushy areas
Ruby-crowned kinglet	*Regulus calendula*	Woodlands, thickets
Black-tailed gnatcatcher	*Polioptila melanura*	Desert, especially washes
Western bluebird	*Sialia mexicana*	Woodlands, farmlands, orchards, deserts, especially in mesquite-mistletoe groves
American robin	*Turdus migratorius*	Generally distributed
Northern mockingbird	*Mimus polyglottos*	Variety of habitats
Bendire's thrasher	*Toxostoma bendirei*	Open farmlands, grasslands, brushy desert
Curve-billed thrasher	*Toxostoma curvirostre*	Cholla deserts and suburban areas
Crissal thrasher	*Toxostoma crissale*	Riparian areas and washes
American pipit	*Anthus rubescens*	Fields, ponds, pastures, riparian areas
Cedar waxwing	*Bombycilla cedrorum*	Riparian and suburban areas
Phainopepla	*Phainopepla nitens*	Riparian areas, especially in trees with mistletoe
Loggerhead shrike	*Lanius ludovicianus*	Generally distributed
European starling	*Sturnus vulgaris*	Generally distributed
Orange-crowned warbler	*Vermivora celata*	Riparian and suburban areas in lowlands
Lucy's warbler	*Vermivora luciae*	Mesquites and cottonwoods along watercourses
Yellow warbler	*Dendroica petechia*	Wet habitats, open woodlands, gardens, orchards
Yellow-rumped warbler	*Dendroica coronata*	Riparian and suburban areas

TABLE D-2
BIRD SPECIES THAT MAY OCCUR IN THE VICINITY OF THE PROPOSED PROJECT

Common Name	Scientific Name	Habitat
Townsend's warbler	*Dendrioca townsendi*	Lowland riparian and suburban areas
Common yellowthroat	*Geothlypis trichas*	Marshes and suburban areas
Wilson's warbler	*Wilsonia pusilla*	Dense, moist woodlands, bogs, streamside tangles
Yellow-breasted chat	*Icteria virens*	Dense thickets and brush
Summer tanager	*Piranga rubra*	Riparian areas
Western tanager	*Piranga ludoviciana*	Transient in lowlands
Green-tailed towhee	*Pipilo chlorurus*	Brushy areas, riparian, and suburban areas
Spotted towhee	*Pipilo maculates*	Brushy areas, riparian and suburban areas
Canyon towhee	*Pipilo fuscus*	Sonoran Desertscrub
Abert's towhee	*Pipilo aberti*	Riparian areas, suburban areas
Chipping sparrow	*Spizella pallida*	Brushy edges and riparian areas
Brewer's sparrow	*Spizella breweri*	Deserts, field edges, and suburban areas
Vesper sparrow	*Pooecetes gramineus*	Open weedy fields, roadsides, and grassy areas
Lark sparrow	*Chondestes grammacus*	Brushy, weedy areas, riparian areas, and field edges
Black-throated sparrow	*Amphispiza bilineata*	Desert scrub
Lark bunting	*Calamospiza melanocorys*	Brushy desert and field edges
Savannah sparrow	*Passerculus sandwichensis*	Open fields, roadsides, and grassy areas
Song sparrow	*Melospiza melodia*	Riparian areas, marshes, and vegetated lakesides
Lincoln's sparrow	*Melospiza lincolnii*	Riparian areas, marshes, brushy fields, and hedgerows
White-crowned sparrow	*Zonotrichia leucophrys*	Suburban, riparian, and other brushy areas
Dark-eyed junco	*Junco hyemalis*	Desertscrub
Black-headed grosbeak	*Pheucticus melanocephalus*	Transient in lowlands
Northern cardinal	*Cardinalis cardinalis*	Woodland edges, swamps, streamside thickets, suburban gardens
Pyrrhuloxia	*Cardinalis sinuatus*	Thorny brush, mesquite thickets, desert, woodland edges, ranchlands
Blue grosbeak	*Guiraca caerulea*	Riparian areas
Lazuli bunting	*Passerina amoena*	Weedy and shrubby areas along irrigation ditches and other bodies of water and suburban areas
Red-winged blackbird	*Agelaius phoeniceus*	Riparian areas, irrigated fields, marshes, and feedlots
Western meadowlark	*Sturnella neglecta*	Fields and other open areas, deserts
Yellow-headed blackbird	*Xanthocephalus xanthocephalus*	Marshes, fields, feedlots
Brewer's blackbird	*Euphagus cyanocephalus*	Fields, farmyards, feedlots, ponds, and riparian areas
Great-tailed grackle	*Quiscalus mexicanus*	Riparian areas, marshes, ponds, farmyards, and suburban areas
Bronzed cowbird	*Molothrus aeneus*	Riparian and suburban areas
Brown-headed cowbird	*Molothrus ater*	Suburbs and agricultural areas
Hooded oriole	*Icterus cucullatus*	Riparian and suburban areas
Bullock's oriole	*Icterus bullockii*	Riparian areas
House finch	*Carpodacus mexicanus*	Riparian and suburban areas, farmland, desert
Lesser goldfinch	*Carduelis psaltria*	Riparian areas
House sparrow	*Passer domesticus*	Associated with human presence

Sources: National Geographic Society 1999; Witzeman, et al. 1997

TABLE D-3
REPTILE AND AMPHIBIAN SPECIES THAT MAY OCCUR IN THE VICINITY OF THE PROPOSED PROJECT

Common Name	Scientific Name	Habitat
Sonoran desert toad	*Bufo alvarius*	Ranges from arid mesquite-creosote bush lowlands and arid grasslands into the oak-sycamore-walnut groves in mountain canyons, often found near permanent water of springs, reservoirs, canals, and streams, but also frequents temporary pools
Great plains toad	*Bufo cognatus*	Inhabits prairies or deserts, often breeding after heavy rains in summer in shallow temporary pools or quiet water of streams, marshes, irrigation ditches, and flooded fields, frequents creosote bush desert, mesquite woodland, and sagebrush plains
Red-spotted toad	*Bufo punctatus*	Desert streams and oases, open grassland and scrubland, oak woodland, rocky canyons and arroyos, in crevices among rocks for shelter, breeds in rain pools, reservoirs, and temporary pools of intermittent streams
Southwestern woodhouse toad	*Bufo woodhousei australis*	Grassland, sagebrush flats, woods, desert streams, valleys, floodplains, farms, and city backyards, in sandy areas, breed in quiet water of streams, marshes, lakes, freshwater pools, and irrigation ditches
Couch spadefoot	*Scaphiopus couchii*	Frequents shortgrass plains, mesquite savannah, creosote bush desert, thornforest, tropical deciduous forest, and other areas of low rainfall
Bullfrog	*Rana catesbeiana*	Highly aquatic, remaining in or near permanent water, frequents prairie, woodland, chaparral, forests, desert oases, and farmland, enters marshes, ponds, lakes, reservoirs, and streams – usually quiet water with thick growth of cattails or other aquatic vegetation
Lowland leopard frog	*Rana yavapaiensis*	Frequents desert, grassland, oak and oak-pine woodland, in permanent pools of foothill streams, overflow ponds and side channels of major rivers, permanent springs, and in drier areas – more or less permanent stock tanks
Sonoran mud turtle	*Kinosternon sonoriense*	Stream-dwelling turtle that frequents springs, creeks, ponds, and the water holes of intermittent streams, inhabits woodlands, or oaks and piñon-juniper or forests of ponderosa pine and Douglas fir, also occasionally inhabits foothill grasslands and desert
Sonoran desert tortoise	*Gopherus agassizii*	Completely terrestrial desert species requiring firm but not hard ground for construction of burrows, frequent desert oases, riverbanks, washes, and rocky slopes
Spiny softshell	*Trionyx spiniferus*	River turtle attracted to quiet water with bottom of mud, sand, or gravel, also enters ponds, canals, and irrigation ditches
Great Basin collared lizard	*Crotaphytus bicinctores*	Rock-dwelling lizard that frequents canyons, rocky gullies, limestone ledges, mountain slopes, and boulder-strewn alluvial fans, usually where vegetation is sparse
Long-nosed leopard lizard	*Gambelia wislizenii wislizenii*	Arid and semiarid plains grown to bunch grass, alkali bush, sagebrush, creosote bush, or other scattered low plants, ground may be hardpan, gravel, or sand
Western banded gecko	*Coleonyx variegatus*	Variety of habitats, often associated with rocks
Gila monster	*Heloderma suspectum cinctum*	Canyon bottoms and washes in desert or desert grassland

TABLE D-3
REPTILE AND AMPHIBIAN SPECIES THAT MAY OCCUR IN THE VICINITY OF THE PROPOSED PROJECT

Common Name	Scientific Name	Habitat
Desert iguana	*Dipsosaurus dorsalis*	Creosote bush desert to subtropical scrub, most common in sandy habitats but also occurs along rocky streambeds, on bajadas, silty floodplains, and on clay soils
Common chuckwalla	*Sauromalus ater*	Rock-dwelling, herbivorous lizard, widely distributed in the desert
Zebra-tailed lizard	*Callisaurus draconoides*	Frequents washes, desert pavements of small rocks, and hardpan
Desert horned lizard	*Phrynosoma platyrhinos*	Arid lands on sandy flats, alluvial fans, along washes, and at the edges of dunes, associated with creosote bush, saltbush, greasewood, cactus, and ocotillo in the desert
Regal horned lizard	*Phrynosoma solare*	Frequents rocky and gravelly habitats of the arid and semiarid plains, hills, and lower slopes of mountains, often with cactus, mesquite, and creosote bush
Mojave fringe-toed lizard	*Uma scoparia*	Aeolian sand habitats, at elevations from 300 to 3,000 feet
Arizona skink	*Eumeces gilberti arizonensis*	Found in a wide variety of generally mesic habitats, including cottonwood and mesquite riparian areas, chaparral, pinyon-juniper woodland, and conifer forest
Western whiptail	*Cnemidophorus tigris*	Inhabits deserts and semiarid habitats, usually where plants are sparse, also found in woodland, streamside growth, and in the warmer, drier parts of forests
Red-backed whiptail	*Cnemidophorus xanthonotus*	Found in habitats ranging from the Arizona Upland Subdivision of the Sonoran Desert up to canyons and hills in juniper woodlands
Desert spiny lizard	*Sceloporus magister*	Arid and semiarid regions on plains and lower slopes of mountains, found in Joshua tree, creosote bush, and shad-scale deserts, mesquite-yucca grassland, juniper and mesquite woodland, subtropical thornscrub, and along rivers grown to willows and cottonwoods
Brush lizard	*Urosaurus graciosus*	Desert species, frequents areas of loose sand and scattered bushes and trees, creosote bush, burrobush, galleta grass, catclaw, mesquite, and paloverde
Tree lizard	*Urosaurus ornatus*	Frequents mesquite, oak, pine, juniper, alder, cottonwood, and non-native trees such as tamarisk and rough-bark eucalyptus, but may occur in treeless areas, especially attracted to river courses
Side-blotched lizard	*Uta stansburiana*	Arid or semiarid regions with sand, rock, hardpan, or loam with grass, shrubs, and scattered trees, often found along sandy washes
Western blind snake	*Leptotyphlops humilis*	Desertscrub and brush covered hillsides with loose soils
Banded sand snake	*Chilomeniscus cinctus*	Loose soils in low desert or upland
Rosy boa	*Charina trivirgata*	Rocky shrublands and desert, particularly near water source
Western glossy snake	*Arizona occidentalis*	Below 6,000 feet in sparsely vegetated woodland, chaparral, grassland or desertscrub with loose soil
Western shovel-nosed snake	*Chionactis occipitalis*	Sparsely vegetated desert areas with pockets of loose soil
Night snake	*Hypsiglena torquata*	Various upland and desert habitats used

TABLE D-3 REPTILE AND AMPHIBIAN SPECIES THAT MAY OCCUR IN THE VICINITY OF THE PROPOSED PROJECT		
Common Name	**Scientific Name**	**Habitat**
Coachwhip	*Masticophis flagellum*	Sparsely vegetated areas from juniper woodland to low desert
Spotted leaf-nosed snake	*Phyllorhynchus decurtatus*	Open desert with finer loose soils, especially creosote bush (*Larrea tridentata*)
Gopher snake	*Pituophis catenifer*	Various habitats from mountain to low desert and coastal
Long-nosed snake	*Rhinocheilus lecontei*	Desertscrub, prairie, tropical woodland to 5,500 feet
Western patch-nosed snake	*Salvadora hexalepis*	Piñon-juniper woodland to low deserts on variety of soil types
Glossy snake	*Arizona elegans*	Sandy or loamy open areas – light shrubby to barren desert, sagebrush flats, grassland, chaparral-covered slopes, and woodland
Common kingsnake	*Lampropeltis getulus*	Woodland, swampland, coastal marshes, river bottoms, farmland, prairie, chaparral, and desert
Ground snake	*Sonora semiannulata*	Wide range of habitats in loose soil with some subsurface moisture
Southwestern black-headed snake	*Tantilla hobartsmithi*	In loose soil or plant litter in desert grassland and wood land habitats
Checkered garter snake	*Thamnophis marcianus*	Low elevation rivers, streams, ponds, and canals, and adjacent areas.
Western coral snake	*Micruroides euryxanthus*	Wide range of arid habitats including grassland, woodland, scrub and agricultural lands, particularly upland desert in washes and river bottoms.
Western diamondback rattlesnake	*Crotalus atrox*	Wide range of habitats below 7,000 feet
Sidewinder	*Crotalus cerastes*	Desert areas with fine loose sand, often near small shrubs
Southwestern speckled rattlesnake	*Crotalus mitchellii*	From juniper woodland to succulent desert, often in rocky areas
Black-tailed rattlesnake	*Crotalus molossus*	Upland desert to pine-oak woodland
Mojave rattlesnake	*Crotalus scutulatus*	Mostly in upland desert and lower mountain slopes
Source: Prival 1999; Stebbins 2003		

TABLE D-4
FISH SPECIES THAT MAY OCCUR IN THE VICINITY OF THE PROPOSED PROJECT

Common Name	Scientific Name	Habitat
Threadfin shad	*Dorosoma petenense*	Lakes, ponds, larger rivers, estuaries, canals, and reservoirs; often in moderate current, frequently congregating below swift riffles, in circular eddies, or in open flowing pools
Carp	*Cyprinus carpio*	Streams, natural lakes, and manmade impoundments, over all types of bottoms and in clear or turbid waters
Bonytail chub	*Gila elegans*	Flowing pools and backwaters, usually over mud or rocks
Razorback sucker	*Xyrauchen texanus*	Silt- to rock-bottomed backwaters near strong currents and deep pools in medium to large rivers
Red shiner	*Notropis lutrensis*	Wide variety of low gradient habitats, especially in backwaters, creek mouths and medium-sized streams with sand/silt bottoms
Fathead minnow	*Pimephales promelas*	Wide range of habitats from ponds to flowing streams
Channel catfish	*Ictalurus pounctatus*	Clear, medium to large rivers with swift currents over sand or gravel-rocky bottoms, may enter brackish waters
Black bullhead	*Ictalurus melas*	Ponds, pools of all sizes in streams and rivers, and in swampy habitats
Yellow bullhead	*Ictalurus natalis*	Clear, rocky-bottomed, medium-sized streams
Mosquitofish	*Gambusia affinis*	Vegetated ponds, lakes, drainage ditches, and backwaters and oxbows of sluggish streams; often in brackish or marine situations
Sailfin molly	*Poecilia latipinna*	Springs, lakes and ponds, rivers and streams, drainage ditches, and salt marshes
Largemouth bass	*Micropterus salmoides*	Clear, quiet waters with aquatic vegetation
Green sunfish	*Lepomis cyanellus*	Varied habitats, usually near cover such as brushy banks, cliffs, or piles of rubble; not normally in brackish water
Bluegill	*Lepomis macrochirus*	Shallow warm lakes, ponds, and slow-flowing rivers and creeks often with abundant aquatic vegetation
Black crappie	*Pomoxis nigromaculatus*	Quiet warm waters, usually associated with abundant aquatic vegetation and sandy to muddy bottoms in large ponds and shallow areas of lakes
Mozambique mouthbrooder	*Tilapia mossambica*	Slow or still, weedy waters; in canals and backwaters

Source: Lee, et al. 1980; Minckley 1973

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EXHIBIT E
SCENIC AREAS, HISTORIC SITES AND STRUCTURES, AND ARCHAEOLOGICAL SITES

EXHIBIT E
SCENIC AREAS, HISTORIC SITES AND STRUCTURES, AND ARCHAEOLOGICAL SITES

As stated in Arizona Corporation Commission Rules of Practice and Procedure R-14-3-219:

"Describe any existing scenic areas, historic sites and structures or archaeological sites in the vicinity of the proposed facilities and state the effects, if any, the proposed facilities will have thereon."

Exhibit E includes summaries of existing visual and cultural resources, as well as the potential impacts associated with the construction, operation, and maintenance of the proposed route. For further information refer to Exhibit B-2, Devers-Palo Verde No. 2 Transmission Line Project PEA (Volume I).

SCENIC AREAS/VISUAL RESOURCES

The visual resource study for the DPV2 project was based on the Bureau of Land Management's (BLM's) Visual Resource Management (VRM) System and addresses the potential visual effects of the proposed project on landscape scenic quality, sensitive viewers, and compliance with VRM classes. The visual resource studies were conducted by EPG investigators from August 2003 to March 2004, and updated in 2005 by reviewing aerial photography, maps and planning documents; contacts with agencies; and field reconnaissance of the proposed route.

Methods and Results

Data were collected within 2 miles on either side of the centerline of the proposed transmission line route in order to characterize the visual resources in the study area. The impact analysis was based on the BLM's VRM System (8400 series, 1984). The study also tiers off of previous environmental studies completed for the DPV2 project including the DPV2 PEA (SCE 1988) and Final SEIS (BLM 1988). The complete methodology is described in Exhibit B-2, PEA (Vol. I, p.4-113). Following is a summary of the results of the study for the portion of the project within Arizona.

Existing Conditions

Landscape Character

Landscapes within the study area that would be crossed by the proposed transmission line route consist of six distinct landscape character types including: desert mountains, desert foothills, bajadas, desert plains, riparian, and agricultural. Each landscape character type is described below.

The desert mountains are generally north and northwest trending ridges that are steep, rugged, rocky, and surrounded at lower elevations by alluvial fans. These alluvial fans coalesce to form the bajada, a gentle rolling terrain dissected by arroyos that exhibit a rock soil and diversity in vegetation. Foothills typically occur adjacent to or within the bajada, exhibiting rolling land forms and a variety of vegetation and color.

Between the mountain ridges and foothills/bajada lies the contrasting landscape of the broad relatively flat alluvial basins or desert plains. Ephemeral streams or arroyos with their xeroriparian vegetation traverse the plains, providing texture and interest in the often sparsely vegetated plain along drainages

The Colorado River, which forms the Arizona/California border is a unique and distinct visual feature in the desert landscape.

Cultural Modifications

Cultural modifications adjacent to the proposed 500kV transmission line were identified through mapping and field review in order to determine those locations where landscape alterations would influence landscape scenery and views. In this regard, the presence of existing 500kV transmission lines (to be immediately paralleled by the proposed 500kV line) has created an existing utility corridor that has modified the local landscape setting along the entire length of the proposed route.

Scenic Quality

Rating Forms were developed for the landscape types described above consistent with BLM methods and used to evaluate the Scenic Quality of the areas affected by the project. Areas designated as Class A scenery (distinctive quality) include mountainous terrain consisting of a variety of rock formations, including Burnt Mountain, Dome Rock Mountain, and the KOFA and Plomosa mountains. The Colorado River, with its flowing waters and associated riparian vegetation, is also considered Class A scenery in an otherwise arid landscape

Class B scenery is associated with landscapes having less visual variety (e.g., the southern portion of the Plomosa, Eagletail, Big Horn, and Saddle mountains) and the foothills of the KOFA National Wildlife Refuge, where special features such as saguaro cactus are present. The local variety represented through color contrast, texture, and visual interest associated with agricultural use in a desert landscape resulted in a Class B scenic designation for the agricultural lands located near the Harquahala Switchyard.

Class C landscapes (those considered to be common, with minimal variety) are generally associated with low, isolated desert hills and desert plains (typically with a low diversity of vegetation). Examples of Class C scenery include the Ranegras and Harquahala plains.

Sensitive Viewers

Visual sensitivity reflects the degree of concern for change from sensitive viewing locations within the project area. Sensitive viewers within the study area include residential, recreation, and travel route viewers as described below.

Residential Viewers

Residential viewers are limited to isolated dispersed residences located only along Link 1a (agricultural lands within Harquhala Valley) and Link 2 (one residence within the KOFA National Wildlife Refuge). These viewers were determined to have high visual sensitivity.

Recreational Viewers

High visual sensitivity was identified for all dispersed recreation associated with wilderness areas including Hummingbird Springs, Big Horn Mountains, Eagletail Mountains, KOFA National Wildlife Refuge, and New Water Mountains. Additionally, the La Posa Recreation Area and the Colorado River are identified as high sensitivity recreation areas.

Areas of moderate sensitivity include the proposed equestrian trail along the CAP.

Travel Route Viewers

No high sensitivity travel routes were identified within the study area. I-10, Buckeye-Salome Road, and State Route (SR) 95, were all identified as moderately sensitive travel routes.

Agency Management Objectives

Visual resources on lands administered by the BLM are managed based on established Resource Management Plans (RMPs), including VRM classes. In this regard, the VRM classes assist in defining the acceptable degree of visual change in the natural landscape on public lands. There are four VRM classes (I, II, III, and IV). Class I areas are afforded the highest level of protection and Class IV the lowest.

The proposed Devers-Harquahala transmission line route does not cross any Class I lands (predominantly wilderness areas). However Class I areas identified within the project area, that would not be affected by the proposed project, include the KOFA National Wildlife Refuge and New Water Mountains, Eagletail Mountains, Big Horn Mountains, and Hummingbird Springs.

Areas designated as Class II include the KOFA Mountains, Wildlife Refuge, and the Colorado River and would be crossed by the proposed route within a designated BLM utility corridor.

Areas designated as class III include portions of the La Posa, Ranegras, and Harquahala plains; Tonopah Desert; Dome Rock and Plomosa mountains; and Plomosa Pass. In addition, Class III designated areas are interspersed among the agricultural lands near the Harquahala Generating Station, Plomosa and Saddle mountains, in a small portion of the Dome Rock Mountains, and in the Colorado River Riparian Zone. Again, within these areas the proposed route would be located in a designated BLM utility corridor on lands managed by the BLM. The remainder of the proposed route crosses lands designated as class IV within a designated BLM utility corridor.

Potential Impacts

Potential impacts consist of effects on scenic quality, views from sensitive viewing locations (residences, travel routes, and recreation areas) and compliance with VRM. The majority of impacts that would result from the construction of the proposed project are predicted to be minimal because (1) the proposed Devers-Harquahala 500kV transmission line would be constructed using existing access roads within a designated BLM utility corridor; (2) the proposed transmission line would be constructed parallel to existing 500kV transmission lines with similar structures and spans where applicable; (3) high sensitivity viewers (residences) are limited and occur in dispersed isolated areas along the proposed route; and (4) viewers from I-10 travel at a high rate of speed (short viewing duration) and the proposed route would be backdropped for the majority of the length of the corridor. In evaluating potential impacts, simulations were produced for the proposed project from key viewpoints along the proposed route and the Harquahala-West Subalternate Route (Exhibit B-2 – Proponent's Environmental Assessment).

Impacts to scenic quality, sensitive viewers, and compliance with agency management objectives (VRM classes) are summarized below.

Scenic Quality

Potential impacts to scenic quality are anticipated to be minimal as the Devers-Harquahala line would parallel the existing DPV 1 500kV transmission line within a designated BLM utility corridor primarily in Class C landscapes. In areas of higher scenic quality (e.g., in areas of Class A and B scenery) impacts again, would be reduced based on the modified setting and presence of the existing transmission line. In specific locations, (in Copper Bottom Pass, within the Dome Rock Mountains) the proposed new line (conductors) has been previously installed on existing double-circuit lattice tower structures within a designated BLM utility corridor, resulting in minimal change.

Sensitive Viewers

Residential Viewers

Impacts to residential viewers would occur in the agricultural lands of the Harquahala Valley, north of the Eagletail Mountains, and to an isolated residence within the KOFA National Wildlife Refuge. These impacts would be minimized because the proposed route would parallel an existing 500kV transmission line with similar structures/spans and use existing access roads within a designated BLM utility corridor. This would apply to both existing viewers and viewers associated with potential planned future use.

Recreational Viewers

Potential impacts to recreation viewers are anticipated to be minimal as the proposed Devers-Harquahala transmission line route parallels the existing 500kV transmission line within a designated BLM utility corridor. These impacts would be associated with views from recreation users along the Colorado River and recreation areas near the river, in the KOFA National Wildlife Refuge, at the La Posa Visitor Area, and in the Big Horn and Eagletail mountains, and future CAP trail users.

Travel Route Viewers

Potential impacts to travel routes within the project area are anticipated to be minimal because the proposed line would parallel an existing 500kV transmission line within a designated BLM utility corridor. Furthermore, the proposed transmission line would be backdropped and intermittently screened by topography and/or vegetation from viewers using I-10 and Buckeye-Salome Road. While impacts are anticipated to occur where the proposed route crosses I-10, these impacts would be reduced because the proposed route would parallel the DPV1 line and the future TS5 500kV transmission lines with similar structures and spans. SR 95 would be crossed by the proposed route adjacent to an existing 161kV H-frame transmission line at approximately a 90-degree angle, effectively reducing viewing duration, thus further minimizing impacts.

Agency Management Objectives

The proposed route would cross lands considered to be of Class II, Class III, and Class IV within a designated BLM utility corridor adjacent to the existing 500kV transmission line. Therefore, the project is expected to be in compliance with VRM objectives.

Harquahala-West Subalternate Route

In general, impacts to scenic quality are anticipated to be minimal because the route would occur in primarily Class C landscapes adjacent to disturbance created by an existing pipeline corridor that would be paralleled for portions of the subalternate route.

Several residences occur within ½ to 1 mile of the route with open direct views of the subalternate project route. Because this route would not parallel an existing linear facility, impacts to those residences would be greater than in areas where existing facilities would be paralleled along the proposed route.

Impacts would result to sensitive recreation viewers using the trail in the Eagletail Wilderness. In this area, the views of the subalternate route, however, are partially screened and back-dropped and would occur approximately 1 mile away from the trail, resulting in minimal impacts. A simulation (Exhibit B-2 – Proponent's Environmental Assessment, Figure 5-8) was prepared to depict the project as it would appear from the trail viewpoint. Transportation views are from minor and secondary local roads.

Palo Verde Subalternate Route

Impacts to scenic quality (primarily Class C scenery) are anticipated to be minimal for this alternative as the existing conditions along the subalternate route have been modified by existing transmission lines and associated access roads.

Impacts to sensitive viewers are also anticipated to be minimal and limited to an isolated residence as well as travelers using the Buckeye-Salome Road and minor and secondary roads (in the vicinity of Palo Verde Nuclear Generation Station) as the proposed transmission line would be constructed adjacent to two 500kV transmission lines for the majority of the route. No recreational viewers were identified in the context of this alternative.

HISTORIC SITES AND STRUCTURES AND ARCHAEOLOGICAL SITES

Overview

A cultural resources investigation was conducted to determine whether or not any historic sites and structures or archaeological sites are in the vicinity of the proposed Devers-Harquahala 500kV transmission line, and how they might be affected by the construction of the line. The investigation included a records review and a Class III cultural resource pedestrian survey of potentially affected tower sites and spur roads associated with the proposed DPV2 transmission line project (Dobschuetz et al. 2004; Dobschuetz principal investigator). The records review included research at the following agencies and institutions:

- Arizona State Historic Preservation Office

- Arizona State Museum
- Department of Anthropology at Arizona State University
- Museum of Northern Arizona
- State and Phoenix and Yuma field offices of the BLM

The goal of the review was to identify any prior cultural resource surveys and recorded archaeological and historical sites within approximately 1 mile of the proposed and alternative transmission line routes.

In consultation with the BLM, it was decided that an update of the previous cultural resource studies was appropriate given the length of time that had passed since they were conducted. SCE hired EPG to conduct the update by revisiting proposed tower locations and spur roads for those portions of the project located in Arizona. A 220- by 750-foot area was also surveyed for a proposed series capacitor bank site adjacent to the Devers-Harquahala right-of-way.

EPG also conducted studies for two subalternate routes, the Palo Verde Subalternate Route and the Harquahala West Subalternate Route. The Palo Verde Route study included intensive pedestrian survey of an alternative route that would terminate at the Palo Verde Nuclear Generating Station. The Harquahala West Route Study included a research review and limited sample survey of the route that would extend from a point near the El Paso Natural Gas Wenden Compressor Station to the Harquahala Switchyard. These alternatives will be discussed below within their respective sections.

Based on the cultural resource studies, we recommend a finding of no adverse effect to the historic properties for the proposed project.

Proposed Route

The intensive pedestrian survey of the proposed tower locations, associated spur roads, and the five-mile segment from the original Proposed Route to the Harquahala Generation Switchyard resulted in the observation of (Dobschuetz et al. 2004) the following:

- 29 isolated occurrences
- 11 previously recorded sites; AZ R:7:49 (ASM), AZ R:8:37 (ASM), AZ R:8:44 (ASM), AZ R:8:60 (ASM), AZ S:5:15 (ASM), AZ S:6:21 (ASM), AZ S:7:1 (ASM)/AZ S:7:1 (ASU), AZ S:7:15 (ASM), AZ S: 8:1 (ASM), AZ S:8:10 (ASM)/AZ S:8:12 (ASU), and AZ S:8:17 (ASM)
- 1 newly recorded site, AZ R:7:113 (ASM)

The isolated occurrences do not meet the criteria necessary for listing on the National Register of Historic Places (NRHP).

A total of nine of the eleven previously recorded sites (AZ R:7:49 [ASM]; AZ R:8:37 [ASM]; AZ R:8:44 [ASM]; AZ R:8:60 [ASM]; AZ S:5:15 [ASM]; AZ S:6:21 [ASM];AZ S:7:1 [ASM]/AZ S:7:1 [ASU]; AZ S:7:15 [ASM]; and AZ S:8:10 [ASM]/AZ S:8:12 [ASU]) were recommended as not eligible for listing on the National Register of Historic Places. None of these previously recorded sites was relocated during our intensive pedestrian survey of the proposed tower locations. Previous studies on these sites noted that some of the sites (AZ R:8:37 [ASM]; AZ R:8:44 [ASM]; AZ S:6:21 [ASM]; and AZ S:7:1 [ASM]) were surface collected (Carrico and Quillen 1982; Swartz and Dongoske 1987). The remaining sites that were not subjected to surface collection were small sites (less than $5m^2$) or those sites that consisted of several small loci distributed over a larger area. It is most likely that these sites no longer exist within the proposed tower location.

Two of the previously recorded sites AZ S:8:1 (ASM) and AZ S:8:17 (ASM), were recorded as eligible for listing on the NRHP. Site AZ S:8:1 (ASM) is described as a lithic artifact workshop loci consisting of primarily rhyolite materials generally extending over a 1 square mile area. The survey identified two chert flaking stations, a deflated rock cairn, and a few isolated artifacts within the tower locations that are located within the site. Previous testing and data recovery was conducted at the site as part of the Granite Reef Aqueduct project and as part of the original DPV1 survey. Subsurface testing within the proposed tower locations by the original DPV1 project did not identify any subsurface artifacts. Artifacts were collected and analyzed from the site as part of the original DPV1 project. The site artifacts identified during the survey, conducted by EPG were similar to material types already collected and analyzed from the site during the original DPV1 survey. EPG recommended that the recording of these artifacts and the confirmed lack of subsurface remains within the tower locations have exhausted the information potential for this portion of the site.

Site AZ S:8:17 (ASM) is a series of lithic workshops areas located on desert pavement along the northern base of Burnt Mountain. The survey could not relocate any portion of AZ S:8:17 (ASM) within the proposed tower location or the adjacent tower locations. Since the site could not be relocated within the APE, the proposed project is not anticipated to have any impacts to the site.

One newly recorded site was identified within the APE. Site AZ R:7:113 (ASM) consists of an artifact scatter of domestic trash and three features that are probably associated with nearby mining activities. The site assemblage dates to the 1950s and 1960s. It was recommended that this site is not eligible for the NRHP because recordation of the site has exhausted its information potential.

Given the previous cultural resource clearance work completed for the project and the results of this review, a finding of no adverse effect to the historic properties for the proposed DPV2 project is recommended.

Palo Verde Subalternate Route

The intensive pedestrian survey for the Palo Verde Subalternate route resulted in the observation of the following:

- 38 isolated occurrences
- 5 previously recorded sites; AZ T:9:12 (ASM), AZ T:9:13 (ASM), AZ T:9:21 (ASM), AZ T:9:64 (ASM), and AZ S:12:32 (ASM)
- 4 newly recorded sites; AZ T:9:86 (ASM), AZ T:9:87 (ASM), AZ S:12:35 (ASM), and AZ S:12:36 (ASM)

The isolated occurrences do not meet the criteria necessary for listing on the NRHP.

Based on the fieldwork, EPG recommends four of the ninesites to be eligible for listing on the NRHP. The register eligible sites are listed below:

- AZ T:9:12 (ASM)
- AZ T:9:21 (ASM)
- AZ T:9:64 (ASM)
- AZ S:12:36 (ASM)

If avoidance of the sites is possible, then SCE will develop a monitoring plan to avoid any indirect affects to the register eligible sites during construction. A monitoring plan would involve pre-site field visit for the barricading of the sites, a pre-construction meeting with the workers to advise the avoidance of these environmental sensitive areas, pre-construction photo documentation, and on site monitoring during construction. A monitoring report will be compiled at the end of the project documenting the results of the monitoring efforts.

If, however, avoidance of those sites that are recommended as eligible for inclusion on the NRHP is not possible, SCE will develop a mitigation plan in consultation with the BLM, ASLD, and the Arizona State Historic Preservation Office (SHPO) and implement it prior to project construction. In any case, an appropriate archaeological monitoring program will be developed for the subalternate route.

Harquahala West Subalternate Route

This route consists of a tie-in to the proposed Devers-Harquahala 500kV transmission line corridor from the vicinity of the EPNG Wenden Compressor Station to the Harquahala Switchyard (Luhnow 2004; Dobschuetz principal investigator). The archaeological investigations for this route consisted of a detailed records review and a sample pedestrian survey of a 2-mile by a 300-foot-wide right-of-way corridor. A total of four sites were identified within or directly adjacent to the proposed route during the records review. During the sample

survey, the area where the sites were located was investigated, but none of the previously recorded sites could be relocated. No other sites were identified during the sample survey.

REFERENCES

Carrico, Richard L. and Dennis K. Quillen

1982 *Cultural Resource Inventory and National Register Assessment of the Southern California Edison Devers-Palo Verde Transmission Line Corridor (Arizona Portion),* WESTEC Services, San Diego, California.

Dobschuetz, Kris, Glennda Gene Luhnow, Scott Wilcox, Elizabeth Alter and Glenn P. Darrington

2004 *A Cultural Resource Survey of Tower Locations and Associated Spur Roads for the Devers-Palo Verde No. 2, Maricopa and La Paz Counties, Arizona.* EPG Cultural Resource Services Technical Paper No. 2003-43.

Luhnow, Glennda Gene

2004 *A Class I and Class II Cultural Resource Survey for the Harquahala West Alternative Route for the Devers-Palo Verde No. 2 Transmission Project, La Paz and Maricopa Counties, Arizona.* EPG Cultural Resource Services Technical Paper No. 2004-1419.

Luhnow, Glennda Gene and Joseph Harkins Dickinson

2004 *A Cultural Resource Survey for the Palo Verde Subalternate Route, Devers-Palo Verde No. 2 Transmission Project, Maricopa County, Arizona.* EPG Cultural Resource Services Technical Paper No. 2003-1389.

Rogge, A.E. (Gene), Matthew E. Hill, Jr. and Rachel Davis

2000 *Cultural Resource Survey for the Proposed Harquahala Generating Project.* Intermountain Cultural Resource Services Research Paper No. 58. Dames & Moore, Phoenix.

Swartz, Deborah and Kurt Dongoske

1987 *Cultural Resource Assessment of Construction Locations and Towers Along the Devers-Palo Verde No. 2 Transmission Line, Western Arizona.* IAR Technical Report No. 87-7I, Institute for American Research, Arizona.

EXHIBIT F
RECREATIONAL PURPOSES AND ASPECTS

EXHIBIT F
RECREATIONAL PURPOSES AND ASPECTS

As stipulated in the Arizona Corporation Commission Rules of Practice and Procedure, R14-3-219:

"State the extent, if any, the proposed site or route will be available to the public for recreational purposes, consistent with safety considerations and regulations and attach any plans the applicant may have concerning the development of the recreational aspects of the proposed site or route."

There are no plans at present to formally designate land within the requested right-of-way for public recreational purposes. The Applicant shall affirmatively offer to work with the affected jurisdictions to join in long-range plans for the corridor. Portions of both the proposed route and subalternate routes would be located on land managed by the BLM as utility/multiple-use corridors including dispersed and informal recreation uses. The location of the transmission line facilities would not restrict continued recreational activities on public lands.

EXHIBIT G
CONCEPTS OF TYPICAL FACILITIES

EXHIBIT G
CONCEPTS OF TYPICAL FACILITIES

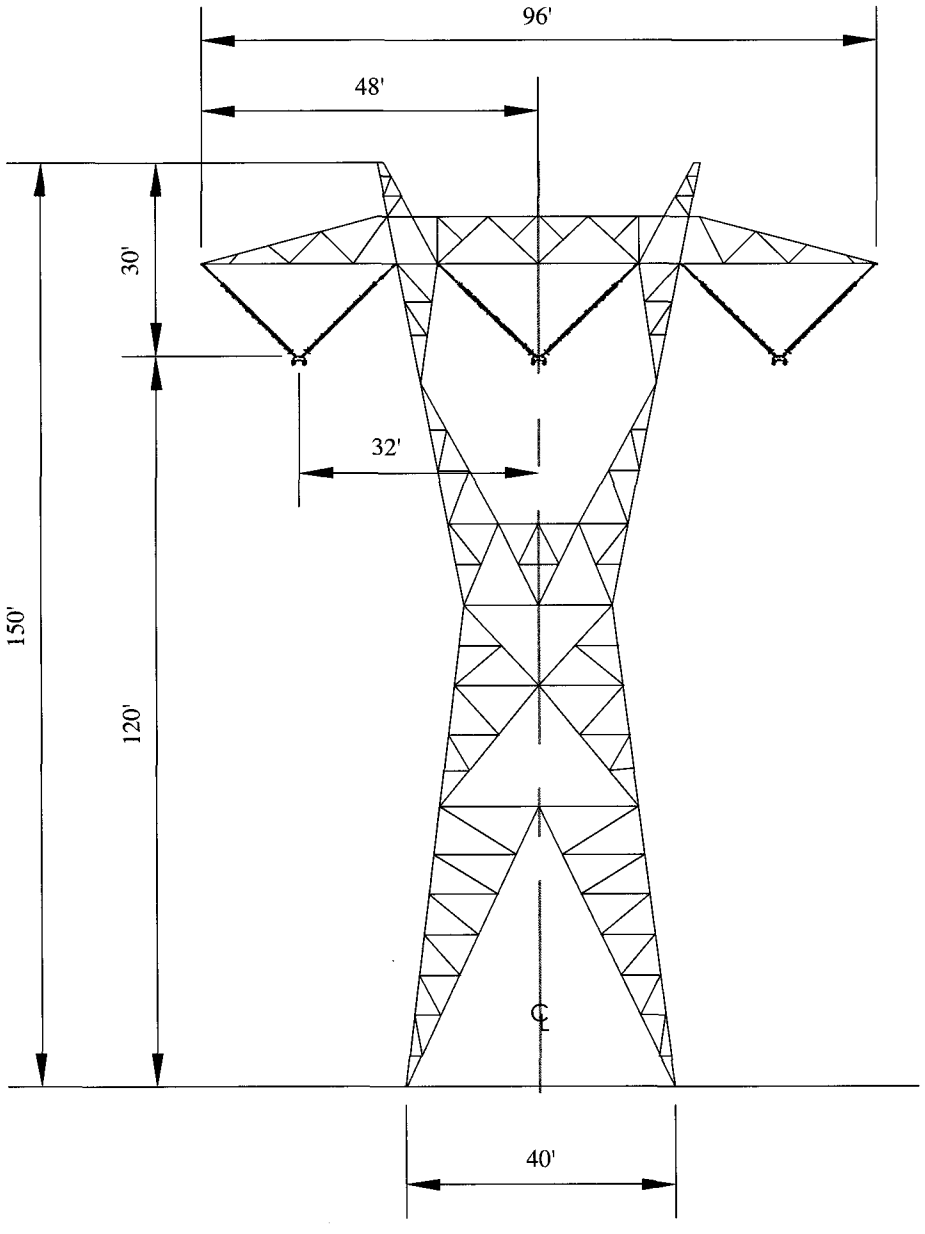
As stipulated in the Arizona Corporation Commission Rules of Practice and Procedure, R14-3-219:

"Attach any artist's or architect's conception of the proposed plant or transmission line structures and switchyards, which applicant believes may be informative to the Committee."

Contained in this exhibit are diagrams illustrating the proposed structures.

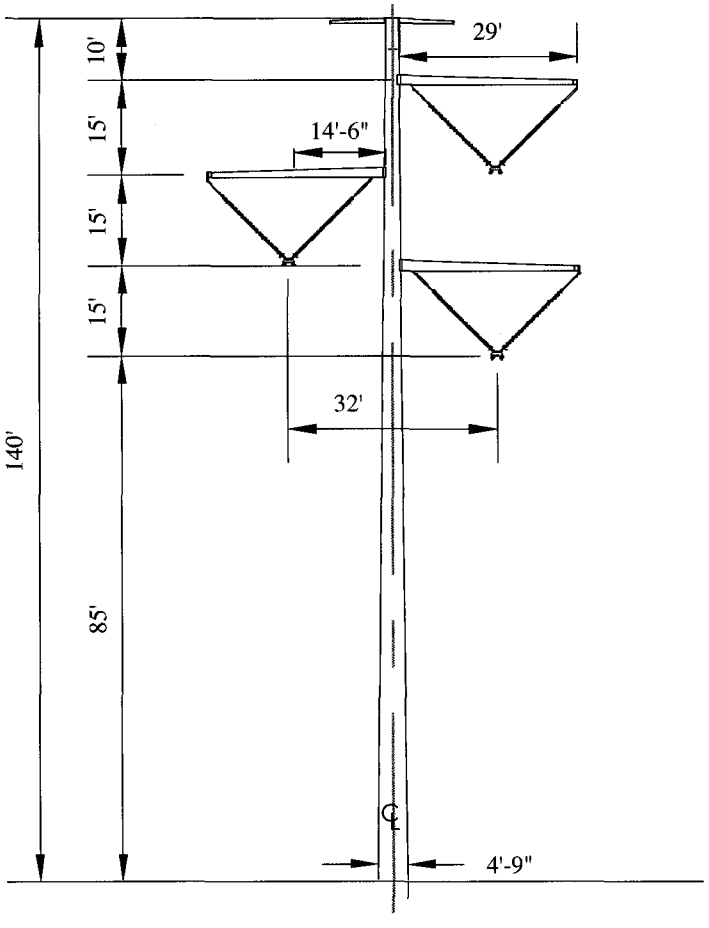
Exhibit G-1 – Typical Lattice Tower Structure
Exhibit G-2 – Typical Tubular Steel Pole
Exhibit G-3 – Typical Double-Circuit Structure

Simulations of the proposed transmission line are included in Exhibit B-2, PEA (Volume I, Part 2 of 2, Chapter 5).



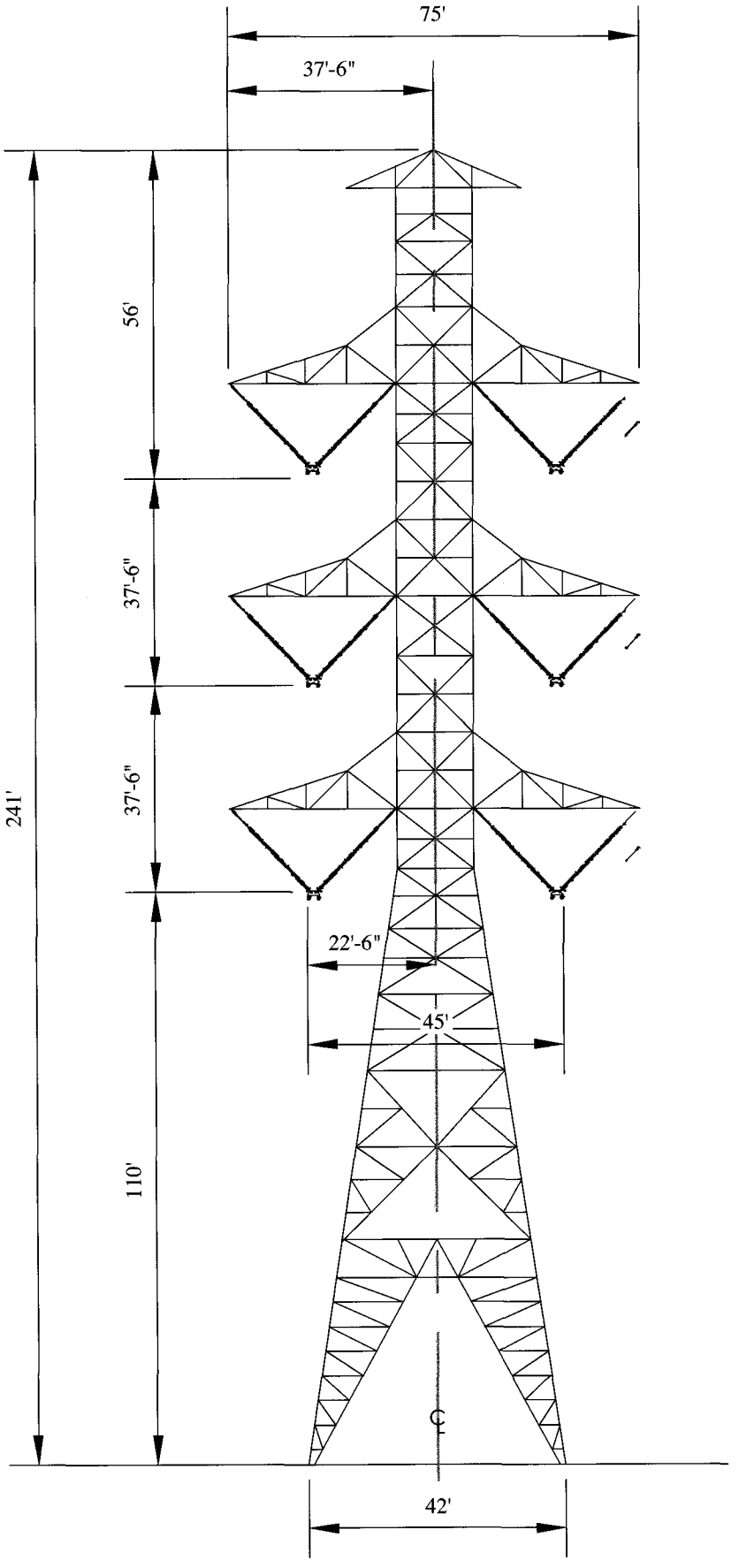
Note:
Dimensions are approximate and may vary with site conditions.

Exhibit G-1
Proposed 500kV Single-Circuit
Lattice Steel Tower



Note:
Dimensions are approximate and may vary with site conditions.

Exhibit G-2
Proposed 500kV Single-Circuit
Tubular Steel Pole



Note:
Dimensions are approximate and may vary with site conditions.

Exhibit G-3
Existing 500kV Double-Circuit
Lattice Steel Tower

EXHIBIT H
EXISTING PLANS

EXHIBIT H
EXISTING PLANS

As stated in Arizona Corporation Commission Rules of Practice and Procedure R-14-3-219:

"To the extent applicant is able to determine, state the existing plans of the state, local government, and private entities for other developments at or in the vicinity of the proposed site or route."

Existing and planned land uses in the vicinity of the proposed route are shown on the map (Exhibit A-3) and described in the PEA (Exhibit B-2), Volume I – Part 1, Chapter 4, Section 4.1.2.1.

As part of the land use study for the Project, existing plans were gathered from jurisdictions within the study area that includes the proposed route. A contact program was conducted to provide information on existing plans and receive input from federal, state, and local government agencies, as well as private entities. Results of the study indicated that the proposed transmission line route would be compatible with existing plans of the BLM and Maricopa County, and would not conflict with any development plans in the vicinity of the proposed route.

The proposed route does not cross any incorporated cities or towns in Arizona; land use plans include those of the Bureau of Land Management and Maricopa County. The following table lists plans for those jurisdictions within the Project study corridor.

TABLE H-1
LAND MANAGEMENT AND GENERAL PLANS FOR THE PROPOSED DEVERS-HARQUAHALA STUDY CORRIDOR IN ARIZONA

Agency	Plan Title	Managing Jurisdiction	Date of Adoption
BLM	Final Amendment and Environmental Assessment to the Lower Gila North Management Framework Plan and the Lower Gila South Resource Management Plan	Phoenix District	Feb 2000
	Lower Gila North Management Framework Plan	Phoenix District	May 1985
	Lower Gila South Resource Management Plan	Phoenix District	Aug 1985
	Lower Gila South Final Wilderness Environmental Impact Statement	Phoenix District	Apr 1987
	Yuma District Resource Management Plan	Yuma District	Aug 1985
	Yuma District Resource Management Plan Amendment	Yuma District	Jan 1992
	Proposed Yuma District (Havasu) Resource Management Plan Amendment and Final Environmental Assessment	Yuma District	Sept 1994
	Final Yuma District (Lands) Resource Management Plan Amendment	Yuma District	Mar 1996
	Final Ehrenberg-Cibola Recreation Area Management Plan	Yuma District	Jan 1994
Maricopa County	Maricopa County 2020 Comprehensive Plan	Maricopa County	Oct 1997
	Maricopa County 2020 Tonopah/Arlington Area Plan	Maricopa County	Sept 2000

In March 2006, letters were sent to the entities listed in Table H-2 to provide project an information update and to request additional information on planned developments as necessary. Exhibit H-3 provides a copy of the letter that was sent; Exhibit H-4 contains written responses.

TABLE H-2
LETTER RECIPIENTS

Contact Name and Title	Address
Camille Champion, Project Manager	BLM, Phoenix Field Office 21605 N. 7th Avenue Phoenix, AZ 85027
Stephen Fusilier, Lands and Minerals Team Lead	BLM, Yuma Field Office 2555 Gila Ridge Road Yuma, AZ 85365
Paul Cornes, Refuge Manager	USFWS, Kofa National Wildlife Refuge 356 West First Street Yuma, AZ 85364
James E. Gross, Rights of Way Administrator	Arizona State Land Department 1616 W. Adams St. Phoenix, AZ 85007
Gerry Ramirez, Yuma District Permits	Arizona Department of Transportation Intermodal Transportation Division 2243 E. gila Ridge Road Yuma, AZ 85364
Matthew Bilsbarrow Compliance Specialist	SHPO Arizona State Parks 1300 W. Washington Phoenix, AZ 85007
Bob Broscheid, Habitat Branch Chief	Arizona Game & Fish Department Habitat Branch 2221 West Greenway Road Phoenix AZ 85023
Daniel Field, Town Manager	Town of Quartzsite P.O. Box 2812 265 N. Plymouth Avenue Quartzsite, AZ 85346
Millard Johnson, Director, Planning and Zoning	La Paz County 1112 Joshua, Suite 202 Parker, AZ 85344
Matthew Holm, Planner	Maricopa County Planning and Development 501 N. 44th St. Phoenix, AZ 85008
Michael Sabatini, Manager, Planning Division	Maricopa County Department of Transportation, Transportation Planning Division 2901 W. Durango Phoenix, AZ 85009

TABLE H-2 LETTER RECIPIENTS	
Contact Name and Title	**Address**
Dennis Smith, Executive Director	Maricopa Association of Governments 302 N. 1st Avenue, Suite 300 Phoenix, AZ 85003
Rusty Mitchell, Director, Community Initiatives Team	Luke Air Force Base 14185 W. Falcon Street Luke AFB, AZ 85309
Cindy Lester, Chief, Arizona Section Regulatory Branch	U.S. Department of Army, USACOE 3636 N. Central Avenue, Suite 900 Phoenix, AZ 85012
Sharon Hood, Supervisor, Lands & Engineering Records Division	Central Arizona Project 23636 N. 7th Street Phoenix, AZ 85024 PO Box 43020 Phoenix, AZ 85080-3020
Jim Marler, Realty Office	U.S. Department of Army, Yuma Proving Ground U.S. Army Garrison Yuma Attn: Public Works – J. Marler 301 C Street Yuma, AZ 85365-9498

EXHIBIT H-1
EXAMPLE LETTER

EXHIBIT H-1

EXAMPLE

Date: March 29, 2006

RE: SCE Devers-Palo Verde No. 2 500kV Transmission Project

Dear Ms. Champion,

SCE proposes to build a new 500-kilovolt (500kV) transmission line connecting the Harquahala Switchyard, located approximately 40 miles west of Phoenix, Arizona, to SCE's existing Devers Substation located approximately 10 miles north of Palm Springs, California. The majority of the transmission line will be constructed within existing SCE rights-of-ways and designated utility corridors. (see enclosed fact sheet).

The proposed transmission line is approximately 230 miles long, of which approximately 102 miles are in Arizona. The majority of the proposed transmission line would parallel the existing Devers-Palo Verde No. 1 (DPV1) 500kV transmission line. SCE proposes to construct this segment using lattice steel towers similar to the existing DPV1 towers. Approximately five miles of the proposed line would parallel an existing transmission line between the DPV1 right-of-way and the Harquahala Switchyard. This segment would be constructed using tubular steel poles. Additional transmission facilities would be constructed west of Palm Springs, California to complete this project.

Alternatives to SCE's proposed route include the Harquahala-West alternate, which would extend directly west from the Harquahala Generating station to the DPV1 right-of- way, and the Palo Verde alternate that would require construction of 10 miles of new transmission line that would connect to the Palo Verde Generating Station Switchyard. Project construction is scheduled to begin in 2007 and be completed in 2009.

The purpose of this letter is to request information regarding development plans in the vicinity of the proposed transmission line route in Arizona. Your response will be included in Exhibit H of the Application for a Certificate of Environmental Compatibility. Submittal of this application to the Arizona Power Plant and Transmission Line Siting Committee of the Arizona Corporation Commission is in compliance with Arizona Revised Statute 40-360 (Article 6.2).

We respectfully request your response in writing as to whether or not you are aware of any planned developments or activities in the vicinity of the proposed transmission line that should be brought to our attention.

We would appreciate your response by April 14, 2006 so that we can evaluate the information prior to the submittal of the application. Thank you in advance for your reply. Should you have any questions, please do not hesitate to call the DPV2 project office at 714-626-4666

Sincerely,

Fred Salzmann
Project Manager

Enclosure

EXHIBIT I
ANTICIPATED NOISE LEVELS AND INTERFERENCE WITH COMMUNICATION SIGNALS

EXHIBIT I
ANTICIPATED NOISE LEVELS AND INTERFERENCE WITH COMMUNICATION SIGNALS

As stated in Arizona Corporation Commission Rules of Practice and Procedure R14-3-219:

"Describe the anticipated noise emission levels and any interference with communication signals which will emanate from the proposed facilities."

Certain electromagnetic effects are inherently associated with overhead transmission of electrical power at extra high voltage. These effects are produced by the electric and magnetic fields of the transmission line with one of the primary effects being corona discharge. Corona effects are manifest as audible noise, radio interference, and television interference. These particular effects will be minimized by line location, line design, and construction practices.

CORONA

Corona is a luminous discharge due to ionization of the air surrounding a conductor and is caused by a voltage gradient, which exceeds the breakdown strength of air. Corona is a function of the voltage gradient at the conductor surface. This voltage gradient is controlled by engineering design and is a function of voltage, phase spacing, height of conductors above ground, phase geometry, and meteorological conditions. In particular, irregularities on the surface of the conductor such as nicks, scratches, contamination, insects, and water droplets increase the amount of corona discharge. Consequently, during periods of rain and foul weather, corona discharges increase. For the various transmission designs considered for this project, the average calculated voltage gradient at the conductor surface was 14.3kV root mean square (rms)/centimeter (cm). The maximum calculated voltage gradient at the conductor surface is 16.45kV rms/cm. For comparison purposes, the breakdown strength of air is 21.1kV rms/cm at 25°C and 76 millimeter (mm) barometric pressure.

Corona represents power loss on the transmission line and creates transmission line noise. Successful operation of 500kV lines with similar gradients indicates that this transmission line will not create adverse corona effects.

TRANSMISSION LINE AUDIBLE NOISE

Construction

The noise associated with the construction activities would be due to equipment operation. The noise levels produced within the corridor would depend on the number of operating machines and the distance to the nearest sensitive receiving source property line. Typical noise levels

associated with construction equipment falls in the range of 80 to 100 dBA (at a range of 50 feet from the active construction site). For the proposed transmission line, most of the corridor is in vacant desert land; however, there are isolated areas with residences within 350 feet of construction. Noise associated with construction would be masked by other sources of noise (i.e., I-10 and other high volume streets) and would be inaudible at large distances.

The proposed Devers-Harquahala construction would comply with local noise ordinances. Typical municipal ordinances stipulate that activities producing ambient noise should not exceed 55-50 dBA during nighttime hours (10 p.m. to 7 a.m.) and 60-55 dBA during daytime hours (7 a.m. to 10 p.m.) at residential property lines or sensitive areas. However, exemptions include temporary construction during daytime hours except on Sundays and federal holidays. There may be a need to work outside of the aforementioned local ordinances in order to take advantage of low electrical draw periods during the nighttime hours. SCE would comply with variance procedures established by local authorities if a variance is required.

Operation

The major sources of ambient noise in the area are due to I-10, aircraft flyovers, local traffic, activities at business locations, various recreational activities, and the existing DPV1 transmission line. The proposed Devers-Harquahala 500kV transmission line would slightly increase the noise level within the corridor. However, the increase would not be audible at the nearest sensitive receptors relative to the existing ambient noise levels and the distance from the source. There are no residences or other sensitive receptors located within audible range of the proposed series capacitor stations.

Audible noise is created by corona discharge along the transmission line. As a result, the amount of audible noise is directly related to the amount of corona, which in turn is affected by meteorological conditions, most notably rain. Transmission line audible noise is categorized into broadband high frequency sounds, which can be described as hissing or sputtering, and low-frequency tones, which are best described as humming sounds.

The highest calculated audible noise levels for the transmission line design during foul weather (rain) may reach 47 decibels (dB) measured on an "A" weighted scale (dBA) at the edge of the right-of-way. This noise level will occur during heavy rain, which will serve to mask the noise. During fair weather the audible noise at the edge of the right-of-way is significantly reduced (18.5 dBA).

Due to the expected low audible noise levels, the line noise will normally be inaudible at the edge of the right-of-way during fair weather. Considering the relatively few hours of audible noise producing weather, the location of the line with respect to neighboring land uses, and the calculated audible noise levels during foul weather, no serious audible noise problems are expected even during foul weather.

RADIO INTERFERENCE

Radio interference is the reception of spurious energy not generated by the transmitting station. This energy affects the amplitude modulated radio band, but not the frequency modulated radio band. Transmission line radio interference is caused by corona and by gap discharges. Gap discharges are electrical discharges across a small gap with the most common cause being loose hardware. Gap discharges comprise a large percentage of all interference problems and are easily remedied. Experience shows that gap discharges are not a problem with steel structures, but are more prevalent with wood structures due to the expansion and contraction of the wood causing hardware to loosen.

Corona-caused radio interference impact is dependent on various factors including distance from the line to the receiver, radio signal strength, ambient radio noise level, receiving antenna orientation, and weather conditions. A common practice of determining the expected level of radio interference is to calculate and plot a lateral profile of the transmission line radio interference at a frequency of 1 megahertz (MHz). In addition, a frequency spectrum plot of radio interference can be used to see how the radio interference varies at a particular location through the frequency spectrum.

Comparison of the calculated radio noise levels for the transmission line design shows fair weather radio noise levels in the range of 34.3 decibel (dB) (above 1 microvolt [μV]/meter) at a distance of 100 feet from the outside phase. This compares favorably with the maximum recommended noise level of 40 dB, above 1 μV/meter (Institute of Electrical and Electronic Engineers 1980; Tucson Electric Power 1980). During inclement weather, transmission line noise levels increase to levels in the range of 60 dB, above 1 μV/meter 100 meters from the outside phase. Even though radio reception quality is reduced during periods of rainy weather, the impact is expected to be minimal due to the low frequency of inclement weather. In addition to these comparisons of calculated and recommended interference values, transmission line experience for lines of similar design traversing similar terrain has shown radio interference to be insignificant. Should radio interference caused by the transmission line become unacceptable in a given situation, mitigating techniques can be applied on an as-needed basis between the Applicant and the complainant.

Television Interference

Traditional television broadcasts occur in three ranges:

- 54 - 88 MHz (Channels 2 - 6)
- 174 - 216 MHz (Channels 7 - 13)
- 470 - 890 MHz (Channels 14 - 83)

Transmission line interference reduces with increasing frequency above 100 MHz. Consequently, television interference only affects the lower VHF band (Channels 2 - 6) and no interference will be experienced in the upper VHF (Channels 7 - 13) and UHF bands (Channels

14 - 83) even during foul weather. Television interference noise levels can potentially affect amplitude modulated signals; therefore, the picture quality, which is amplitude modulated, can be affected, but not the sound quality as these signals are frequency modulated.

Comparisons of expected television interference levels at the edge of the right-of-way show levels consistent with values calculated for other 500kV lines which traverse similar terrain (Arizona Public Service and San Diego Gas & Electric 1981). Foul weather television interference at the edge of the right-of-way for a typical span is calculated at 12.9 dB above 1 μV/m. Consequently, no transmission line generated television interference is expected along the line, even during periods of inclement weather.

Where transmission line generated television interference has been found to be a problem, it is generally the result of induced voltage on fences, conductors, and hardware, which are adjacent to the right-of-way. In these situations, the interference can be easily corrected by grounding the objects, or by realigning, relocating, or providing higher gain television antennas. The Applicant is prepared to assist affected parties in resolving television interference problems resulting from the operation of the proposed facilities. However, with the increasing popularity of newer technologies such as cable, satellite, and digital television, transmission line television interference problems warranting any sort of corrective action are even more unlikely.

ELECTRIC AND MAGNETIC FIELDS (EMF)

SCE has developed "EMF Design Guidelines" to evaluate and implement various magnetic field reduction measures for each application.

SCE's plan for reducing magnetic fields for the proposed project is consistent with the recommendations made by the U.S. National Institute of Environmental Health Sciences. Furthermore, the recommendations meet all national safety standards for new electric facilities. SCE has prepared a Field Management Plan (FMP) to inform the public and others about the steps SCE will take to reduce the magnetic fields for the proposed DPV2 project at a reasonable cost. The FMP includes a brief introduction to EMF characteristics, scientific research activities related to possible health affects, and conclusions from various agencies and organizations about EMF, policy, and the evaluation of "no- and low-cost" magnetic field reduction measures applicable to the project.

The recommendations are listed below.

- Utilize a typical horizontal 500kV tower height of 150 feet. (Magnetic field models are based on 140-foot tower heights, and the 150-foot towers would result in lower magnetic field strength at the edge of the right-of-way.)

- Install 500kV transposition towers near the same locations as existing transposition towers for the DPV1 500kV transmission line. (Transposition towers are used to re-

arrange the phase conductors on a transmission line, and they enable magnetic field reduction as well as phase impedance equalization across the line route.)

- Phase the proposed Devers-Harquahala 500kV transmission line with the existing DPV1 500kV transmission line to reduce the magnetic field

- Use the existing right-of-way.

EXHIBIT J
SPECIAL FACTORS

EXHIBIT J
SPECIAL FACTORS

As stated in the Arizona Corporation Commission Rules of Practice and Procedure R-14-3-219:

"Describe any special factors not previously covered herein, which applicant believes to be relevant to an informed decision on its application."

Exhibit J-1 Summary of Public Involvement Activities

SCE conducted public outreach activities for the DPV2 project to encourage communication with local communities, local businesses, elected and appointed officials, and other interested parties. In October 2003, SCE began public outreach and information activities that included distribution of a project fact sheet, in-person interviews, and meetings with individuals and small groups. The project fact sheet was mailed to all property owners within 300 feet of the proposed DPV2 project, and to elected and appointed officials, and other interested parties in the project area. The fact sheet provided basic information about the project scope and purpose. It also provided the names and contact information for local SCE region managers as sources for additional information.

In August 2004, SCE provided a project update to those persons in the project area that received the 2003 project fact sheet, as well as to those who asked to be added to the project mailing list.

On April 11 and 12, 2006, SCE held open houses in Quartzsite, Phoenix, and Tonopah. Invitations were mailed to property owners within one-half mile of the proposed DPV2 project (proposed and alternative routes) and to elected and appointed officials and other interested parties in the project area. The invitation was also sent to persons who attended the public scoping meetings held in Arizona on January 18 and 19, 2006.

Copies of fact sheets, open house materials, and the invitation are included in Exhibit J-2.

In the fall of 2005, public scoping was initiated by BLM and CPUC as part of the EIS/EIR process. This process included scoping meetings, a Notice of Preparation (per California Environmental Quality Act guidelines), and other public outreach activities. Public scoping meetings were held in Avondale, Tonopah, and Quartzite, Arizona. The Notice of Preparation stated the intention to prepare a joint EIR/EIS, requested comments from interested parties, and included notice of the scoping meetings. Other public outreach activities included a project information hotline, email address, and internet website.

Scoping comments included several overall key issues and more specific issues associated with each as listed below.

- Human environment issues and concerns
  - EMFs
  - Construction impacts
  - Safety issues and fire risk
  - Impacts to property values
  - Conflicts with existing or planned land uses

- Physical environment issues and concerns
  - Biological resources issues

- Alternatives
  - Alternatives suggested
  - Government agency and tribal government suggestions
  - Private organization and company suggestions
  - Private citizen suggestions

- Cumulative projects

- Environmental review and decision-making process
  - Public involvement

Exhibit J-2 Public Information Materials

Included in the exhibit.

EXHIBIT J-2
PUBLIC INFORMATION MATERIALS

- Fact Sheet
- Open House Invitation
- Open House Presentation Materials
- Newspaper Articles

•Fact Sheet

Devers – Palo Verde No. 2

April 2006

Important information concerning a proposed Southern California Edison transmission line project in Arizona.

Southern California Edison Company (SCE) is proposing to construct a new 230-mile-long, high-voltage electric transmission line between California and Arizona. The project is called Devers-Palo Verde No. 2 (DPV2) and will be paid for by the customers of California electric utilities.

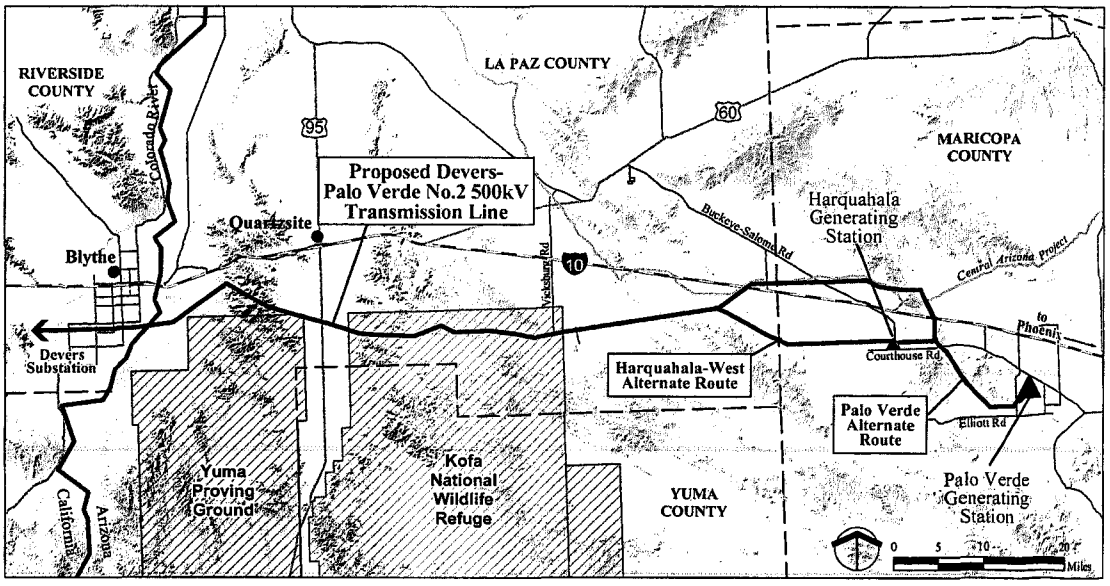


Figure 1

PROJECT DESCRIPTION

SCE proposes to build a new 500 kilovolt (500 kV) transmission line connecting the Harquahala Switchyard, located approximately 40 miles west of Phoenix, Arizona, to SCE's existing Devers Substation located approximately 10 miles north of Palm Springs, California. The majority of the transmission line will be constructed within existing SCE rights-of-way and designated utility corridors (see Figure 1).

The proposed transmission line is approximately 230 miles long, of which approximately 102 miles are in Arizona. The majority of the proposed transmission line would parallel the existing Devers-Palo Verde No. 1 (DPV1) 500 kV transmission line. SCE proposes to construct this segment using lattice steel towers similar to the existing DPV1 towers (see Figure 2). Approximately five miles of the proposed line would parallel an existing transmission line between the DPV1 right-of-way and the Harquahala Switchyard. This segment would be constructed using tubular steel poles.

Continued on next page

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Existing Condition - Transmission line corridor crossing Interstate 10 west of Tonopah, Arizona.

Additional transmission facilities would be constructed west of Palm Springs, California to complete this project.

The transmission line siting and approval process of the Arizona Corporation Commission (ACC), the Bureau of Land Management (BLM) and the California Public Utilities Commission (CPUC) requires SCE to identify and evaluate alternative routes to the proposed project. Alternatives to SCE's proposed route include the Harquahala West alternative, which would extend directly west from the Harquahala Generating Station to the DPV1 right-of-way, and the Palo Verde alternative that would connect to the Palo Verde Generating Station Switchyard. SCE's evaluation of these routes determined that they are not environmentally or technically preferred over the proposed route.

PROJECT BENEFITS

The DPV2 project would be an important part of the western states' transmission system. DPV2 would be used to deliver power purchased and sold among the western states utilities. Further, it would provide increased operational flexibility for dealing with unexpected outages of major generation and transmission facilities and would reduce transmission congestion between Arizona and California which otherwise would prevent available power from being used. DPV2 would increase energy producers' access to the California energy market and increase competition among energy suppliers throughout the southwest.

The project is expected to lower the cost of electricity purchased by California utilities to serve California customers. In addition, DPV2 would help offset price increases that could result from events such as droughts that reduce supplies of low-cost hydroelectricity and heat waves that create high peak demand for electricity.

DPV2 would also benefit Arizona by strengthening the southwest power grid and providing economic benefits to the state including new jobs and increased tax revenues. By improving the ability to transfer electricity between Arizona and California, DPV2 would provide utilities in both states access to more sources of electricity.

The electrical systems of Arizona and California are part of the larger Western Interconnection, which encompasses 1.8 million square miles and includes members operating in 14 states in the Western United States, two Canadian provinces and Baja Norte, Mexico. At particular times throughout the year, states, including Arizona, import and export electricity depending on the state's demand for electricity.

During the two year construction of DPV2, SCE will have approximately 150 people working on the project. The construction activity will provide a positive economic impact of $85 million to Arizona's economy. State and local governments in Arizona will also receive approximately $24 million in tax revenues during the construction period and the first 10 years of operation.

Simulation - Transmission line corridor crossing Interstate 10 west of Tonopah, Arizona with proposed Devers-Palo Verde No. 2 500kV lattice steel structure transmission line.

PROJECT APPROVAL PROCESS

SCE has collected and evaluated environmental, technical, and financial data required by the state and federal regulatory agencies that must approve the project before it can be built. This information is analyzed and presented in SCE's applications filed with each of the regulatory agencies for authorization to construct the project.

These agencies will review SCE's application and either approve the project as filed, approve it with modifications, or deny it. The lead state and federal agencies with approval authority for DPV2 are listed below:

- Arizona Corporation Commission (ACC) and the Arizona Power Plant and Transmission Line Siting Committee (ASC) Reviews project for compliance with Arizona environmental laws and analyzes project purpose and need.
- Bureau of Land Management (BLM) - Reviews project for compliance with federal environmental laws and issues right-of-way grant on federal lands.
- California Public Utilities Commission (CPUC)–Reviews project for compliance with California environmental laws, analyzes project purpose and need, and determines cost effectiveness.

In addition, the following organizations must review and/or approve the project:

- Western Arizona Transmission System (WATS) – Reviews project reliability and other technical issues as part of its electric power grid oversight function for western Arizona.
- California Independent System Operator (CAISO) – Reviews and approves technical and economic aspects of the project as part of its responsibility for managing the California electric power grid.
- Western Electricity Coordinating Council (WECC) – Reviews project reliability and other technical issues as part of its electric power grid oversight function for the western United States, Canada, and Mexico.

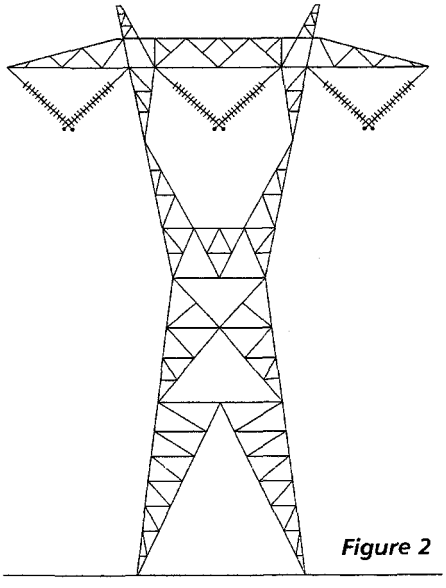

Figure 2

Typical 500kV Transmission Tower

PROJECT TIMELINE

February 24, 2005 – CAISO issued a report which found the DPV2 project to be a necessary and cost-effective addition to the western states electrical grid.

April 11, 2005 – SCE submitted an application to the CPUC requesting authorization to construct DPV2.

May 20, 2005 – SCE submitted an application to the BLM requesting all necessary approvals to construct those portions of the DPV2 project that are on BLM land.

July 25, 2005 – WATS approves the project based on technical studies performed by SCE.

August 25, 2005 – WECC approves project rating based on technical studies performed by SCE.

November 2005 and January 2006– Public Scoping meeting were held in California and Arizona to solicit public input on SCE's application.

April 2006 – SCE will submit a Certificate of Environmental Compatibility Application to the ACC.

May 2006 – CPUC and BLM are expected to issue Draft Environmental Impact Report/ Environmental Impact Statement.

Late 2006 – ACC, ASC, BLM, and CPUC are expected to conclude review and approval activities.

Early 2007 – SCE expects to start construction of DPV2 upon receipt of all required approvals.

2009 – SCE expects to complete construction of DPV2.

SCE is one of the nation's largest electric utilities, serving a population of more than 13 million in a 50,000-square-mile service area within central, coastal, and southern California. SCE owns 16% of the Palo Verde Nuclear Generating Station.

SCE is currently the nation's leading purchaser of renewable energy. SCE estimates that between 16% and 17% of the power it purchases and delivers to customers in 2006 will be from renewable sources.

SCE is a national leader in developing, promoting and implementing energy efficiency programs for its customers. Between 2006 and 2008, SCE will spend over $1 billion on energy efficiency programs, self-generation incentives, and solar energy programs.

If you have any questions or comments about the project, please contact the SCE DPV2 Arizona office at:

602-499-9888
One North Central Ave., Suite 1120
Phoenix, AZ 85004

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OPEN HOUSE INVITATION

Southern California Edison Company (SCE) SCE proposes to build a new 500 kilovolt (500kV) transmission line connecting the Harquahala Switchyard, located approximately 40 miles west of Phoenix, Arizona, to SCE's existing Devers Substation located approximately 10 miles north of Palm Springs, California. The project is called the Devers Palo Verde No. 2 Project (DPV2).

The proposed transmission line is approximately 230 miles long, of which approximately 102 miles would be built in Arizona. The majority of the transmission line will be constructed within existing SCE rights of ways and designated utility corridors parallel to the existing Devers-Palo Verde No. 1 (DPV1) 500kV transmission line. SCE proposes to construct this segment using lattice steel towers similar to the existing DPV1 towers. Approximately five miles of the proposed line would parallel an existing transmission line between the DPV1 right of way and the Harquahala Switchyard. This segment would be constructed using tubular steel poles. Additional transmission facilities would be constructed west of Palm Springs, California to complete this project.

Alternatives to SCE's proposed route include the Harquahala West alternate, which would extend directly west from the Harquahala Generating station to the DPV1 right-of- way, and the Palo Verde alternate that would connect to the Palo Verde Generating Station Switchyard. SCE's evaluation of these routes determined that they are not environmentally or technically preferred over the proposed route.

SCE invites you to join the DPV2 Project Team at an open house in your community. The purpose of the open house is to provide information to property owners, area residents and other interested parties about the proposed project, and answer your questions. The Project Team will have project maps and photo simulations available for viewing. SCE welcomes your attendance at any one of the open houses listed below.

Tuesday, April 11
4:00 p.m. – 8:00 p.m.

Quartzsite Elementary School – Cafeteria

930 W. Quail
Quartzsite AZ, 85346

Wednesday, April 12
9:00 a.m. – 12:00 noon

Best Western Central Phoenix Inn – Classic Room

1100 North Central Ave
Phoenix, AZ 85004

Wednesday, April 12
4:00 p.m. – 8:00 p.m.

Ruth Fisher Elementary School – Cafeteria

38201 W. Indian School Road
Tonopah, AZ 85354

For more information please call (602) 499-9888
or visit *www.sce.com/dpv2*

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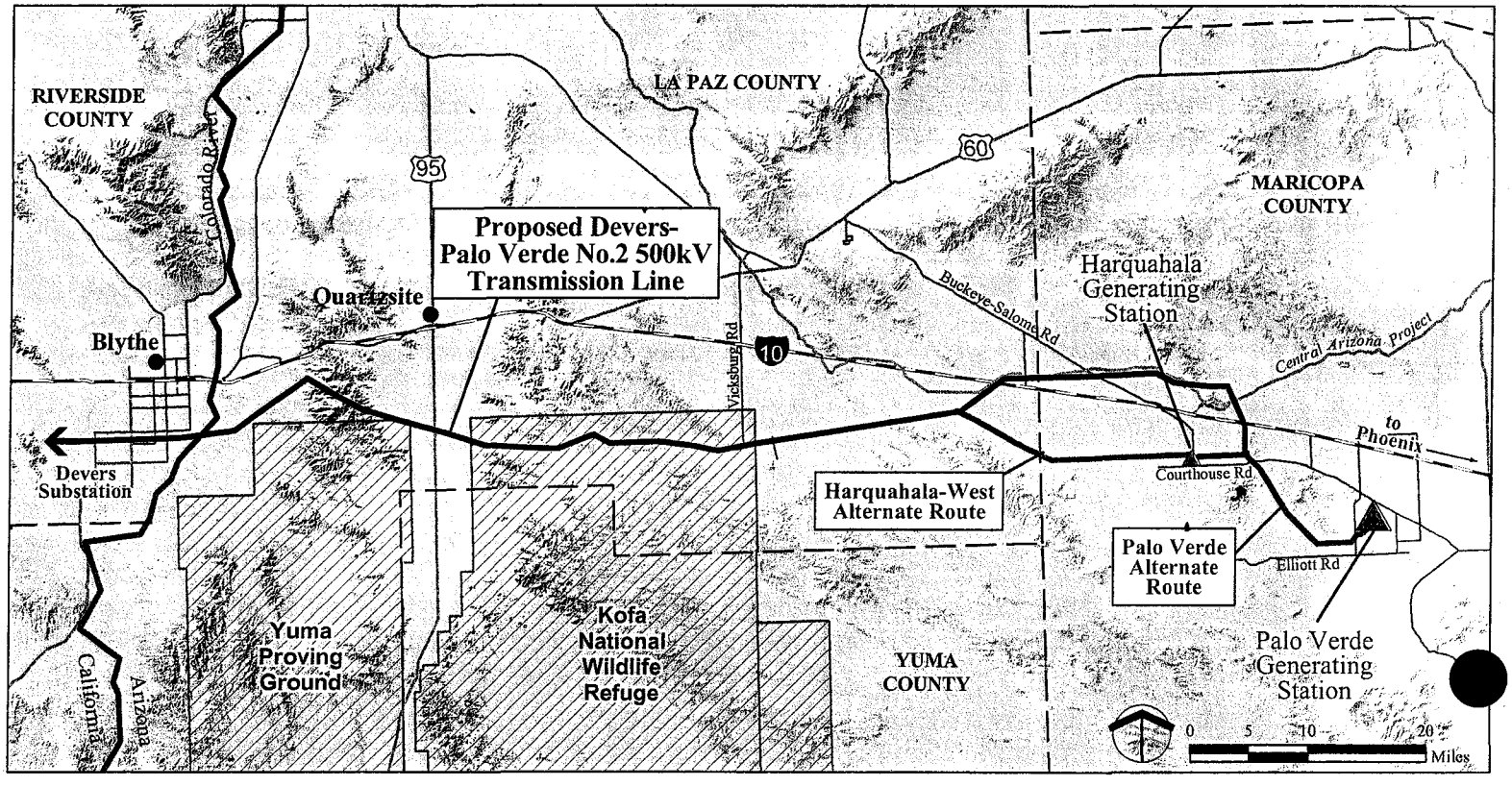
DPV2 Project Office
1321 State College Blvd.
Fullerton, CA 92831

SAVE THE DATE

Proposed Devers-Palo Verde No. 2 Transmission Project – OPEN HOUSE

Devers-Palo Verde No. 2 Transmission Project



WELCOME

TO

SOUTHERN CALIFORNIA EDISON'S

DPV2 OPEN HOUSE

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SOUTHERN CALIFORNIA EDISON COMPANY WELCOMES YOU TO THE DPV2 OPEN HOUSE

How is the open house organized?

- This open house is designed to introduce you to the DPV2 project and to answer your questions.
- The open house is informal – feel free to move around the room at your own pace and talk with the DPV2 project team about your issues and questions.
- Each topic table represents an issue or question that your local officials and neighbors told us they wanted to know more about.
- We welcome your comments and questions. Comment cards are available at each table.

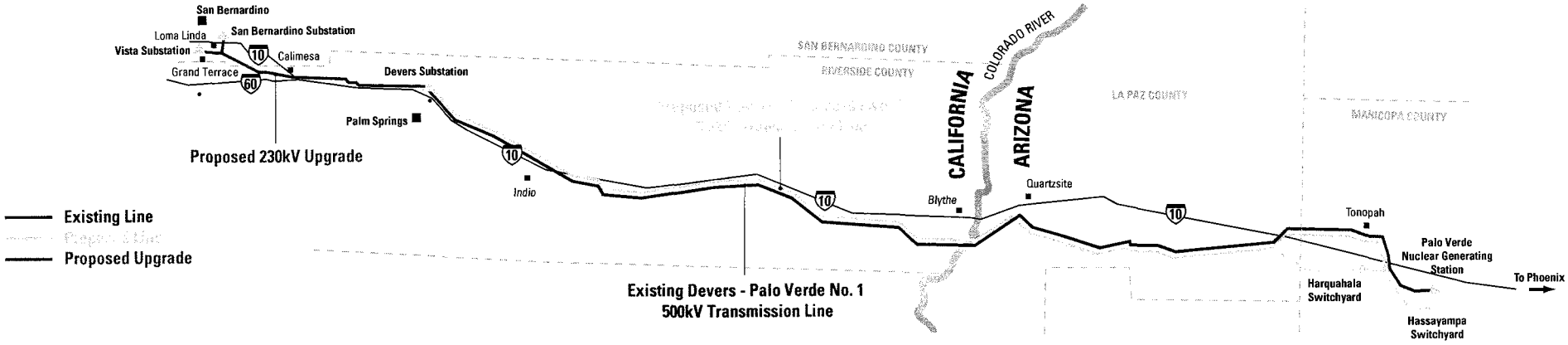
SOUTHERN CALIFORNIA EDISON INFORMATION

SCE is one of the nation's largest electric utilities, serving a population of more than 13 million in a 50,000 - square - mile service area within central, coastal, and southern California. SCE owns 16% of the Palo Verde Nuclear Generating Station.

SCE is currently the nation's leading purchaser of renewable energy. SCE estimates that between 16% and 17% of the power it purchases and delivers to customers in 2006 will be from renewable sources.

SCE is a national leader in developing, promoting and implementing energy efficiency programs for its customers. Between 2006 and 2008, SCE will spend over $1 billion on energy efficiency programs, self-generation incentives, and solar energy programs.

PROJECT OVERVIEW



Southern California Edison is proposing to construct a new 230-mile long, high-voltage electric transmission line between California and Arizona, parallel to an existing transmission line. The new line would also require upgrades to some of SCE's electrical facilities in California. The project is known as Devers-Palo Verde No. 2. It will be paid for by the customers of California electric utilities.

PROJECT UPDATE SCHEDULE

February 2005	– CAISO approved DPV2
April 2005	– SCE submitted application to the CPUC
May 2005	– SCE submitted application to BLM
Spring 2006	– SCE submits application to ACC
	– CPUC issues Draft EIR/EIS
Late 2006	– CPUC, BLM, and ACC complete permitting activities
2007	– Start of construction of DPV2 upon receipt of all required approvals
2009	– Complete construction and commercial operation of DPV2

THE WESTERN STATES ELECTRIC GRID

The electrical systems of Arizona and California are part of the larger western states' electric grid. This grid encompasses 1.8 million square miles and operates in 14 states in the western United States, two Canadian provinces and Baja Norte, Mexico. Depending on seasonal demand for electricity, utilities import and export electricity over the grid.

PROJECT BENEFITS

The DPV2 project would be an important part of the western states' transmission system.

- DPV2 would increase energy producers' access to the California energy market, increasing competition among southwest energy suppliers. This is expected to lower the cost of electricity purchased by California utilities for their customers.
- DPV2 would be used to deliver power purchased and sold among the western states' utilities.
- DPV2 would improve the ability to transfer electricity between Arizona and California and would provide utilities in both states access to more sources of electricity.
- DPV2 would provide increased operational flexibility for dealing with unexpected outages of major generation and transmission facilities.
- DPV2 would reduce transmission congestion between Arizona and California which otherwise would prevent available power from being used.
- DPV2 would help offset price increases that could result from events such as droughts that reduce supplies of low-cost hydroelectricity and heat waves that create high peak demand for electricity.

ARIZONA ECONOMIC AND FISCAL IMPACT

SCE estimates DPV2 will result in:

- 150 new jobs during construction of DPV2
- $85 million in positive economic impacts to Arizona's economy
- $24 million in tax revenues to state and local governments during the construction phase and the first 10 years of operation

APPROVAL PROCESS

ARIZONA CORPORATION COMMISSION (ACC) AND ARIZONA SITING COMMITTEE (ASC)

- SCE will file an application for a Certificate of Environmental Compatibility (CEC) with the ACC in Spring 2006.
  - The ASC will conduct hearings and review evidence of environmental compatibility and project need and benefits.
  - The ASC will issue an order granting or denying the CEC.
  - The ACC will then review and either approve, modify or reject the ASC order.

BUREAU OF LAND MANAGEMENT (BLM)

- SCE applied to the BLM for approval to construct DPV2 on federal lands.
  - The BLM issued a right-of-way grant for DPV2 in 1989.
  - BLM is working with the CPUC to coordinate environment review of the project and to issue a joint Environmental Impact Report / Environmental Impact Statement.

CALIFORNIA PUBLIC UTILITIES COMMISSION (CPUC)

- SCE filed an application for a Certificate of Public Convenience and Necessity (CPCN) in April, 2005.
  - The CPUC will grant the CPCN, following environmental review under the California Environmental Quality Act, if it determines the project is needed and is cost-effective.

WHAT ARE THE KEY STATE AND FEDERAL LAWS THAT PROTECT THE ENVIRONMENT IN ARIZONA?

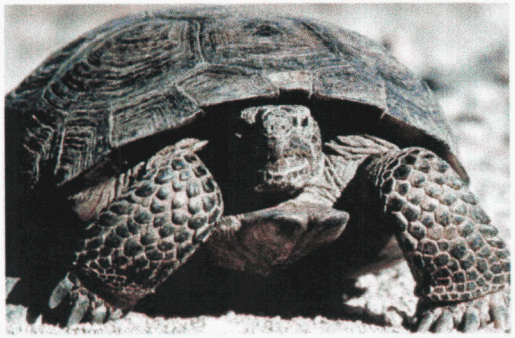
- Arizona Facility Siting Law
- Arizona Native Plant Law
- National Environmental Policy Act
- Clean Water Act
- Endangered Species Act
- National Historic Preservation Act
- Archaeological Resources Protection Act

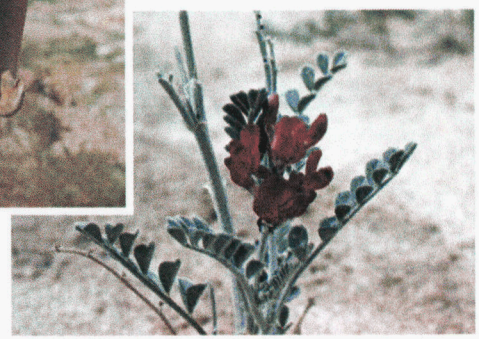
HOW DOES SCE COMPLY WITH ENVIRONMENTAL LAWS AND REGULATIONS?

- SCE files applications in accordance with applicable laws and regulations.
- State and federal agencies review the applications and either approve, disapprove, or approve the project with modifications or required mitigation measures.
- If approved, SCE constructs project with applicable modifications and mitigation measures to reduce or avoid environmental impacts.

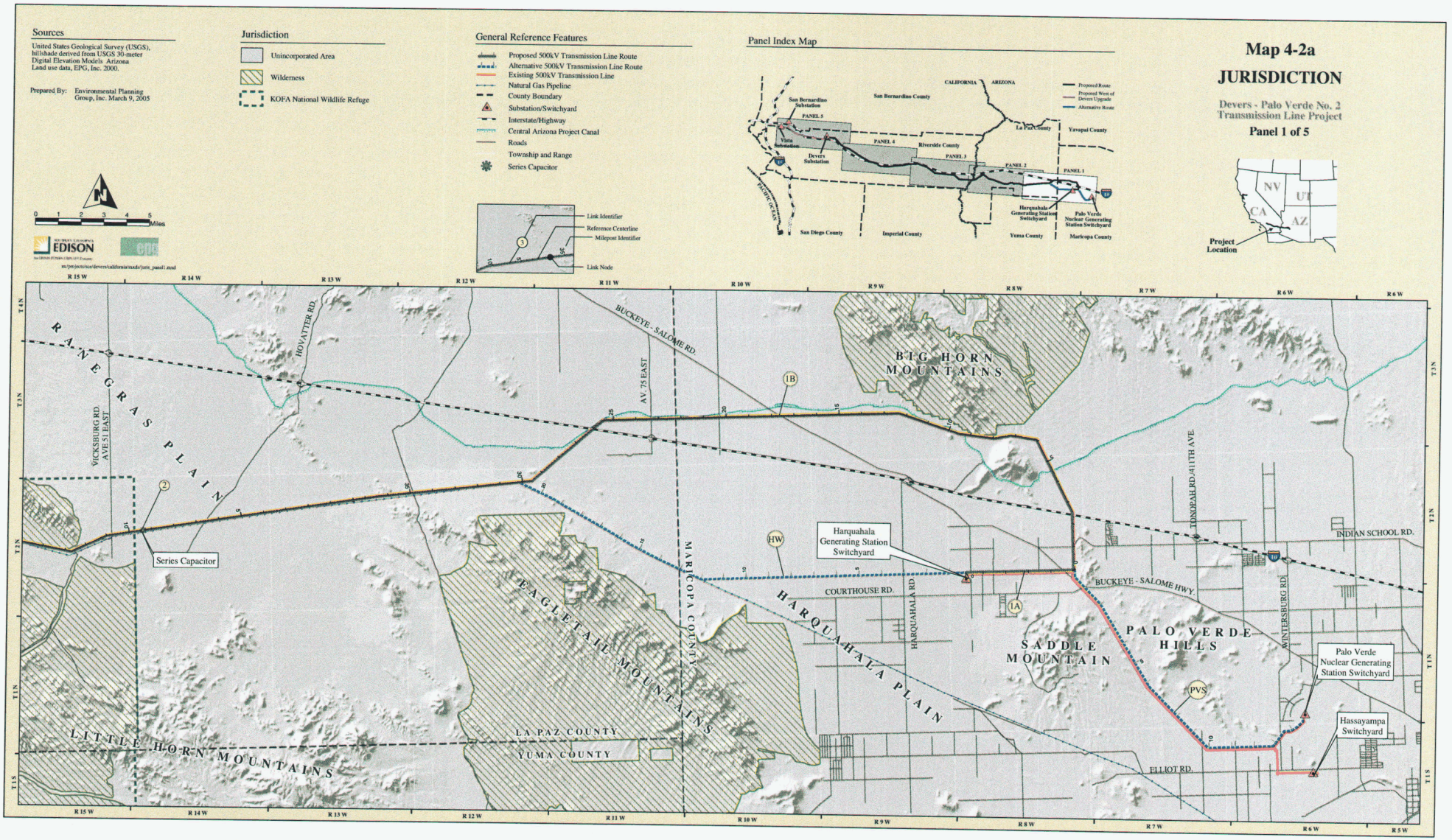
WHAT KINDS OF ACTIONS DOES SCE TAKE TO MITIGATE ENVIRONMENTAL IMPACTS?

- Require environmental education program for all construction workers
- Provide on-site monitors
- Schedule construction to avoid critical life-cycles for certain species
- Locate and design towers to match existing structures wherever possible to minimize visual impacts
- Use existing roads for construction and maintenance wherever possible
- Use construction techniques that minimize sensitive habitat disturbance
- Identify and avoid cultural resource sites

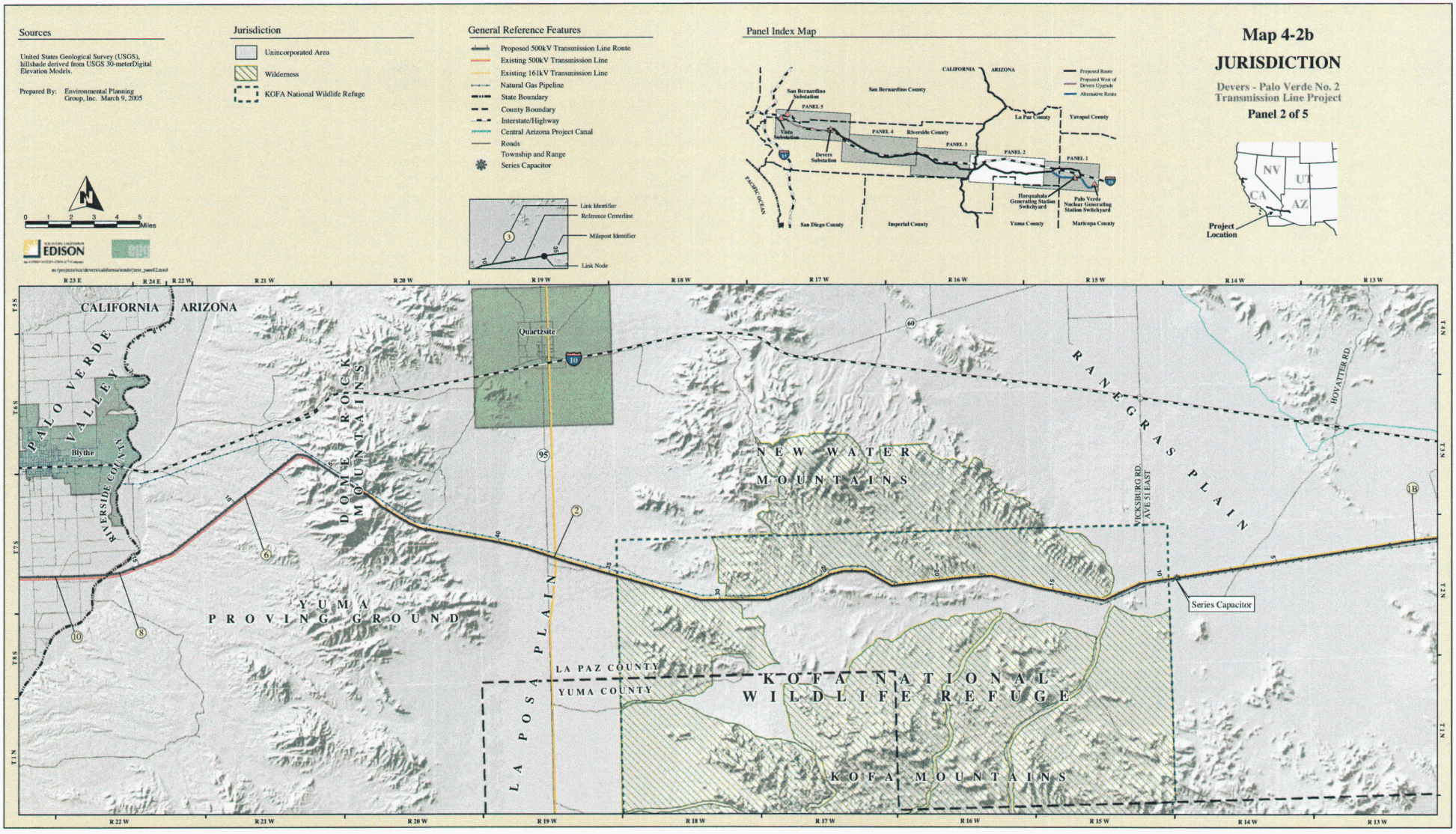




Devers – Palo Verde No. 2



Devers – Palo Verde No. 2



Devers – Palo Verde No. 2

Existing Condition - Transmission line corridor crossing Interstate 10 west of Tonopah, Arizona.

Simulation - Transmission line corridor crossing Interstate 10 west of Tonopah, Arizona with proposed Devers-Palo Verde No. 2 500kV lattice steel structure transmission line.

PRIOR TO CONSTRUCTION

- SCE will obtain project approval from all relevant agencies prior to commencing construction.
- SCE will notify Arizona property owners within one-half mile of the proposed route prior to filing an application with the ACC.
- SCE will notify local officials before construction begins.
- SCE will conduct final surveys and other field activities before construction begins.

ONCE CONSTRUCTION BEGINS

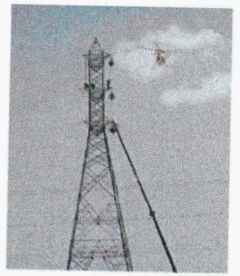
- Most construction activities will occur within SCE's existing right-of-way and access roads.
- Temporary access roads and staging areas for equipment and supplies will be needed.
- SCE expects to be in your community several times during the two-year construction period.
  - Typically a few days to several weeks in length

SURVEY

BUILD FOUNDATIONS

ERECT TOWERS

STRING WIRE

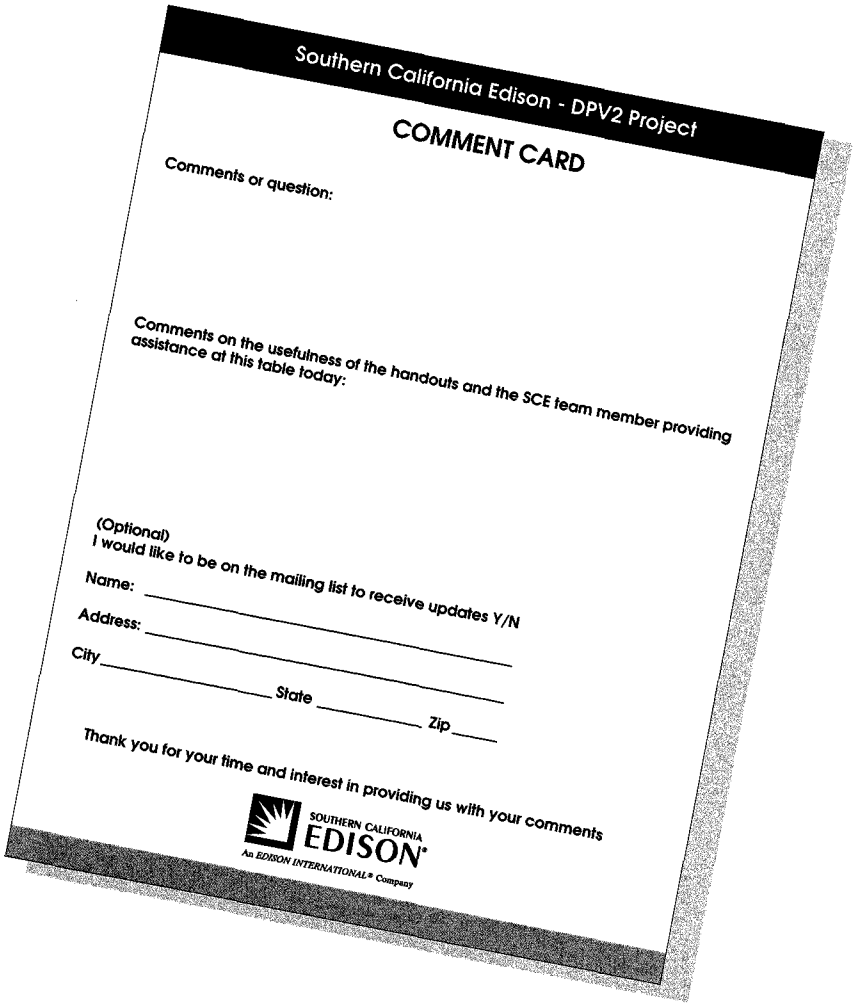


WHAT ARE ELECTRIC AND MAGNETIC FIELDS (EMF)?

- Electric and magnetic fields (EMF) surround every wire that carries electricity, including those in electric power lines, electrical machinery, and common household and office appliances
- Electric fields are created by voltage
- Magnetic fields occur wherever electrical current flows
- The strength of these fields decreases rapidly with distance from the voltage or current source

BEFORE YOU LEAVE

- Sign up for the project mailing list.
- If you have additional questions or desire additional information, please fill out a comment card.


Southern California Edison - DPV2 Project

COMMENT CARD

Comments or question:

Comments on the usefulness of the handouts and the SCE team member providing assistance at this table today:

(Optional)
I would like to be on the mailing list to receive updates Y/N

Name: _____

Address: _____

City _____ State _____ Zip ____

Thank you for your time and interest in providing us with your comments

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THANKS FOR COMING!

PARKER PIONEER

Parker, AZ

Southern Cal. Edison plans new transmission line

Monday, April 17, 2006

A leading California utility wants to build a new power transmission line that will roughly double their capacity for delivering power to Southern California from Arizona.

Southern California Edison wants to build a 500-kilovolt line from the Palo Verde Nuclear Generating Station in Arizona to the their Devers Substation north of Palm Springs, Calif. This line will use the same right-of-ways and easements used by a similar 500-kilowatt line which was built in the 1980s.

The new line will be used in addition to the old one, and it will run parallel to the old line. The estimated cost is $550 million over a two-year construction period.

Paul Klein, Southern California Edison project manager, said the new line was needed because the older line is operating at full capacity. He said benefits to Arizona included 150 jobs and an additional $24 million over the next 10 years in property tax revenues.

In addition to using power from Palo Verde, of which their company is a 16 percent owner, Klein said they will be purchasing power from power plants in the Harquahala Valley which are currently under-utilized. Most of these plants are fired by natural gas, and this will generate more revenues for the state through excise taxes on gas.

The line will be 203 miles long, with 102 miles in Arizona. It will pass through La Paz County south of Interstate 10. It will reach the northern end of the Kofa National Wildlife Refuge.

Bob Steins, Southern California Edison project manager, said the company had applied for permits with Bureau of Land Management, the Arizona Corporation Commission, and the California Public Utilities Commission.

In addition to Southern California Edison, the line will be available to other utilities for transmitting power, Klein said.

"It's been described as a freeway for energy," he said.

The La Paz County Board of Supervisors held a worksession with representatives from Southern California Edison on Thursday, April 7. One emphasis of the worksession was the potential economic benefits to La Paz County.

Steins said the new line will provide benefits for Arizona residents as well as Californians.

"It will lower the cost of power for California," Steins said, "It will have possible economic impacts for Arizona. We estimate $85 million in economic impacts. In the first 10 years, we estimate $24 million in tax revenue to the state of Arizona."

He said La Paz County will receive about $12 million of this revenue in that period, allowing the county an

estimate of about $1 million per year, with excise tax being paid on natural gas.

Steins said the company has sent notices to property owners within half-a-mile of the proposed line.

"There are less than 500 property owners within a half-mile of the line," he said. He added Southern California Edison is hoping for approval by the end of the year, with construction to begin in early 2007. Public hearings are currently set for late June and early July.

"If you look close, you don't even notice the change," District 2 Supervisor Cliff Eddy said of the project, referring to the power line itself. The new line will have access roads to it and will be right next to the presently-existing line. Due to new technology, the circuit towers that accompanied the old line will not be needed for the new line.

District 3 Supervisor Mary Scott said the project appears to have good planning.

"Everybody gets a benefit," District 1 Supervisor Gene Fisher said of the fiscal and economic impacts to result from the power line being built.

Steins stated the company is known for promoting efficiency. He said they generate 16 percent of their power through renewable resources. He said the company expected to spend $1 billion over the next three years on energy efficiency programs, and they will be spending funds to develop solar and wind power.

Southern California Edison is one the nation's largest utilities, serving over 13 million people in over 4.6 customer accounts. Their service area covers 50,000 square-miles in central, coastal and Southern California.

EAST VALLEY TRIBUNE

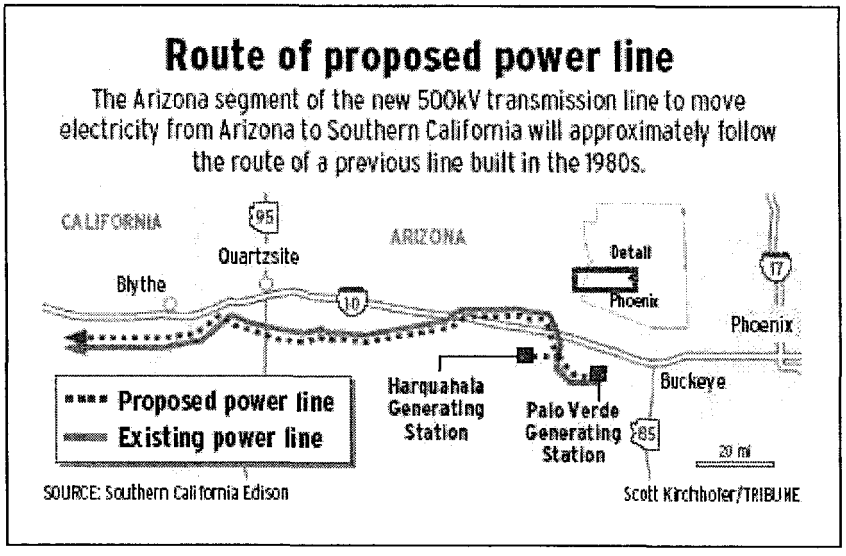
Scottsdale/Mesa/Tempe/Gilbert/Chandler/Queen Creek, AZ

$1.1B in electric lines proposed

Planned routes slated for Valley area and into California

By ED TAYLOR
April 10, 2006

A total of $1.1 billion in new high-voltage electric lines are in the advanced planning stages in Arizona and adjacent states as utilities attempt to keep up with population and economic growth and increase the reliability of the Western transmission grid.



While power companies have rushed to build electric generators fueled by natural gas, construction of the transmission lines to move that energy to growing metropolitan areas is still catching up.

"There are more plans than we've had in the past. It's tied to the high growth in our area," said Paul Herndon, project manager for a new Arizona Public Service line planned from the Palo Verde nuclear plant hub west of Phoenix to Yuma.

Among the major transmission projects planned in Arizona:

- A $250 million, 115-mile line from Palo Verde to Yuma will provide additional power to the growing Yuma area. APS, which plans to follow the route of an existing line between those two points, expects to begin construction in 2009 and place the line in service in 2012.

- A 25-mile West Valley to Pinnacle Peak transmission line planned across the north side of the Valley by APS will bring additional power supplies to the Valley from coalfired plants in northern Arizona and other sources. The $100 million project is expected to be under construction in late 2008 or early 2009 and be completed in mid-2010.

- A 160-mile line from Palo Verde through Pinal County and looping north to the Browning substation in east Mesa is under construction and expected to be completed in 2011. A joint project of Salt River Project, Tucson Electric Power and the Santa Cruz Water and Power Districts Association, the $160 million line is intended to supply power to growing areas in Pinal County and eastern Maricopa County.

- Another major project is a $600 million, 230-mile line planned by Southern California Edison from the Palo Verde switch yard to a substation near Palm Springs, Calif. The purpose of the 500-kilovolt line is to move electricity generated at several new natural gas-fired plants built by independent power producers near the Palo Verde nuclear plant in the last few years to the Los Angeles area.

The route will follow approximately the route of an existing high-power transmission line built in the early 1980s, which moves electricity from the Palo Verde plant to Southern California.

"Recently it became apparent the economics were right to build the second line," said Marco Ahumada, project manager for SCE.

The new natural gas plants have the capacity to produce more electricity than Arizona needs, and that excess power can be sold to California, he said.

"These plants are very efficient," Ahumada said, adding that they would hold down the cost of electricity in California. "Power producers in California would have to lower their prices to match the price of these plants."

If regulatory approvals are forthcoming, the line could be under construction early next year and completed in 2009, he said.

The project is expected to employ 150 people in Arizona during construction, providing a $85 million economic impact, said SCE spokesman Paul Klein. Also, state and local governments in Arizona will receive $24 million in sales and property taxes during construction and first 10 years of operation, he said.

The entire cost of the project will be covered by SCE's California customers with Arizona electric users having no cost responsibility, he said.

A series of public meetings to explain the project have been scheduled.

They will be from 4 to 8 p.m. Tuesday at the Quartzite Elementary School, 930 W. Quail, Quartzite; 9 a.m. to noon Wednesday at the Best Western Central Phoenix Inn, 1100 N. Central Ave., Phoenix; and 4 to 8 p.m. Wednesday at Ruth Fisher Elementary School, 38201 W. Indian School Road, Tonopah.

Also there is a feasibility study on a $2 billion to $4 billion TransWest Express power line that would run from coal and wind generation plants in Wyoming to Arizona.

The route is still being studied, but it would probably run through Utah and enter Arizona at the Navajo Generating Station near Page, the Four Corners area, or the Las Vegas-Hoover Dam area.

From any of those points, the electricity could move to the Valley through existing power lines or through new lines that follow existing power-line corridors, said Bob Smith, manager of the project for APS.

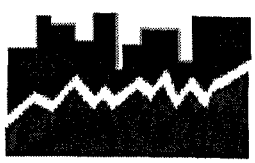
A decision on whether the project is feasible is expected to be made in June, and construction could begin in 2010 with completion in 2013, Smith said. The major question is if it would be cheaper to generate power near the source of the fuel and import the electricity through the power lines or transport the coal by rail to plants in or near Arizona, he said.

EXHIBIT J-3
ECONOMIC AND FISCAL IMPACT OF THE DPV2 POWER LINE
(April 2006)

Economic and Fiscal Impact of the DPV2 Power Line

Prepared For:
Southern California Edison

Prepared By:



Elliott D. Pollack & Company
7505 East Sixth Avenue, Suite 100
Scottsdale, Arizona 85251

April 2006

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Executive Summary

Introduction

Elliott D. Pollack & Company has been retained to perform an economic and fiscal impact analysis on the State of Arizona related to the construction of a second Devers to Palo Verde (DPV2) electric transmission power line. The line will run along the current DPV1 transmission line, through Maricopa and La Paz Counties and into California.

Methodology

Economic impact analysis examines the regional implications of an activity in terms of three basic measures: output, wages, and job creation. Fiscal impact analysis, on the other hand, evaluates the public revenues and costs created by a particular activity. In fiscal impact analysis, the primary revenue sources of government entities are analyzed to determine how the activity may financially affect them.

Economic impacts are categorized in this study as either direct, indirect or induced. For instance, direct employment consists of jobs held by a project's or company's employees. Indirect employment is those jobs created by businesses that provide goods and services essential to the operation or construction of a project or company. Finally, the spending of the wages and salaries of the direct and indirect employees on items such as food, housing, transportation, and medical services creates induced employment in all sectors of the economy.

Multipliers have been developed to estimate the indirect and induced impacts of various direct economic activities. The Minnesota IMPLAN Group developed the multipliers used in this study.

This report also provides an estimate for the fiscal impact on Maricopa and La Paz Counties. The inclusion of county impacts was required because the state does not collect a property tax and the exclusion of counties would greatly understate the total regional fiscal impact.

Economic and Fiscal Impact Summary

The construction of the DPV2 power line will generate an estimated 488 jobs (over the course of two years) and provide a two year economic impact of $86.3 million.[1] During this construction phase, the State of Arizona will receive an estimated $5.2 million in tax revenues.[2] Furthermore, Maricopa County will collect an estimated $1.0 million in tax revenues and La Paz County will also collect about $1.0 million in tax receipts.[3] Combined, state and county tax receipts will total $7.2 million.

In addition to the economic and fiscal impacts created during the construction phase, benefits will be realized if the state's current merchant power plants ramp up production and purchase

[1] See Page 9; Table 2 for additional detail.
[2] See Page 10; Table 3 for additional detail.
[3] See Pages 10, 11; Tables 4, 5 for additional detail.

additional supplies of natural gas. For every additional $10 million in natural gas purchases that occur in Arizona, the state will collect an additional $560,000 in use taxes.

When the construction phase is completed, Maricopa and La Paz Counties will continue to collect property taxes related to the power lines. In year one, as an example, Maricopa County is expected to receive approximately $835,000 in related property taxes while La Paz County is expected to receive approximately $1.25 million.[4]

Southern California Edison
DPV2
Economic and Fiscal Impact - Arizona
Summary

Construction Phase

Economic Impact

	Year 1	Total Over 2 Years
Jobs Created		
Direct	150	250
Indirect & Induced	143	237
Total	293	488
Economic Output ($ millions)	$48.4	$86.3

Fiscal Impact ($ millions)

State of Arizona	$5.16
Maricopa County	$1.03
La Paz County	$1.03
Total State and Counties	$7.22

On-Going (Post Construction)

Fiscal Impact ($ millions)*	Year 1	Total Over 10 Years
Maricopa County Property Taxes	$0.83	$6.81
La Paz County Property Taxes	$1.25	$10.18
Total On-Going Property Taxes	$2.08	$17.00

* Figures do not include use tax collections by the State of Arizona as a result of additional purchases of natural gas by local merchant power plants. For perspective, this would amount to $560,000 for every additional $10M in purchases.

Source: Elliott D. Pollack & Company; IMPLAN; Southern California Edison

[4] See Page 13; Table 6 for additional detail.

1.0 Introduction, Methodology, and Assumptions

1.1 Background

Elliott D. Pollack & Company has been retained to perform an economic and fiscal impact analysis of the impacts on the State of Arizona related to the construction of a Devers to Palo Verde 2 (DPV2) electric transmission line. The power line would run along the DPV1 corridor. This analysis does not consider economic impacts related to environmental issues.

1.2 Economic Impact Methodology

Economic impact analysis examines the economic implications of an activity in terms of sales or output, earnings, and employment. For this study, the analysis focuses on the activity related to the construction of the DPV2 power line. On-going operations would only relate to minimal, sporadic maintenance. Thus, the resulting on-going economic impact related to power line maintenance is similarly negligible and is excluded from the analysis.

For additional background, the different types of economic impacts are known as direct, indirect, and induced, according to the manner in which the impacts are generated. For instance, direct employment consists of permanent jobs held by a project's or company's employees. Indirect employment is those jobs created by businesses that provide goods and services essential to the operation or construction of the project or company. Finally, the spending of the wages and salaries of the direct and indirect employees on items such as food, housing, transportation and medical services creates induced employment in all sectors of the economy. These secondary effects are captured in the analysis conducted in this study.

Multipliers have been developed to estimate the indirect and induced impacts of various direct economic activities. The Minnesota IMPLAN Group developed the multipliers used in this study. The multipliers relate to economic activity in Arizona only. The economic impact is categorized into four types of impacts:

- Employment Impact – the total wage and salary and self employed jobs in a region. Jobs include both part time and full time workers.

- Earnings Impact – the personal income, earnings or wages, of the direct, indirect and induced employees. Earnings include total wage and salary payments as well as benefits of health and life insurance, retirement payments and any other non-cash compensation.

- Economic Output – the economic output, also referred to as sales or activity, relates to the gross receipts for goods or services generated by the project's operations. This may be thought of as the GDP of a particular operation within Arizona.

Economic impacts are by their nature regional in character. In this report, economic impacts are calculated for Arizona only (i.e. estimates related to impacts on surrounding states is not considered).

1.3 Fiscal Impact Methodology

Fiscal impact analysis studies the public revenues associated with a particular economic activity. The primary revenue sources of local, county, and state governments (i.e. taxes) are analyzed to determine how an activity may affect the various jurisdictions. This study will focus on the fiscal benefits derived from the construction of the DPV2 power line, as well as the on-going property taxes that will be collected in subsequent years.

The fiscal impact figures cited in this report have been generated from information provided by a variety of sources including the U.S. Bureau of the Census; the U.S. Department of Labor; the Internal Revenue Service; the Arizona Department of Revenue; the Arizona Tax Research Association; and the U.S. Consumer Expenditure Survey.

Elliott D. Pollack and Company has relied upon Southern California Edison for estimates of construction cost and employment. Unless otherwise stated, all dollar values are expressed in 2006 dollars.

Following is a description of the typical revenue sources of the various jurisdictions that are considered in economic and fiscal impact analyses. This report focuses on the fiscal impacts on the State of Arizona, Maricopa and La Paz Counties.

- Construction Sales Tax
  The state, counties, and cities levy a sales tax on materials used in the construction of buildings or development of land improvements. That tax is calculated by state law under the assumption that 65% of the construction contract are related to construction materials, with the remaining 35% devoted to labor. The sales tax rate is then applied to the 65% figure. The sales tax on construction materials is a one-time collection by the governmental entity. Construction sales tax is generated during any new construction as well as from improvements.

  The state currently levies a 5.6% sales tax on construction activity. Maricopa County levies a sales tax of 0.7%. La Paz County levies a sales tax of 1%.

- Sales and Use Tax
  The state, counties and local cities also charge sales taxes at similar rates on retail goods and services. These tax rates are applied to direct sales at the private retail establishments. Likewise, sales taxes are collected on the spending of direct, indirect and induced employees.

- State Income Tax
  The State of Arizona collects taxes on personal income. The tax rate used in the analysis averages about 1.6% for earnings. These percentages are based on the most recently available income tax data from the state and the projected wage levels of jobs created by the construction and operations impact. This tax is applied to the wages and earnings of direct, indirect and induced employment.

- State Unemployment Tax
  Unemployment insurance tax for employees is 2.7% on the first $7,000 of earned income. This factor is applied to the projected wages and earnings of direct and indirect employees.

- HURF Tax
  The State of Arizona Highway User Revenue Fund collects a motor vehicle fuel tax of $0.18 per gallon. The tax revenue is calculated based on a vehicle traveling 12,000 miles per year at 20 miles per gallon. These factors are applied to the projected direct and indirect employee count. Portions of this tax are distributed to cities and counties throughout Arizona based on a formula that includes population and the origin of gasoline sales.

- Vehicle License Tax
  The vehicle license tax is a personal property tax placed on vehicles at the time of annual registration. This factor is applied to the projected direct, indirect and induced employee count. The average tax used in this analysis is $148 and funds are shared between the cities, county and state in accordance with population-based formulas.

- State Shared Revenues
  Each city in Arizona receives a portion of state revenues from four different sources - state sales tax, state income tax, vehicle license tax, and highway user tax. The formulas for allocating these revenues are primarily based on population. Counties share in the revenue sources of the state, with the exception of the income tax.

- Property Taxes
  Property taxes on utility lines are paid during construction as well as annually (at a depreciated rate) once the line is operating. During construction, the property tax is calculated on a base that is equal to 50% of the total construction contract value multiplied by the assessment ratio (25%). Once the line is operating, the net assessed value is based on a deprecation rate each year. The net assessed value is then multiplied by the assessed value ratio. Historically, the centrally assessed ratio has been at a 25% rate compared to the residential assessment rate of 10%. However, the State Legislature enacted legislation in 2005 that reduces the assessment rate for commercial real estate by ½% per year over a next ten years. This legislation will reduce the property taxes paid by commercial properties over the long term.

Revenues are further categorized in this analysis as either primary or secondary, depending on their source and how they flow through the economy into tax accounts. For instance, some revenues, such as construction sales taxes, are straightforward calculations based on the cost of construction. The State of Arizona and local governments collect the construction sales tax directly from contractors and others on the project. These revenues are described in this study as primary revenues.

Secondary revenues, on the other hand, flow from the wages of those direct, indirect and induced employees who are supported by a company or project. Estimates of revenue generation to governmental entities are based on typical wages of the employees working on the project, their

spending patterns, projections of where they might live, and other assumptions outlined in this report.

Again, this report provides an estimate for the fiscal impact on the State of Arizona, Maricopa and La Paz Counties. The inclusion of county impacts was required because the state does not collect a property tax and the exclusion of these counties would greatly understate the total regional fiscal impact. A map displaying the power line's route through Maricopa and La Paz Counties is provided in Appendix A.

1.4 Assumptions

Table 1 displays the primary assumptions included in this review related to the development of the DPV2 power line. All data pertaining to the development of the transmission line was provided by Southern California Edison (SCE). The provided values are apportioned to both Maricopa and La Paz Counties according to reported line miles in each area.

SCE reports that the total power line market value (i.e. book value) will equal $201 million in Arizona. This value is used for calculating property tax impacts. However, specific construction contract values are used to determine construction sales tax payments. According to SCE, the value of the construction contract is estimated at $143 million. This smaller figure will be used by the Arizona Department of Revenue to determine tax liability. The provided construction value, excluding materials and overhead, equals $62.3 million.

Table 1 displays the assumptions that drive the economic and fiscal impacts provided in this report.

Table 1

Assumptions of Analysis
Southern California Edison DPV2

Construction and Value of DPV2	
Market Value	($ mil)
Transmission line	$152.0
Substation & related facilities*	$43.0
Land	$6.0
Total value of project	**$201.0**
Construction Contract Value	($ mil)
Transmission line	$107.0
Substation & related facilities*	$30.0
Land	$6.0
Total value of project	**$143.0**
Construction only (excluding materials and overhead)	($ mil)
Transmission line	$56.5
Substation & related facilities*	$5.8
	$62.3
Percent of line in Maricopa County	55%
Percent of line in La Paz County	45%

* Substation does not include transformation.

Source: Southern California Edison; Elliott D. Pollack & Compnay

2.0 Economic and Fiscal Impact - DPV2

2.1 Construction of Power Line

The development of the transmission line is expected to take up to two full years, while the substation construction will be completed within one year. Therefore, the economic and fiscal impacts associated with the construction of the power line will also be spread over two full years, while the substation is a one-year impact only. In the first year of construction, the project will result in employment of 150 direct jobs, 49 indirect jobs, and 93 induced jobs, for a total of 293. During the second year, substation construction will not produce jobs, so there will be only 195 total jobs created in the second year of construction. These job counts are calculated through use of Implan multipliers.

Based on the provided assumptions, economic output from all direct, indirect, and induced employment related to the construction of the power line will total an estimated $86.3 million over the two years. This is derived by summing $37.9 million in economic output each year for two years related to the transmission line (i.e. $37.9 x 2), and another $10.6 million related to substation construction.

Table 2
Economic Impact of Construction
Southern California Edison DPV2
State of Arizona
(2006 Dollars)

Impact Type	Jobs	Wages ($ mil)	Economic Output ($ mil)
Transmission line (each year over two years)			
Direct	100	$5.0	$28.3
Indirect	33	$1.5	$3.8
Induced	62	$2.4	$5.8
Total	195	$8.8	$37.9
Substation (one year only)			
Direct	50	$2.5	$5.8
Indirect	16	$0.7	$1.9
Induced	31	$1.2	$2.9
Total	98	$4.4	$10.6

Source: Elliott D. Pollack & Company; IMPLAN; Southern California Edison

The construction of the power line will also result in tax revenues for the state and counties. Table 3 displays that during the two year construction period, a total of $4.4 million in construction sales taxes will be generated for the State of Arizona. When adding tax revenues from other categories such as employee spending sales taxes, income taxes, etc., tax revenues to the state sum to an estimated $5.2 million.

Table 3

Fiscal Impact of Construction
Southern California Edison DPV2
State of Arizona
(2006 Dollars)

Total Fiscal Impact During 2 Years of Construction

	Primary Revenues	Secondary Revenues from Employment					
Impact Type	Construction Sales Tax	Employees Spending Sales Tax	Income Tax	Vehicle License Tax	Unemp. Tax	HURF Tax	Total Revenues
Direct Revenues	$4,403,300	$148,700	$196,500	$9,000	$47,300	$18,200	**$4,823,000**
Indirect Revenues	N/A	$46,200	$58,800	$2,900	$15,400	$5,900	**$129,200**
Induced Revenues	N/A	$79,600	$86,200	$5,600	$29,500	$11,300	**$212,200**
Total Revenues	**$4,403,300**	**$274,500**	**$341,500**	**$17,500**	**$92,200**	**$35,400**	**$5,164,400**

NOTES
1 The figures for the State of Arizona are net of revenues distributed to counties, cities, and towns.
The figures are intended only as a general guideline as to how the State could be impacted by the project.
2 The above figures are based on the current economic structure and tax rates of the State of Arizona.

Source: Elliott D. Pollack & Company; IMPLAN; Arizona Department of Revenue; Arizona Tax Research Association; Southern California Edison

Tables 4 and 5 display the fiscal impacts related to the construction of the power line at the county level. Table 4 identifies that for Maricopa County, total tax revenues during the two year construction phase will equal approximately $1.0 million. Table 5 identifies that for La Paz County, total tax revenues will similarly equal about $1.0 million.

Table 4

Fiscal Impact of Construction
Southern California Edison DPV2
Maricopa County

Total Fiscal Impact During 2 Years of Construction

	Primary Revenues		Secondary Revenues from Employment			
Impact Type	Construction Sales Tax	Property Tax (During Const.)	Employees Spending Sales Tax	Residents Property Tax	State Shared Revenues	Total Revenues
Direct Revenues	$342,800	$299,130	$15,600	$36,000	$264,300	**$957,830**
Indirect Revenues	N/A	N/A	$4,900	$11,800	$10,000	**$26,700**
Induced Revenues	N/A	N/A	$8,500	$22,400	$18,100	**$49,000**
Total Revenues	**$342,800**	**$299,130**	**$29,000**	**$70,200**	**$292,400**	**$1,033,530**

NOTES
1 The figures include revenues collected by the State and shared with counties.
The figures are intended only as a general guideline as to how the County could be impacted by the project.
2 The above figures are based on the current economic structure and tax rates of the County.

Source: Elliott D. Pollack & Company; IMPLAN; Arizona Department of Revenue; Arizona Tax Research Association; Southern California Edison

State shared revenues represented in Tables 4 and 5 include the construction sales taxes collected by the state at the 5.6% sales tax rate and then distributed to counties based on population. For

Maricopa County, state shared construction sales tax is about $230,000 of the $264,000, or 88% of the direct shared revenues. For La Paz County, on the other hand, the portion of the state's construction sales tax shared is much lower because of the population-based formula. La Paz County's state shared construction sales tax is $1,090.

Table 5
Fiscal Impact of Construction
Southern California Edison DPV2
La Paz County

Total Fiscal Impact During 2 Years of Construction

	Primary Revenues		Secondary Revenues from Employment			
Impact Type	Construction Sales Tax	Property Tax (During Const.)	Employees Spending Sales Tax	Residents Property Tax	State Shared Revenues	**Total Revenues**
Direct Revenues	$489,800	$447,209	$16,000	$30,100	$1,200	**$984,309**
Indirect Revenues	N/A	N/A	$5,000	$9,800	$50	**$14,850**
Induced Revenues	N/A	N/A	$8,700	$18,800	$100	**$27,600**
Total Revenues	**$489,800**	**$447,209**	**$29,700**	**$58,700**	**$1,350**	**$1,026,759**

NOTES
1 The figures include revenues collected by the State and shared with counties.
The figures are intended only as a general guideline as to how the County could be impacted by the project.
2 The above figures are based on the current economic structure and tax rates of the County.

Source: Elliott D. Pollack & Company; IMPLAN; Arizona Department of Revenue; Arizona Tax Research Association; Southern California Edison

2.2 On-Going Operations of New Power Line

Documents provided by SCE indicate that only a minimal number of employees will be required to maintain the power line on a rotational basis once constructed. Therefore, this activity is excluded from the calculations.

Once the construction phase is completed, the counties will continue to receive significant property tax payments. Table 6 on the following page displays this on-going tax collection by both Maricopa and La Paz Counties for the ten years following the construction of the power line. The assessment ratios were supplied by the Arizona Department of Revenue.

Beginning in year one, Maricopa County will receive approximately $835,000 in property taxes. La Paz County will receive just under $1.25 million in year one. La Paz County displays higher revenues because the county imposes a higher property tax rate. The tax payments decline over time as depreciation is counted and the assessment ratio is lowered. Nonetheless, this represents a significant gain for the local governments.

2.3 Additional Operations at Current Plants

It is also possible that the construction of DPV2 will result in additional power generation at Arizona's current merchant power plants that are not operating at full capacity. If this occurs, additional natural gas supplies will be purchased and use taxes will be collected by the State of Arizona.

For perspective, for each $10 million in new natural gas purchases that occur locally, the state will collect $560,000 in use tax payments. This would occur every year that the natural gas is purchased. County tax rates would not apply to these purchases.

Table 6

Property Tax Impact of Transmission Line
Southern California Edison DPV2

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Total value less depreciation	$195,000,000	$190,125,000	$185,371,875	$180,737,578	$176,219,139	$171,813,660	$167,518,319	$163,330,361	$159,247,102	$155,265,924
Assessment ratio	24.5%	24.0%	23.5%	23.0%	22.5%	22.0%	21.5%	21.0%	20.5%	20.0%
Maricopa County Property Tax	$834,500	$797,000	$760,900	$726,100	$692,600	$660,300	$629,100	$599,100	$570,200	$542,400
La Paz County Property Tax	$1,247,600	$1,191,600	$1,137,600	$1,085,600	$1,035,400	$987,100	$940,500	$895,700	$852,500	$810,900

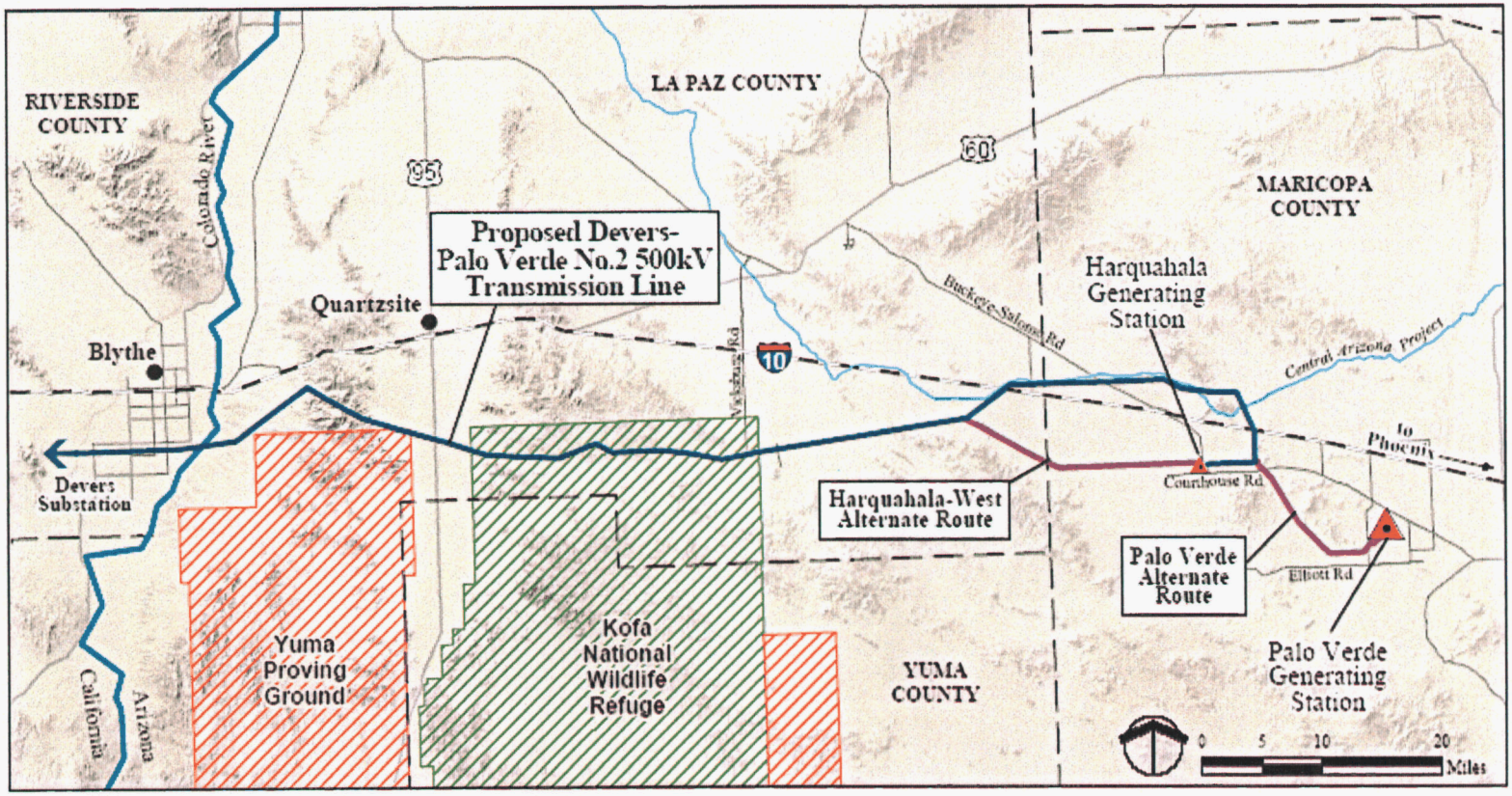
NOTES

1 The total may not equal the sum of the impacts due to rounding.
2 All dollar figures are in constant dollars. Inflation has not been included in these figures.
3 Depreciation set at 2.5% per year for purpose of this analysis.
4 The above figures are based on the current economic structure and tax rates of the county.

Source: Elliott D. Pollack & Company; IMPLAN; Arizona Department of Revenue; Arizona Tax Research Association; Southern California Edison.

Appendix A

DPV2


RIVERSIDE COUNTY
Colorado River
LA PAZ COUNTY
95
60
MARICOPA COUNTY
Proposed Devers-Palo Verde No.2 500kV Transmission Line
Quartzsite
Blythe
Harquahala Generating Station
Buckeye-Salome Rd
Central Arizona Project
10
Vekol Rd
to Phoenix
Courthouse Rd
Devers Substation
Harquahala-West Alternate Route
Palo Verde Alternate Route
Elliott Rd
Yuma Proving Ground
Kofa National Wildlife Refuge
YUMA COUNTY
Palo Verde Generating Station
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Arizona
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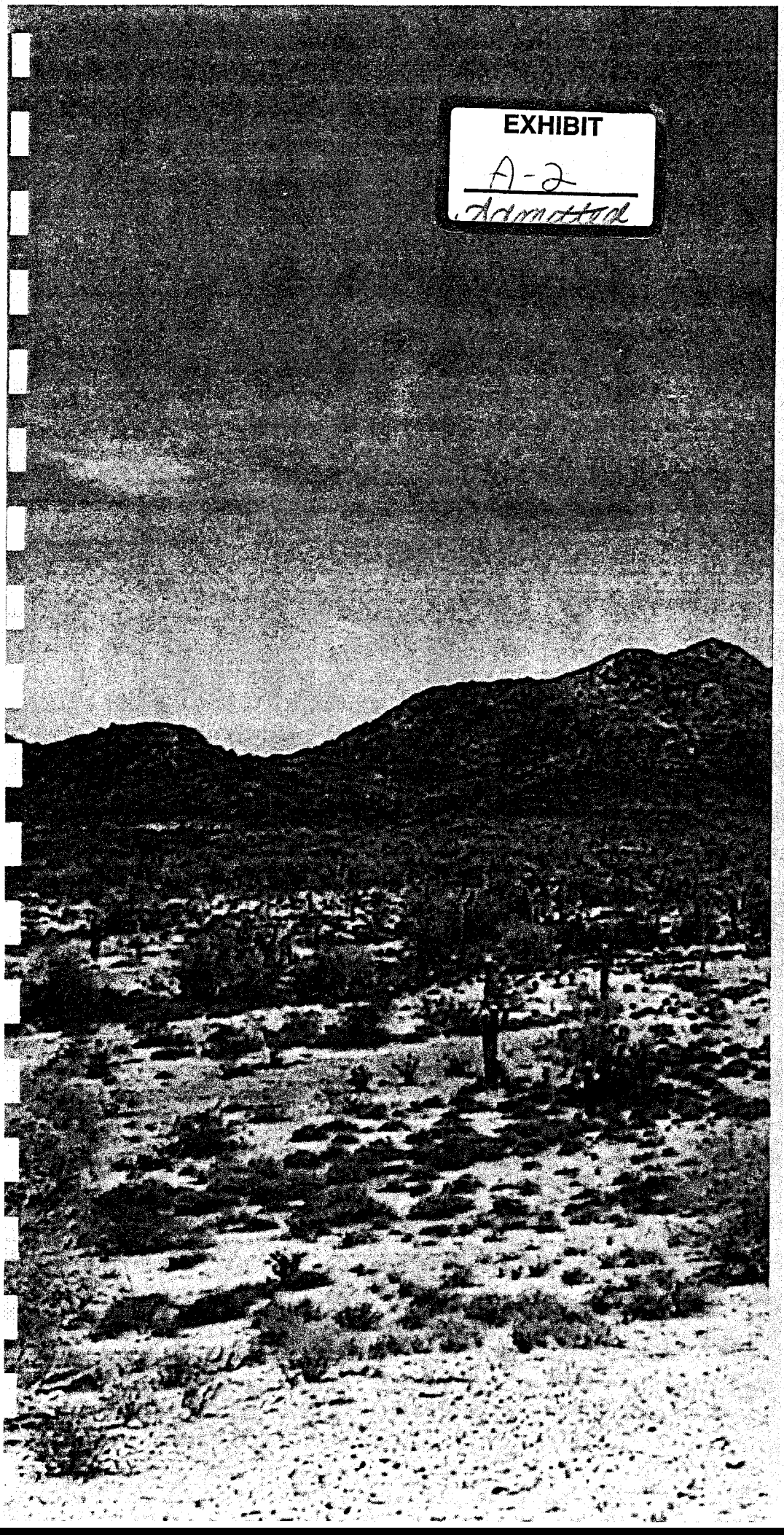

Case No.: 130

Docket No.:
L-0000A-06-0295-00130

SUPPLEMENTAL PACKET

APPLICATION FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY

DEVERS-PALO VERDE NO.2 TRANSMISSION LINE PROJECT

Prepared for:

Arizona Power Plant and Transmission Line Siting Committee

Submitted by:

Southern California Edison Company

SOUTHERN CALIFORNIA EDISON

An EDISON INTERNATIONAL Company

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CD of virtual tours in pocket on back cover

1

Devers-Palo Verde No. 2
Transmission Line Project

Application for a Certificate Of Environmental Compatibility Case No. 130

Prepared for

Arizona Power Plant and Transmission Line Siting Committee

June 26 and 27, 2006

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

INTRODUCTION

- Project Description
- Public Outreach
- Environmental Issues
- Need and Benefits

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

ARIZONA BENEFITS

- Operational benefits
- Economic benefits

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

WITNESSES

MARCO AHUMADA

MICHAEL SIEGEL

DANA CABBELL

JOHANNES PFEIFENBERGER

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EXHIBITS

A-1 APPLICATION

A-2 SUPPLEMENT

A-3 DRAFT EIR/EIS

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An EDISON INTERNATIONAL Company

Devers-Palo Verde No. 2
Transmission Line Project

Application for a Certificate Of Environmental Compatibility Case No. 130

Prepared for

Arizona Power Plant and Transmission Line Siting Committee

June 26 and 27, 2006

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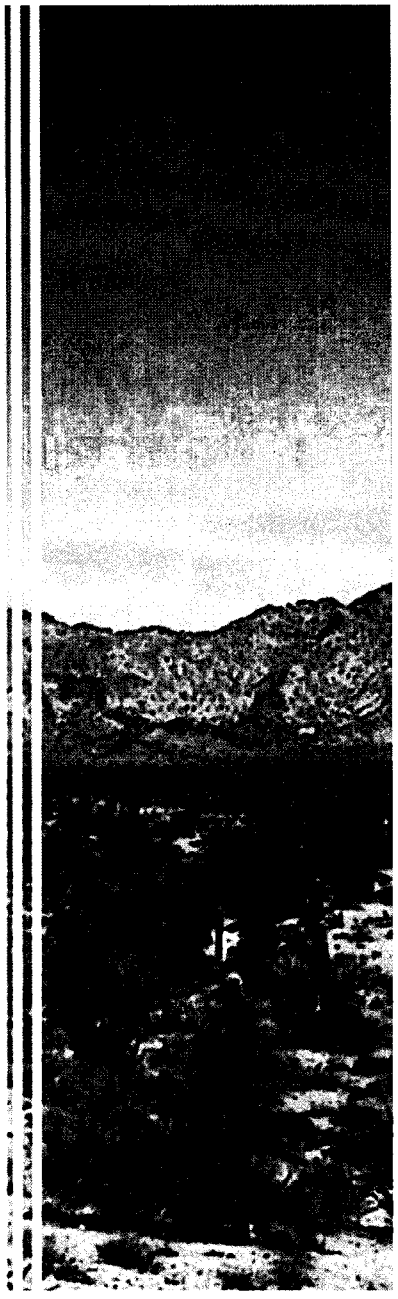
MARCO AHUMADA

Southern California Edison
Project Manager
Project Management
Organization



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WITNESS BACKGROUND

- SCE Project Manager
  - Responsible for transmission and substation projects
- Education
  - Bachelor of Science in Systems Engineering from University of Arizona

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WITNESS BACKGROUND
(continued)

- Professional Background
  - SCE Project Manager – 6 years. Transmission, substation, and distribution projects
  - SCE Engineer – 10 years. Nuclear and electric distribution engineering
  - Houston Lighting & Power Engineer – South Texas Nuclear Generating Station
  - U.S. Naval Officer – Nuclear submarines

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OUTLINE OF TESTIMONY

- Project description
- Public outreach
- Project need and benefits

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SOUTHERN CALIFORNIA EDISON

- SCE serves a population of more than 13 million in a 50,000-square-mile service area.

- SCE owns 16% of the Palo Verde Nuclear Generating Station.

- SCE paid $10.3 million in Arizona property taxes in 2005.

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INTEGRATED PLANNING

- SCE estimates that between 16% and 17% of the power it purchases and delivers to customers in 2006 will be from renewable sources

- Between 2006 and 2008, SCE will spend over $1 billion on energy efficiency programs, self-generation incentives, and solar energy programs

- Recent and planned California generation

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PROJECT HISTORY

- DPV1 - CEC issued 1978, Operational in 1982

- DPV2 line proposed in early 1980s
  - BLM granted Right-of-Way in 1989
  - USFWS issued Right-of-Way Compatibility in 1989 (for KOFA)
  - Arizona CEC application withdrawn due to California regulatory uncertainty

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PROJECT HISTORY
(continued)

- Project included in ACC 10 year plans
- Utility corridor designated in BLM land management plans

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CURRENT STATUS

- February 24, 2005 CAISO Report
- April 11, 2005 CPUC Application
- May 20, 2005 BLM Right-of-Way Grant Amendment Application
- July 25, 2005 WATS approval
- August 25, 2005 WECC approval
- May 1, 2006 ACC Application
- May 4, 2006 Draft EIR/EIS

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PROJECT DESCRIPTION
PROPOSED ROUTE

- Devers Palo Verde No. 1
- BLM Utility Corridor
- Harquahala Generating Station Switchyard
- Harquahala Junction Switchyard
- I-10

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PROJECT DESCRIPTION
PROPOSED ROUTE
(continued)

- CAP
- El Paso Natural Gas Pipeline
- KOFA
- Copper Bottom Pass
- Colorado River

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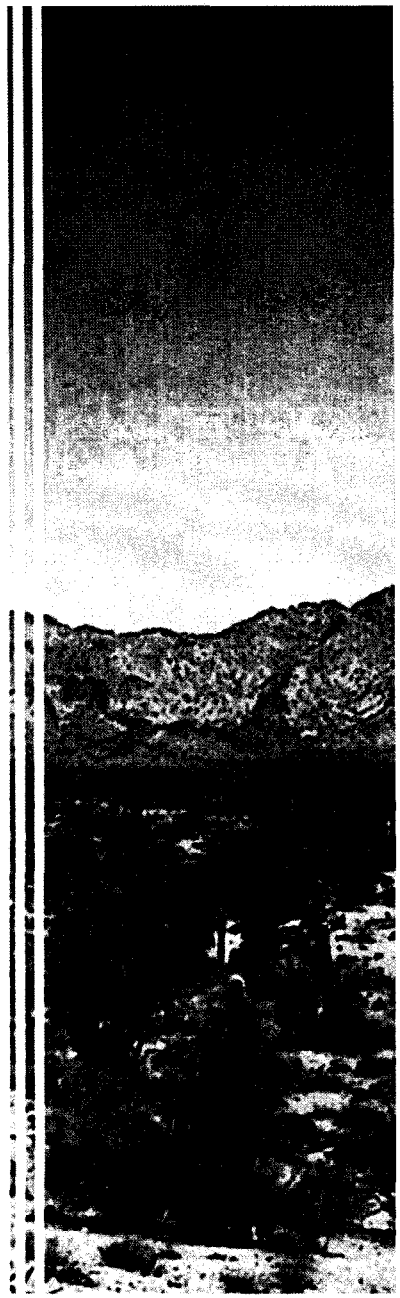
SUBALTERNATE ROUTES

- Harquahala-West subalternate
- Palo Verde subalternate



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PROJECT DESCRIPTION
FACILITIES

- Transmission Structures
  - Monopole (TSP) and lattice steel structures
  - Existing double-circuit structures
  - Typical heights
  - Typical spans
  - Materials
- Additional Facilities
  - Modifications to Harquahala Generating Station Switchyard
  - Series capacitor bank

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SCHEDULE

- Regulatory approvals: late 2006
- Right-of-Way acquisition: 2007-2008
- Begin construction: 2007
- Complete construction: 2009

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PROJECT COST ESTIMATES
JUNE 2006

Route Description	Length of Route in Arizona (miles)	Construction Cost (millions)	Right-of-Way Cost (millions)	Total Cost (millions)
Proposed Devers-Harquahala Route	102	$135	$3	$138
Harquahala-West Subalternate Route	88	$122	$3	$125
Palo Verde Subalternate Route	112	$146	$2	$148

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PUBLIC OUTREACH

- Fact sheets
  - October 2003
  - August 2004
  - April 2006
- Public and private stakeholder meetings
- Print media
- Public open house

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PUBLIC OUTREACH
(continued)

- Websites
- Telephone information line
- BLM notices and public meetings
- Exhibit H letters
- Publication of the Notice of Hearing
- Signs

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PROJECT NEED

- Brings needed cost-effective power to California citizens
- Strengthens the southwestern transmission system

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ARIZONA BENEFITS

- Operational Benefits
  - Dana Cabbell
- Economic Benefits
  - Johannes Pfeifenberger

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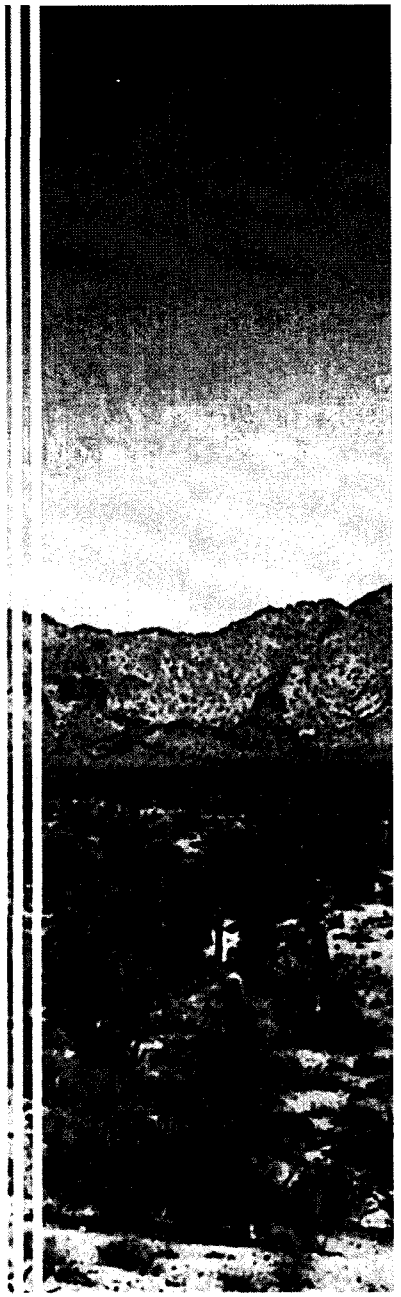

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MICHAEL S. SIEGEL, AICP

Environmental Planning Group (EPG)
Project Manager

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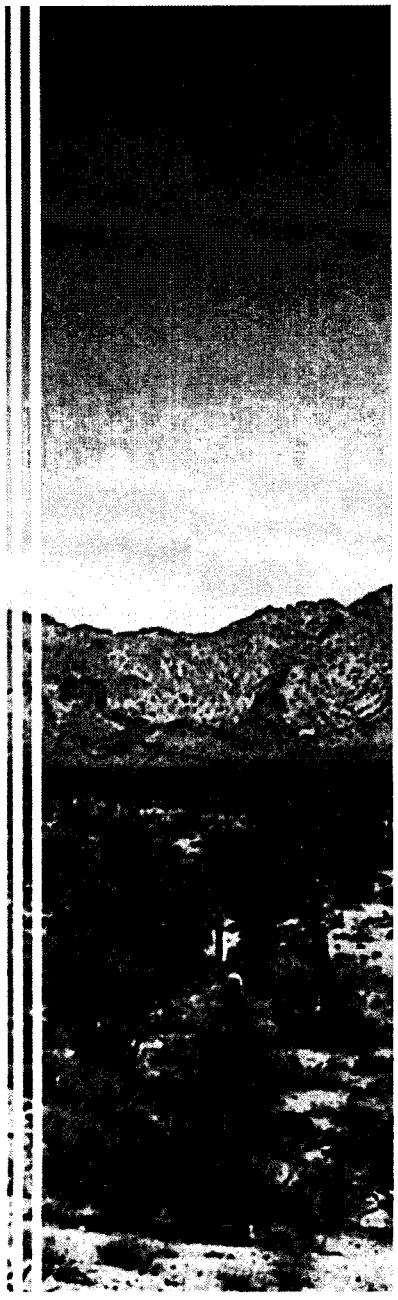
WITNESS BACKGROUND

- Education
  - Masters in City and Regional Planning, Illinois Institute of Technology
  - BA, University of California, Los Angeles
- 28 years of experience in environmental planning and electrical facility siting
- Principal of EPG since 1999
- Previously testified before the Siting Committee in 10 cases
  - Case Nos. 88, 92, 95, 102, 108, 110, 111, 112, 113, 118



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ROLE IN DPV2 PROJECT

- EPG's project manager
- EPG's lead consultant for preparation of CEC application

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SCOPE OF TESTIMONY

- Overview of the environmental studies
- Virtual tour of proposed and alternative routes
- Results of environmental studies and opinion of environmental compatibility

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OVERVIEW OF ENVIRONMENTAL STUDIES

- Reviewed previous studies
- Collected data; contacted agencies and public
- Conducted field surveys for biological, cultural, land use, and visual resources
- Conducted studies for proposed and alternate routes
- Assisted SCE to prepare the Proponent's Environmental Assessment (PEA)

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PREVIOUS ENVIRONMENTAL IMPACT STATEMENTS (EIS)

- Devers-Palo Verde No. 1 (DPV1) EIS – 1977
- Supplemental EIS for DPV2 – 1988
- Record of Decision and ROW Granted for DPV2 – 1989

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DRAFT ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT (EIR/EIS) – May 4, 2006

- Joint state (EIR) and federal (EIS) environmental review process

- EIR: CPUC is lead agency for CEQA; grants Certificate of Public Convenience and Necessity (CPCN) for State of California

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DRAFT EIR/EIS – May 4, 2006
(continued)

- EIS: BLM is lead federal agency for National Environmental Policy Act (NEPA); issues Record of Decision and Amended Right-of-Way Grant (Arizona and California)

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DEIR/EIS CONCLUSIONS: DEVERS-HARQUAHALA Arizona Segment

- Applicant's proposed Devers-Harquahala 500kV route, with Harquahala Junction Switchyard, is agency preferred and environmentally preferred
- Palo Verde Alternative: added length, no other significant impacts
- Harquahala-West: highest impacts

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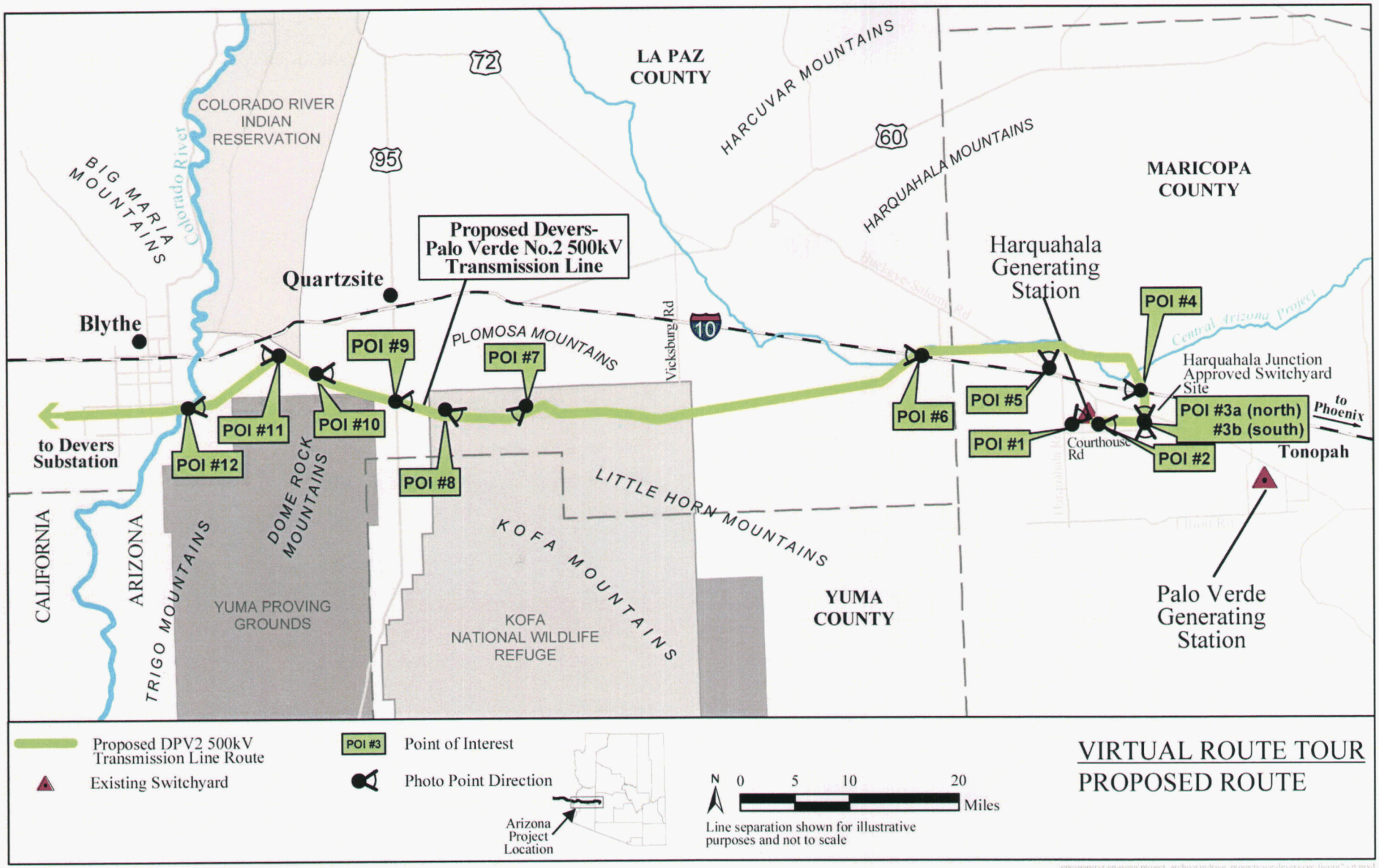

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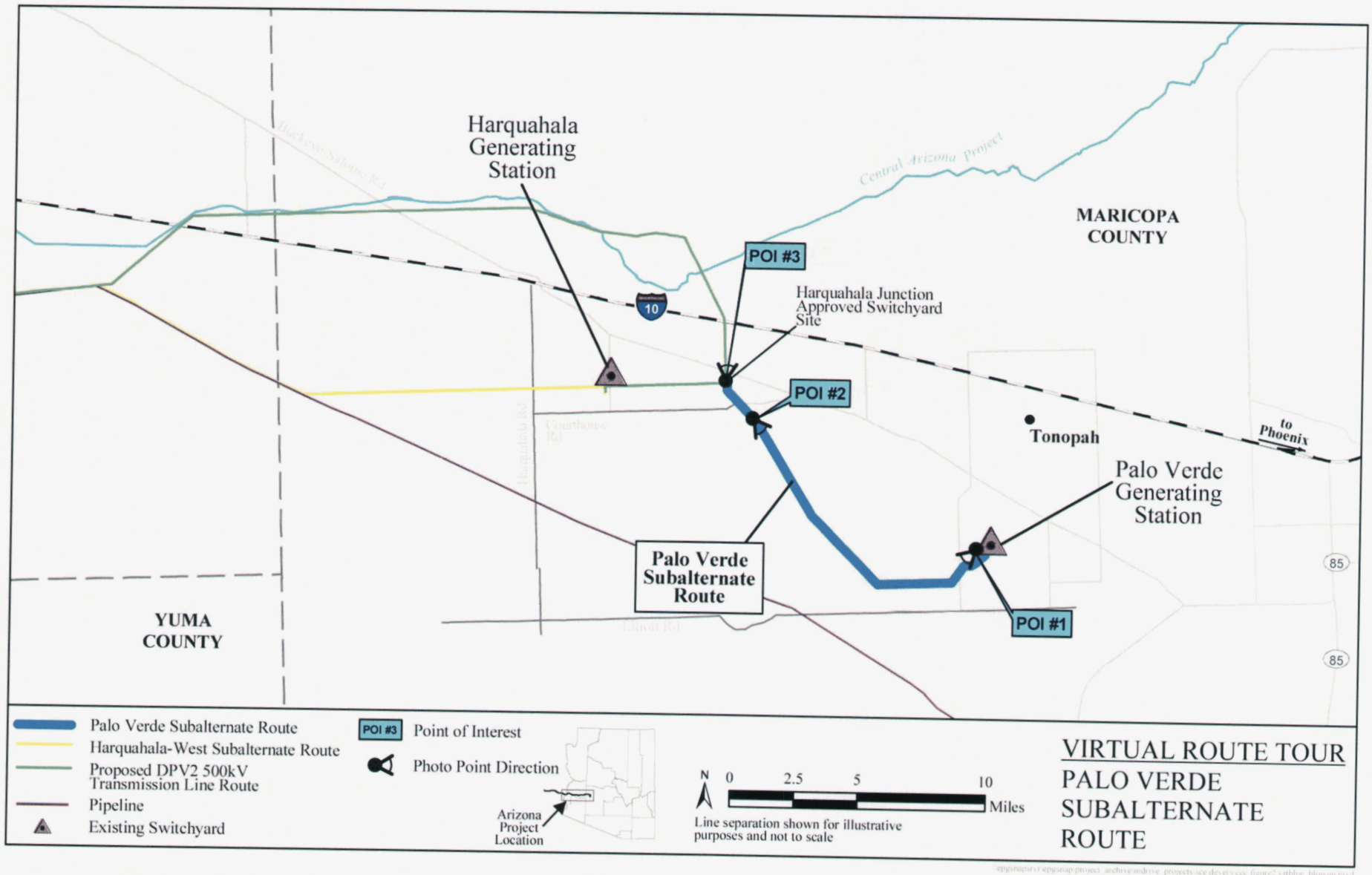

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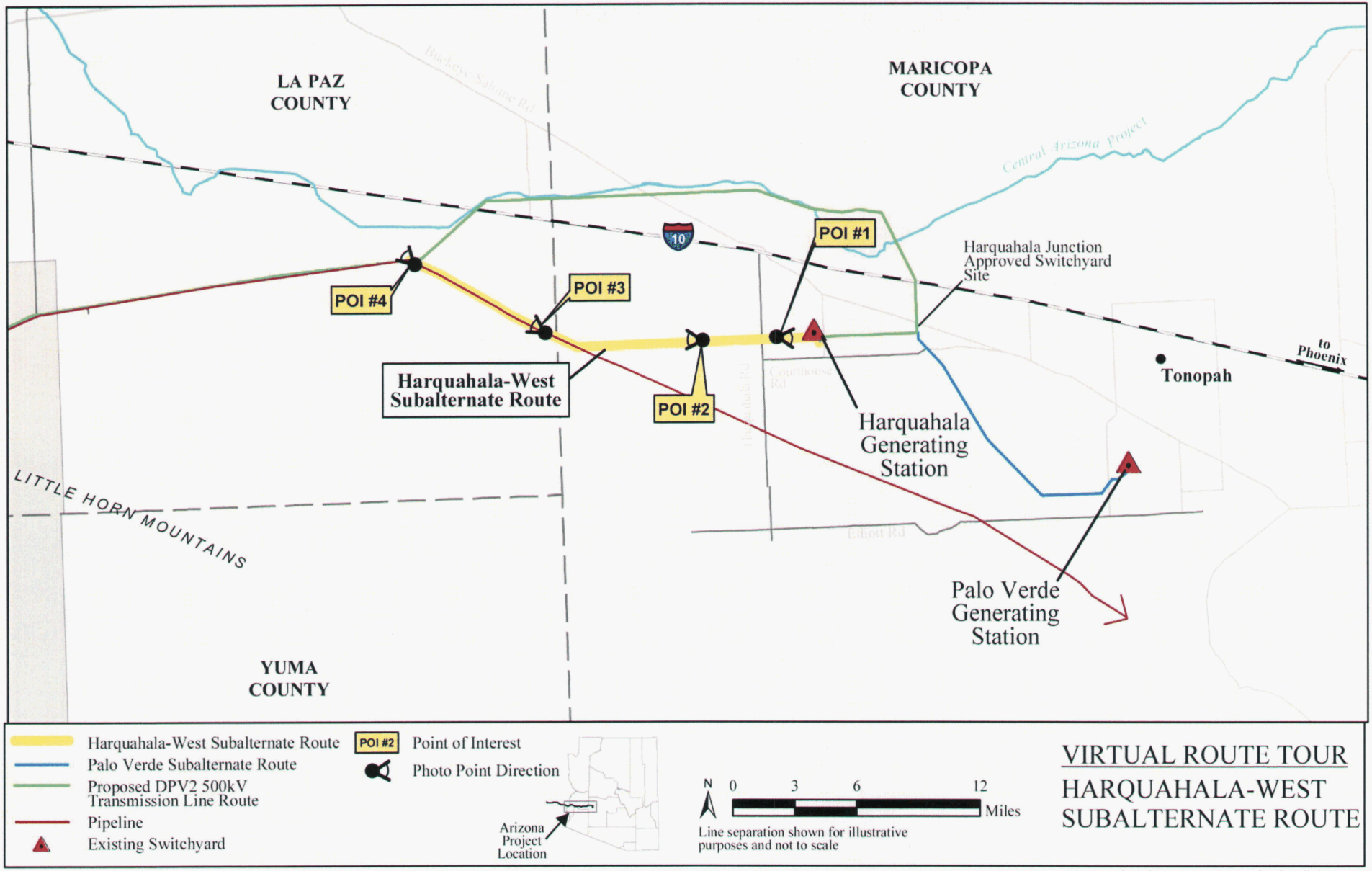

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ENVIRONMENTAL RESOURCES

- Land use and recreation
- Biological resources
- Cultural resources
- Visual resources

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LAND USE JURISDICTIONS AND LAND OWNERSHIP

DEVERS-HARQUAHALA 500kV TRANSMISSION LINE Arizona Segment	
Proposed Route	**Miles**
Bureau of Land Management	55.4
U.S. Fish and Wildlife Service (KOFA)	23.8
Department of Defense	0.1
Arizona State Trust Land	10.8
Private Land	12.1
Total	**102.2**

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LAND USE: EXISTING AND PLANNED USES

- Proposed route crosses undeveloped lands within Utility Corridors designated in Resource Management plans administered by BLM Phoenix and Yuma Field Offices
- Parallel and adjacent to DPV1 – uses existing access roads
- No conflicts with proposed development plans within corridors for the proposed route

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LAND USE: EXISTING AND PLANNED USES
(continued)

- Recreation use – minimal conflicts with dispersed uses: e.g., hiking, hunting, horseback riding, off-highway vehicle use on existing roads
- Other land uses – agriculture, other utilities
- Mitigation measures
- Minimal impact to land uses

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BIOLOGICAL RESOURCES

- Contacted BLM, AGFD, USFWS, and Arizona Department of Agriculture
- Surveys were conducted to identify biologically sensitive species

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BIOLOGICAL RESOURCES
(continued)

- Desert bighorn sheep are found in the KOFA National Wildlife Refuge and surrounding mountains, and are monitored by the Arizona Game and Fish Department as a big game species

- No federally listed species have been documented within the Arizona portion of the proposed Devers-Harquahala 500kV line route

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BIOLOGICAL RESOURCES

(continued)

- Mitigation measures to be implemented:
  - Project will comply with current BLM tortoise policy
  - Scheduling construction to avoid critical life-cycles for certain species
  - Native plant survey to be conducted on BLM and state lands prior to construction
  - Use construction techniques that minimize sensitive habitat disturbance

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CULTURAL RESOURCES

- Class I records search at SHPO, AZSITE, and BLM was conducted to identify previous studies and recorded sites within 1 mile of project ROW
- Cultural resource surveys conducted for DPV1 – mitigation of archaeological sites was performed in 1980s
- Class III archeological survey was conducted for the proposed route Area of Potential Effect (APE) – one NRHP-eligible site was found

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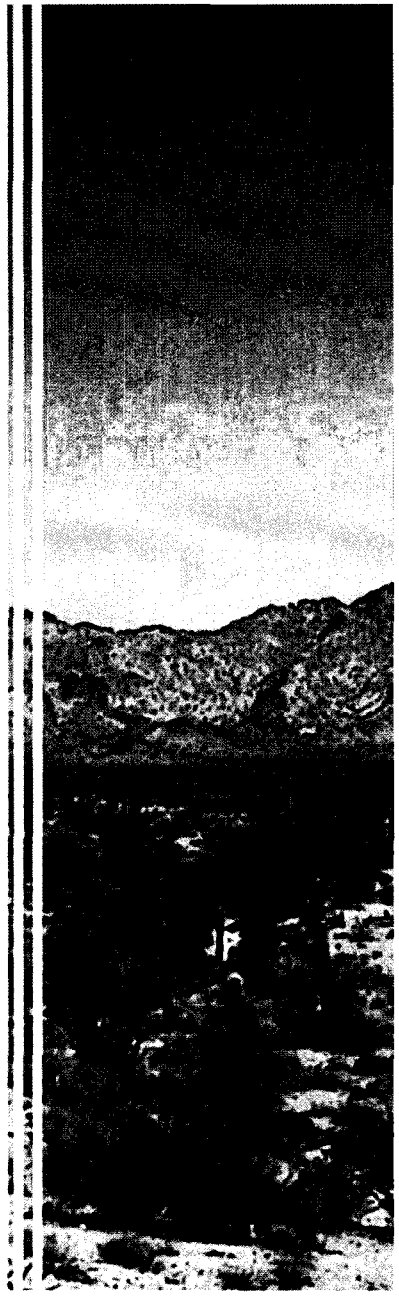
CULTURAL RESOURCES
(continued)

- Survey reports submitted and reviewed by BLM, USFWS, and ASLD

- Consultation with SHPO and Native Americans initiated by BLM



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CULTURAL RESOURCES
(continued)

- Mitigation
  - All register-eligible sites have been previously mitigated
  - Construction monitoring as required by BLM
- Minimal impacts to cultural resources

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VISUAL RESOURCES

- The proposed route parallels existing 500kV lines (modified setting) for the entire length of the route, thereby reducing visual contrast and minimizing impacts

- Majority of proposed route is located within BLM-designated utility corridors

- Utilized BLM Visual Resource Management (VRM) System method

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VISUAL RESOURCES
(continued)

- Mitigation measures
  - Match existing structure types
  - Match spans and tower heights to the extent practical
  - Use dulled steel structures and non-specular conductors
  - Use existing access roads

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VISUAL RESOURCES
(continued)

- Conclusion: The location of the proposed transmission line in a previously modified corridor, combined with project design and mitigation, effectively reduces impacts to visual resources

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CONCLUSION

- Parallels existing 500kV transmission lines, within BLM-designated utility corridors on public lands
- Uses structure types that match existing transmission structures: lattice steel towers and tubular steel poles
- Uses existing main access roads
- Construction and operation of the DPV2 Project would be environmentally compatible

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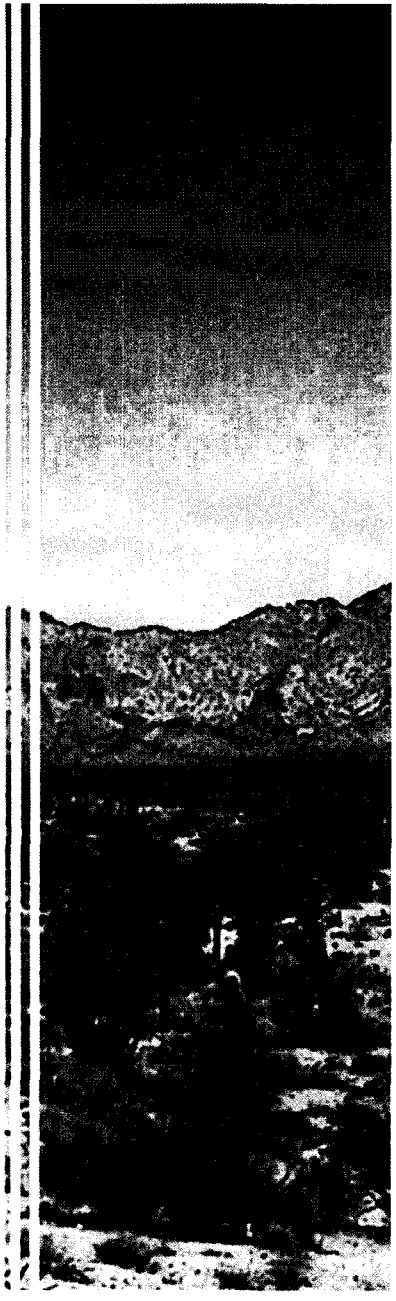
DANA CABBELL, P.E.

Southern California Edison

Manager of Regional Transmission

Planning Group



SOUTHERN CALIFORNIA EDISON

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WITNESS BACKGROUND

- Education
  - Bachelor of Science in Electrical Engineering, 1982
  - Registered Professional Electrical Engineer with the State of California, 1989
- Professional
  - Manager of Regional Transmission Planning Group
  - 23 years with SCE in transmission planning

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CURRENT POSITION

- Manager of Regional Transmission Planning Group
- Planning and evaluation of new transmission projects
- SCE representative to WECC, STEP, SWAT, and WATS
- Directed technical studies for the DPV2 Project

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THE WESTERN STATES ELECTRIC GRID

- 14 states in the western U.S.
- 2 Canadian provinces and northern Mexico
- 118,000 circuit miles of EHV transmission lines
- Integrated and interdependent system
- Planned interstate transmission projects

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REGIONAL REVIEW OF DPV2

- WECC
  - Western Electricity Coordinating Council
- STEP
  - Southwest Transmission Expansion Plan
- WATS
  - Western Arizona Transmission System
- PV E&O
  - Palo Verde Engineering and Operating Committee

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ARIZONA OPERATIONAL BENEFITS

- Enhance power pooling opportunities
- Increase emergency interconnection support
- Complements TransWest Express

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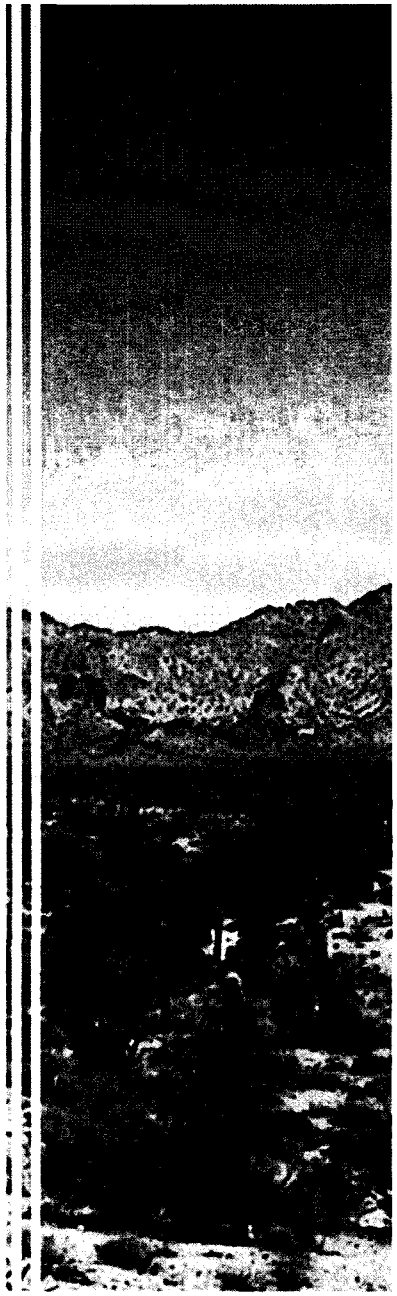

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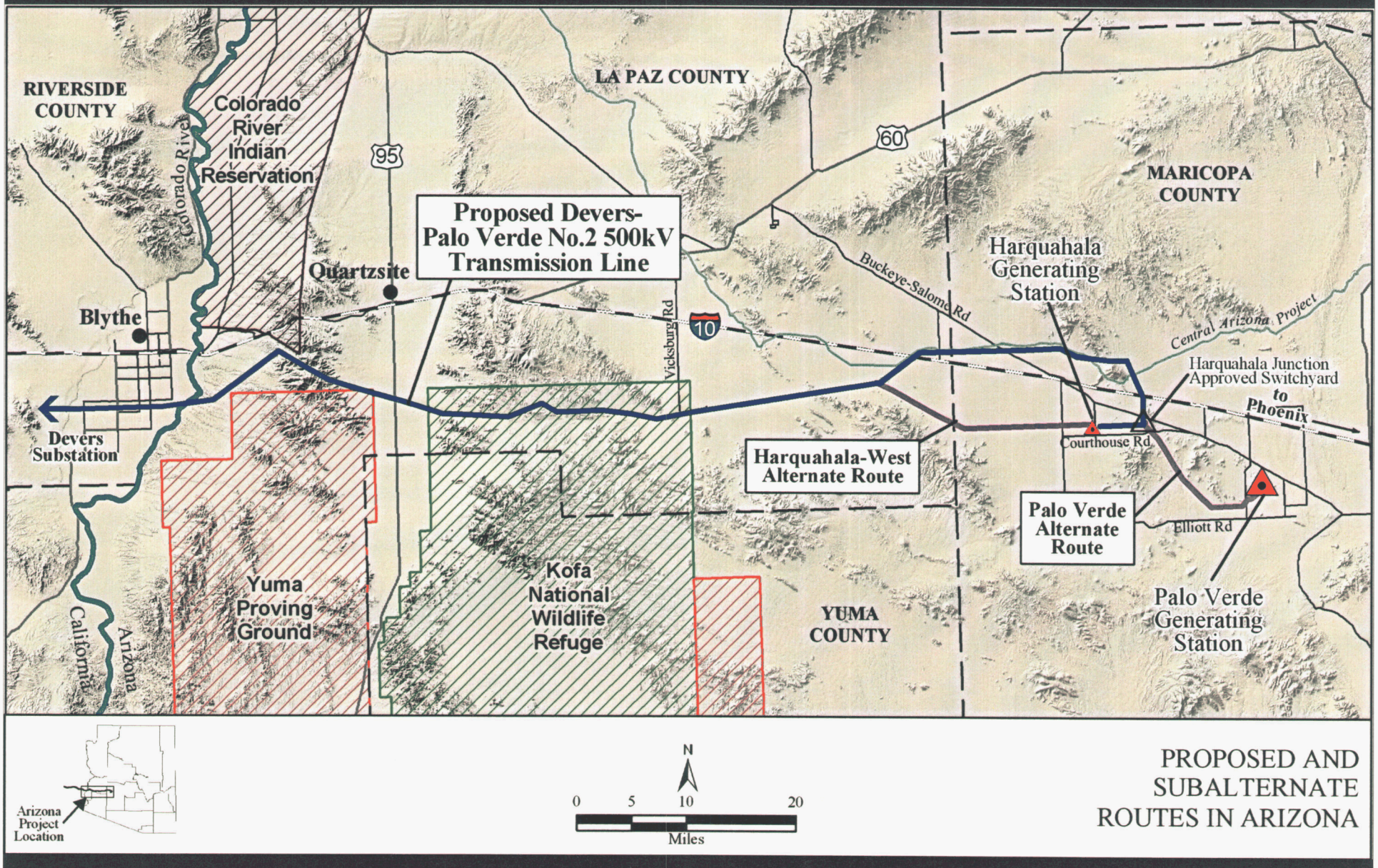
2

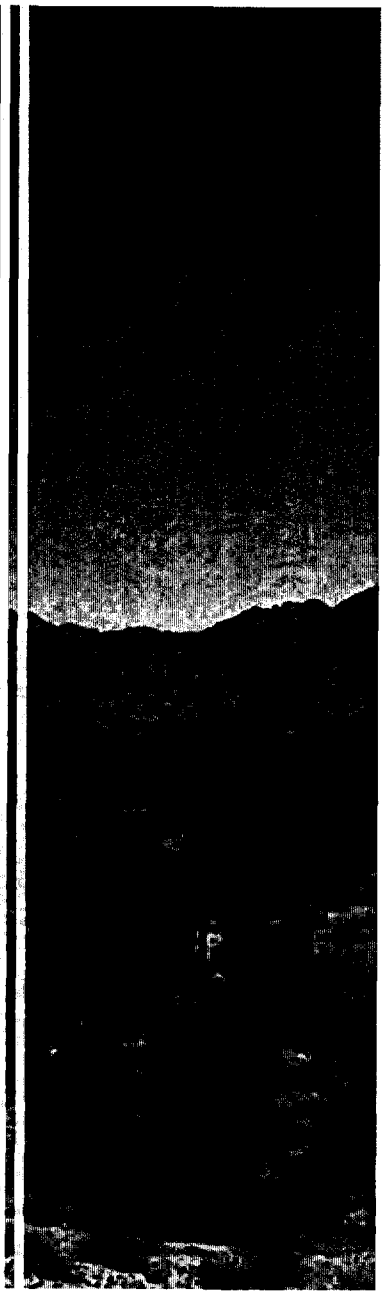


PROPOSED AND SUBALTERNATE ROUTES IN ARIZONA

A

ARIZONA REVISED STATUTE §40-360.07

"the Commission. . . shall balance, in the broad public interest, the need for an adequate, economical and reliable supply of electric power with the desire to minimize effect thereof on the environment and ecology of this state"



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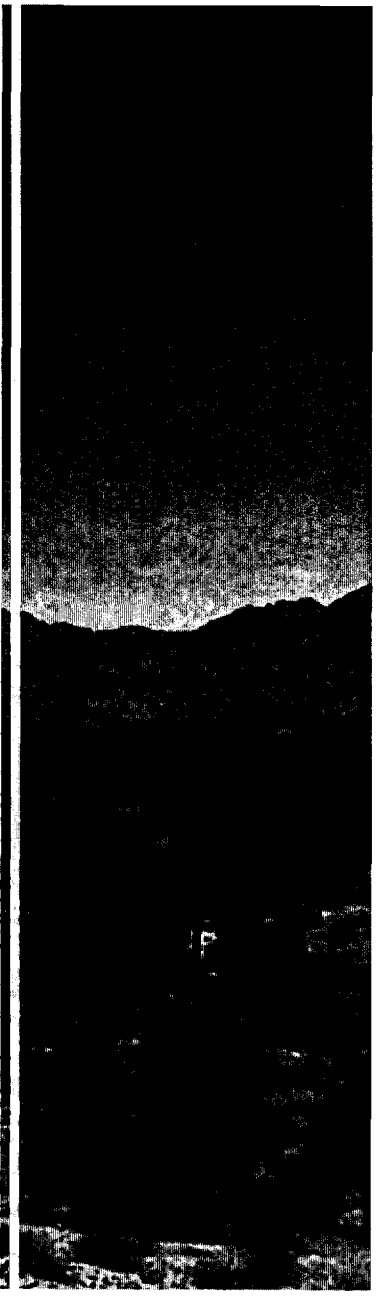
GRAND CANYON TRUST v. ARIZONA CORPORATION COMMISSION
210 Ariz. 30 (App. 2005), 107 P.3rd 356

"... The statute itself does not require that the need for power be determined based solely on the power needs of instate consumers." (Page 38)



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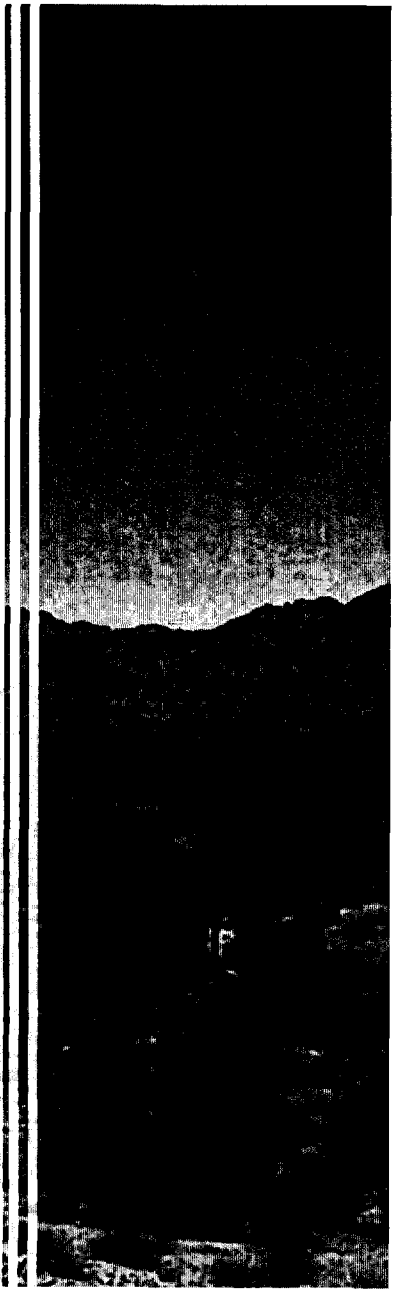
ARIZONA BENEFITS

- Strengthen the southwestern transmission grid in a manner supported by industry and regional planning groups
- Increase power pooling capacity
- Improve emergency interconnection
- Generate economic and fiscal benefits to Arizona



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ARIZONA BENEFITS
(continued)

- Facilitate other Arizona transmission projects such as TransWest Express
- Improve generation investment incentives
- Improve resource utilization and reduce production costs
- Greater liquidity and competition
- Greater fuel and load diversity, including improved access to renewable resources

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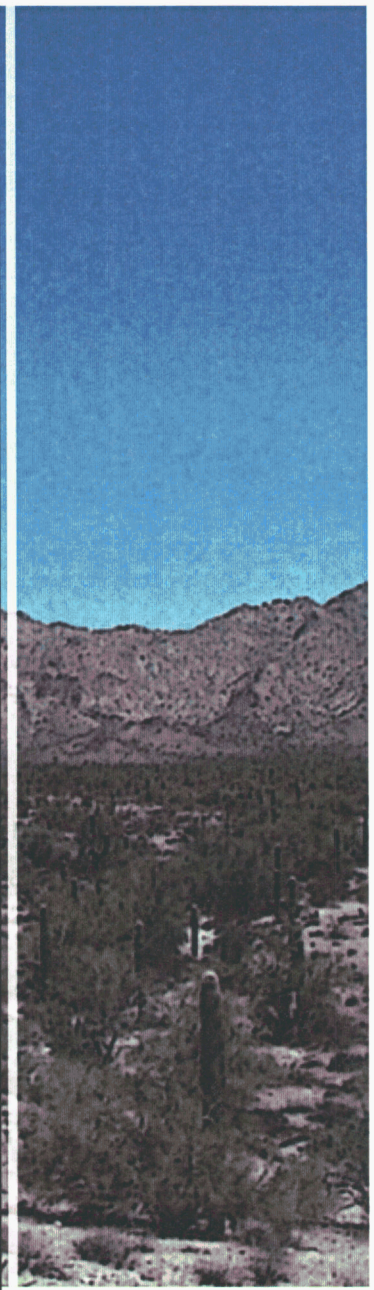
Service Area Map



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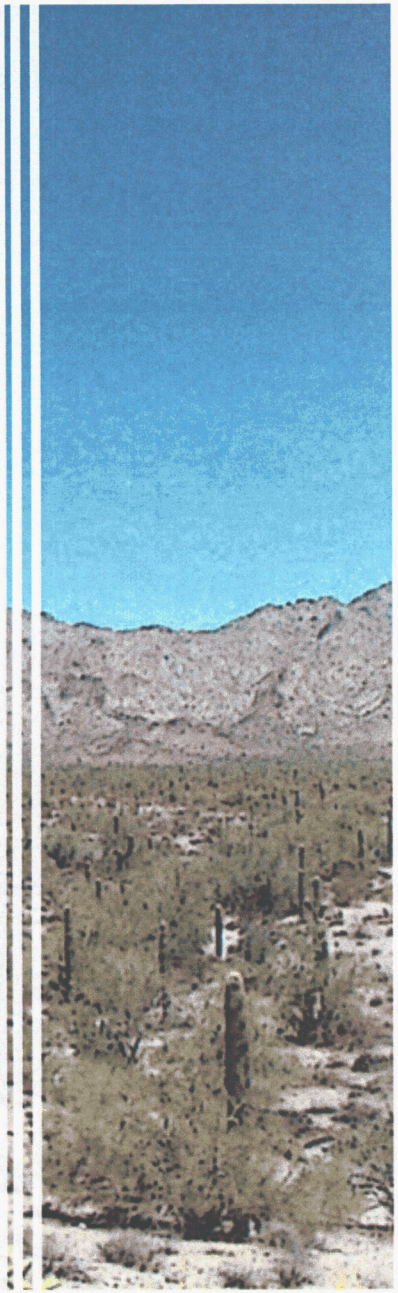
F

NEW RESOURCES IN CALIFORNIA

- 13,000 MW of new generation constructed since 2001
- 8,400 MW of new generation approved but not yet constructed
- 8,000 additional MW announced or under review



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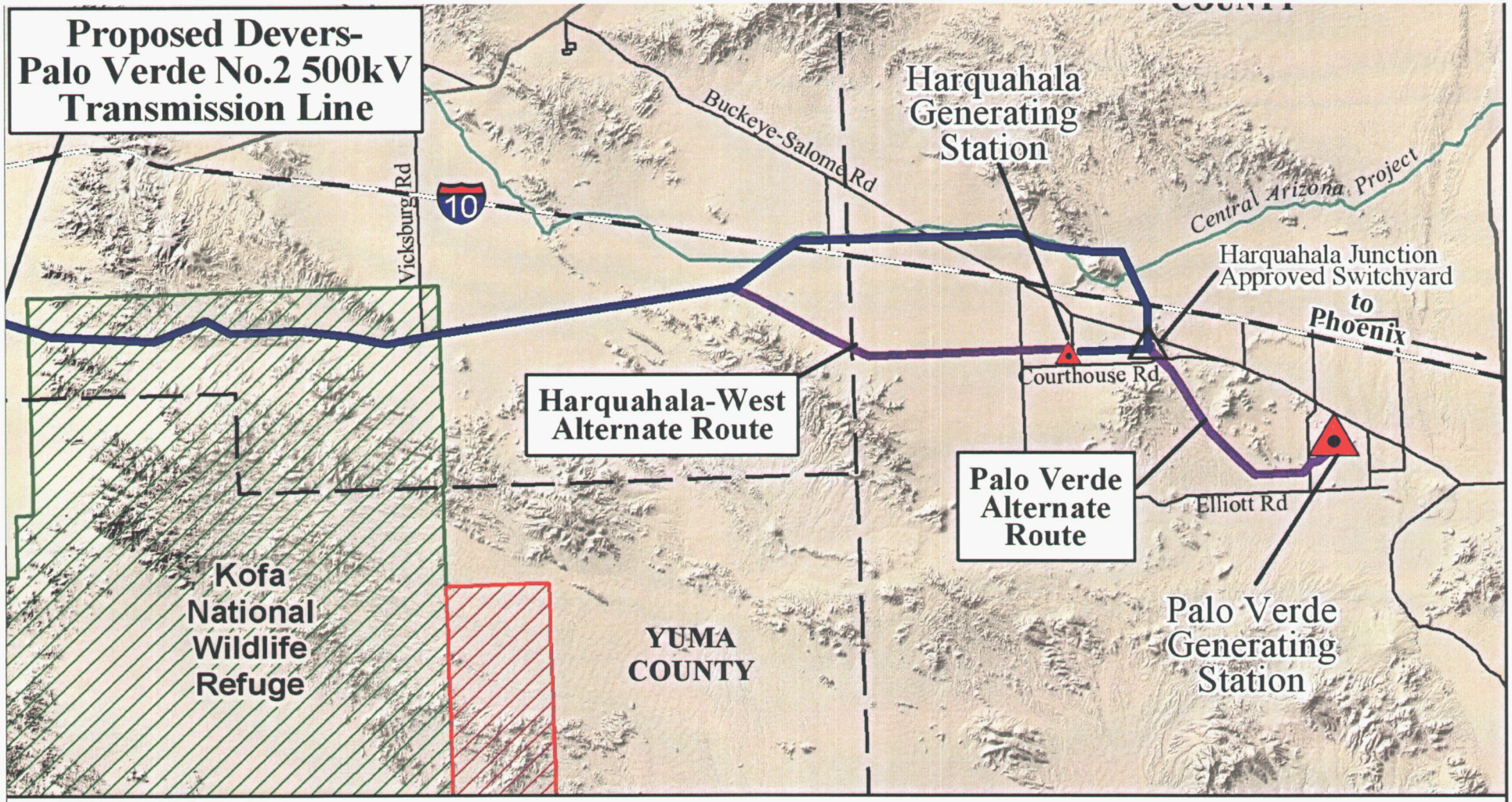

PROPOSED AND
SUBALTERNATE
ROUTES IN ARIZONA

H

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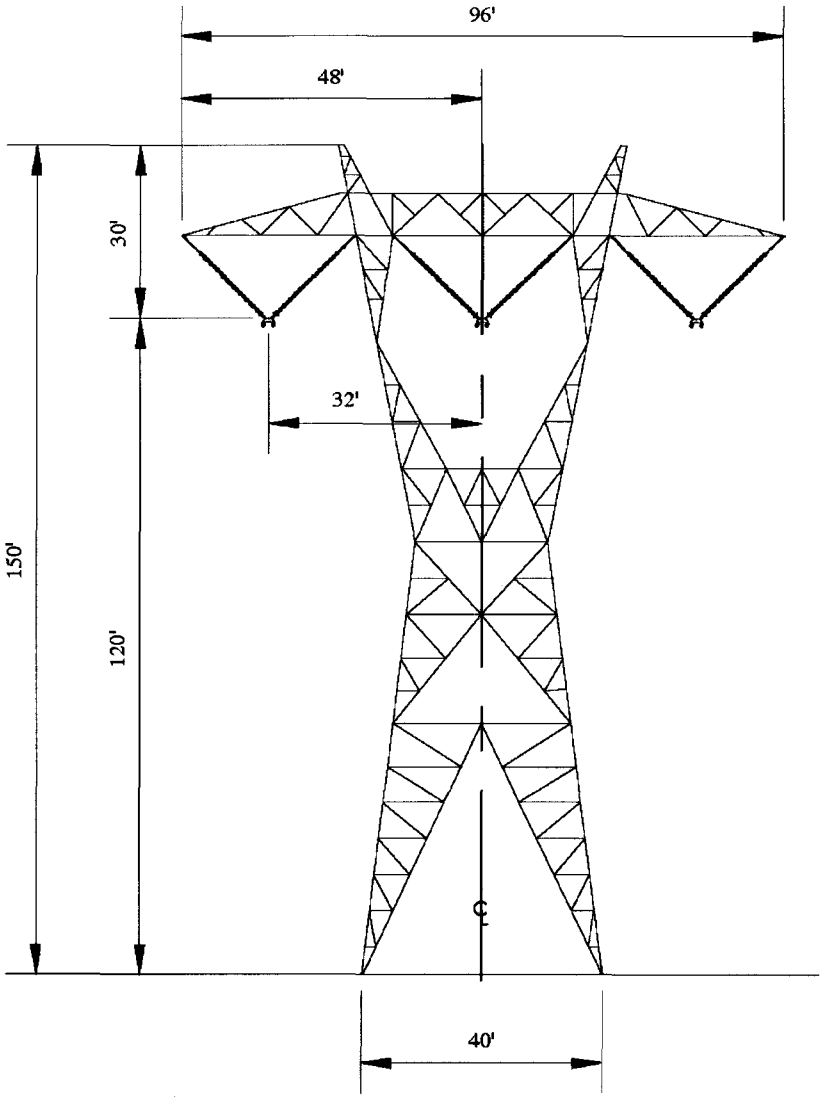

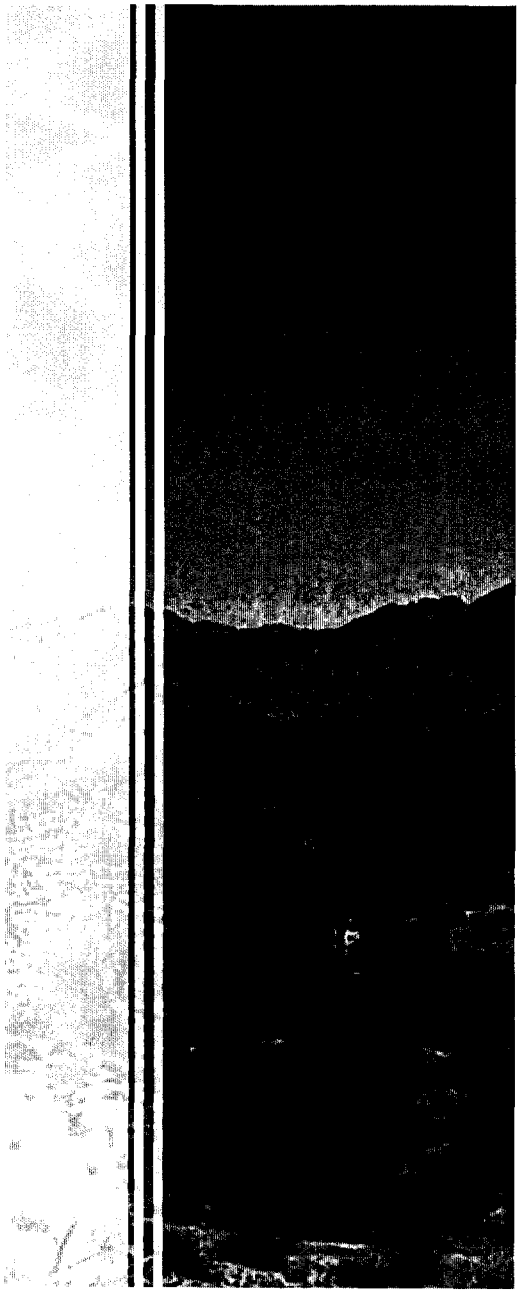

Note:
Dimensions are approximate and may vary with site conditions.

Exhibit G-1
Proposed 500kV Single-Circuit
Lattice Steel Tower

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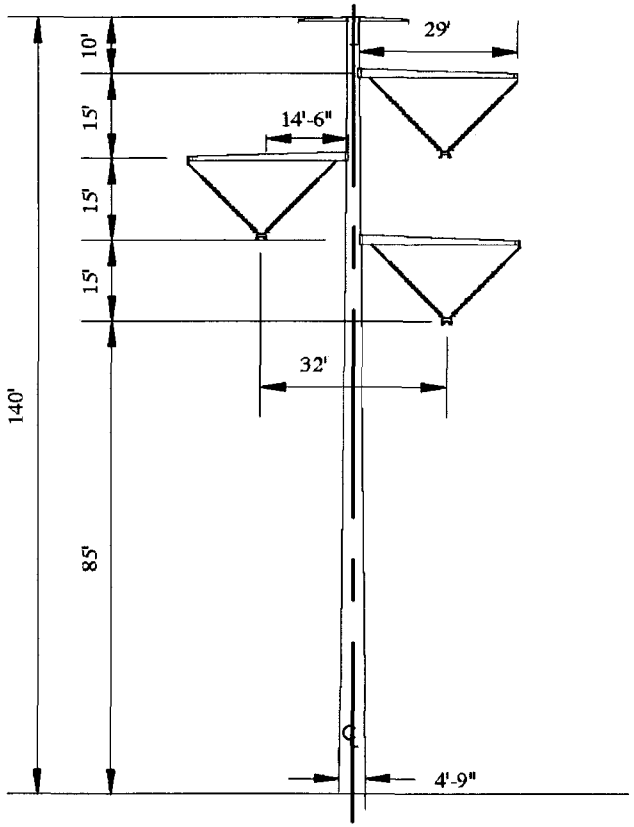

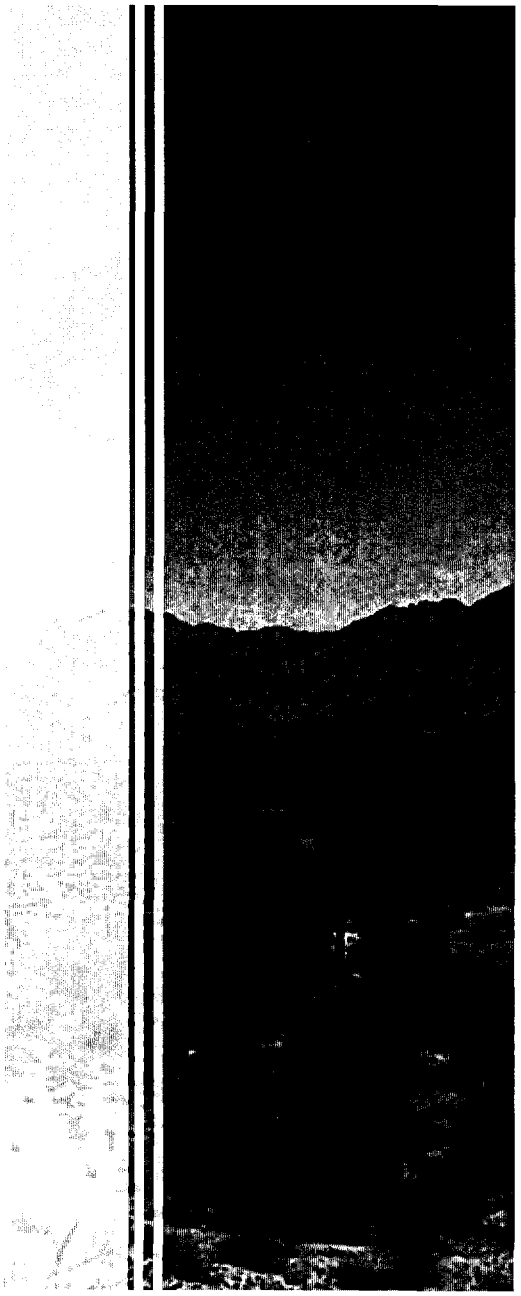

Note:
Dimensions are approximate and may vary with site conditions.

Exhibit G-2
Proposed 500kV Single-Circuit
Tubular Steel Pole

J

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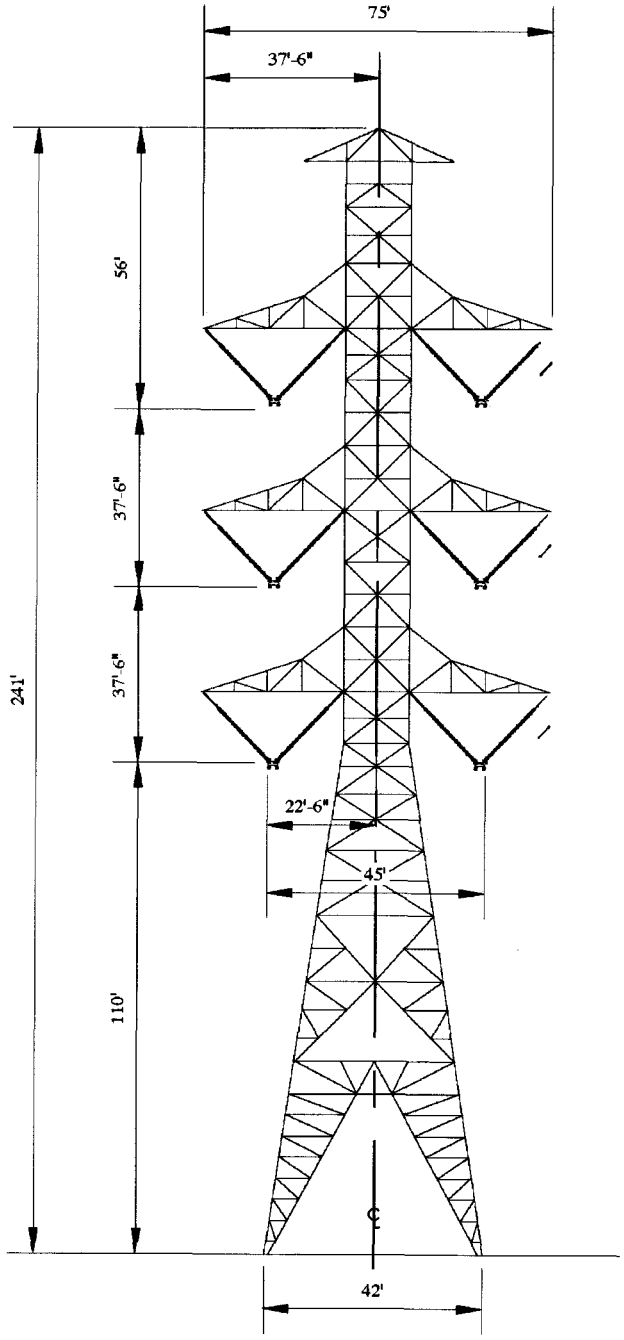

Note:
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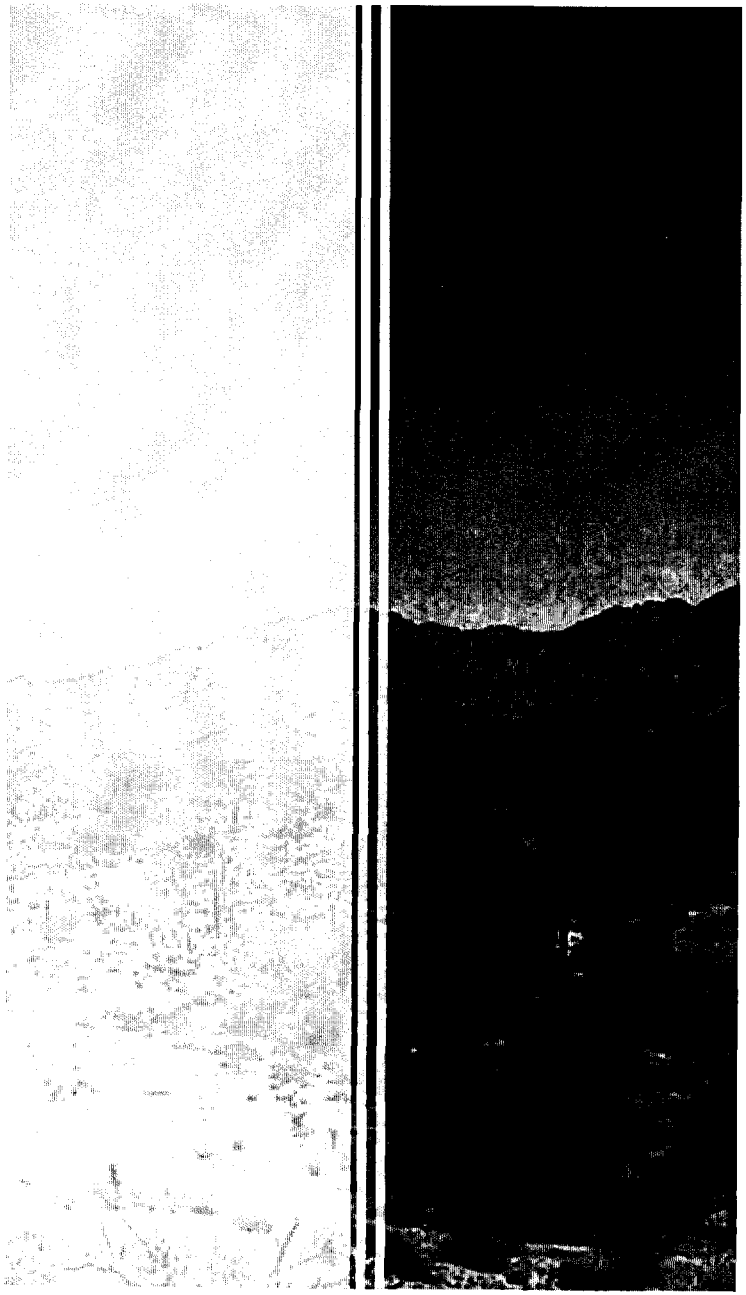
Exhibit G-3
Existing 500kV Double-Circuit
Lattice Steel Tower

K



SOUTHERN CALIFORNIA EDISON
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Fact Sheet

Devers – Palo Verde No. 2

April 2006

Important information concerning a proposed Southern California Edison transmission line project in Arizona.

Southern California Edison Company (SCE) is proposing to construct a new 230-mile-long, high-voltage electric transmission line between California and Arizona. The project is called Devers-Palo Verde No. 2 (DPV2) and will be paid for by the customers of California electric utilities.

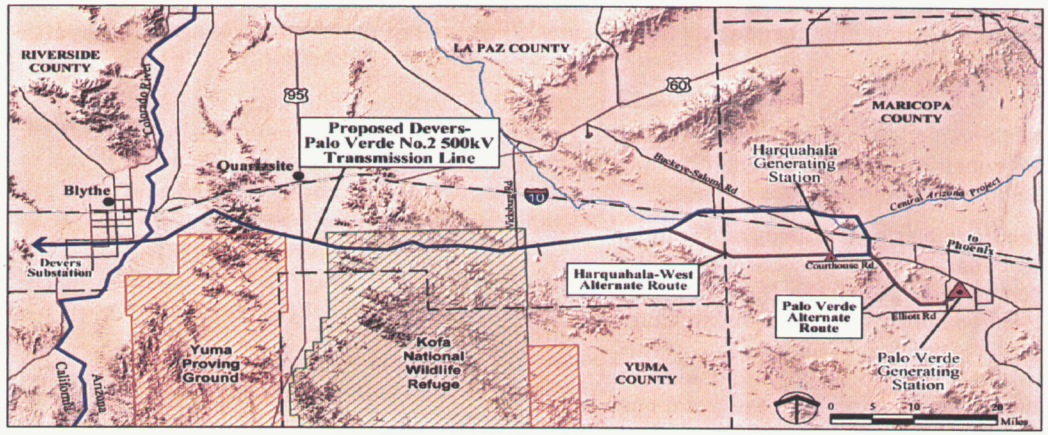

Figure 1

PROJECT DESCRIPTION

SCE proposes to build a new 500 kilovolt (500 kV) transmission line connecting the Harquahala Switchyard, located approximately 40 miles west of Phoenix, Arizona, to SCE's existing Devers Substation located approximately 10 miles north of Palm Springs, California. The majority of the transmission line will be constructed within existing SCE rights-of-way and designated utility corridors (see Figure 1).

The proposed transmission line is approximately 230 miles long, of which approximately 102 miles are in Arizona. The majority of the proposed transmission line would parallel the existing Devers-Palo Verde No. 1 (DPV1) 500 kV transmission line. SCE proposes to construct this segment using lattice steel towers similar to the existing DPV1 towers (see Figure 2). Approximately five miles of the proposed line would parallel an existing transmission line between the DPV1 right-of-way and the Harquahala Switchyard. This segment would be constructed using tubular steel poles.

Continued on next page

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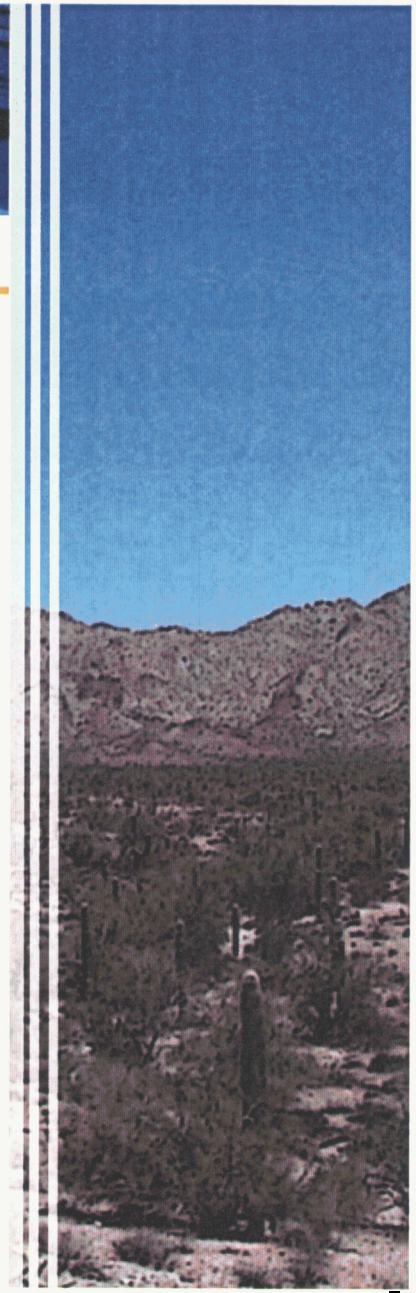

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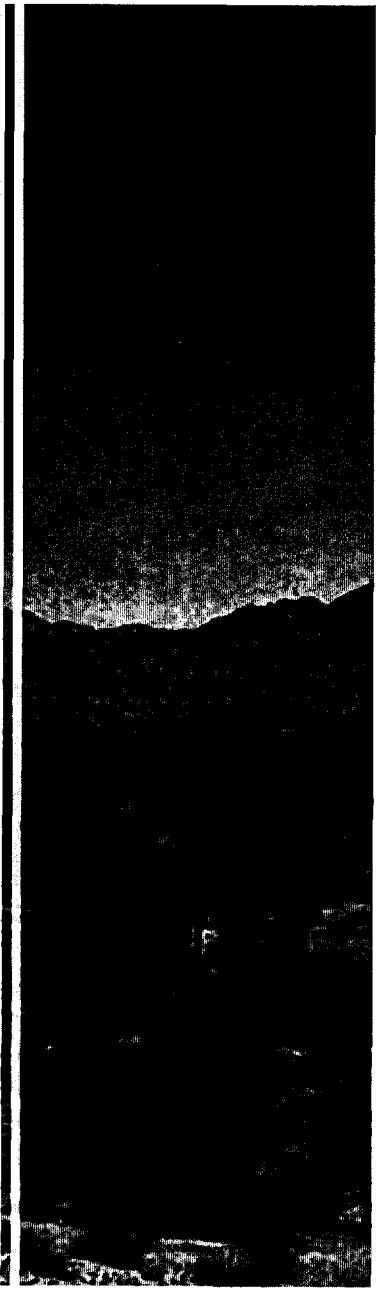
STAKEHOLDER LIST

- Senator Kyl
- Congressman Franks
- Congressman Hayworth
- Congressman Flake
- Congressman Renzi
- Congressman Grijalva
- State Representative – Manuel Alvarez
- State Representative – Jennifer Burns
- Office of the Governor, Regulatory Affairs, Policy Advisor – Lynette Evans



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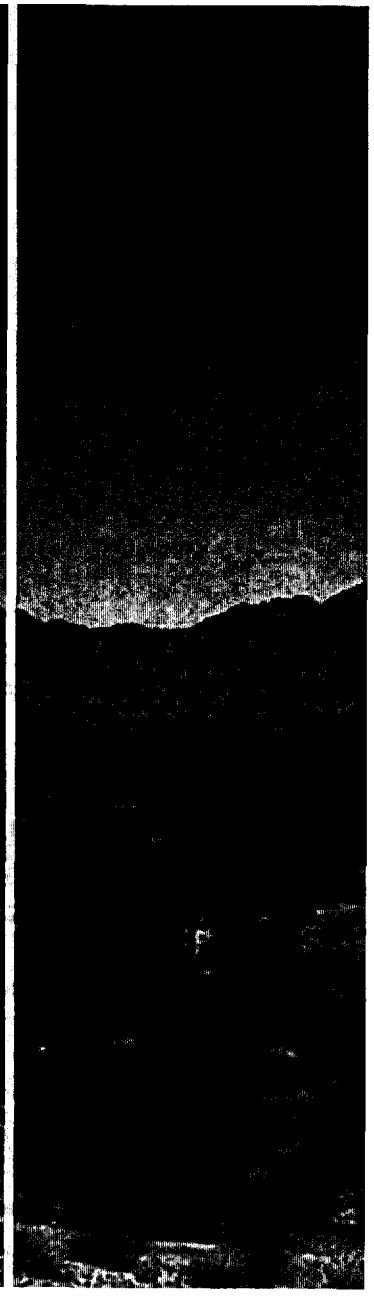
STAKEHOLDER LIST

- Central Arizona Project, Deputy General Manager – Larry Dozier
- Town of Quartzsite, Mayor – Verlyn Michel
- Town of Quartzsite, Vice Mayor – Chuck Busby
- Town of Quartzsite, Town Manager – Dan Fields
- La Paz County, Supervisor – Gene Fisher
- La Paz County, Supervisor – Mary Scott
- La Paz County, Supervisor – Clifford Eddy
- La Paz County, District 3 Board of Supervisors – Jay Howe
- La Paz County, County Administrator – Huey P. Long



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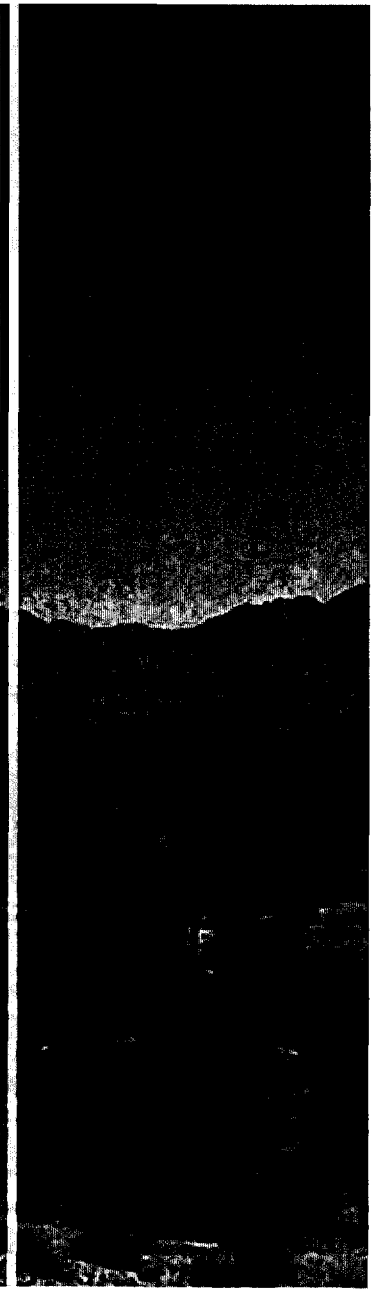
STAKEHOLDER LIST

- Maricopa County Supervisor – Mary Rose Wilcox
- Maricopa County Supervisor – Max Wilson
- Maricopa County District 4 Supervisor, Chief of Staff – Scott Isham, County of La Paz Board of Supervisors special meeting
- Tonopah Valley Association, Project Director – Doris Heisler
- Tonopah Valley Community Council, President – Bob Hathaway
- Saddle Mountain Unified School District, Superintendent – Roxanne Morris
- Sierra Club
- Harquahala Valley Irrigation District
- Harquahala Valley Power District



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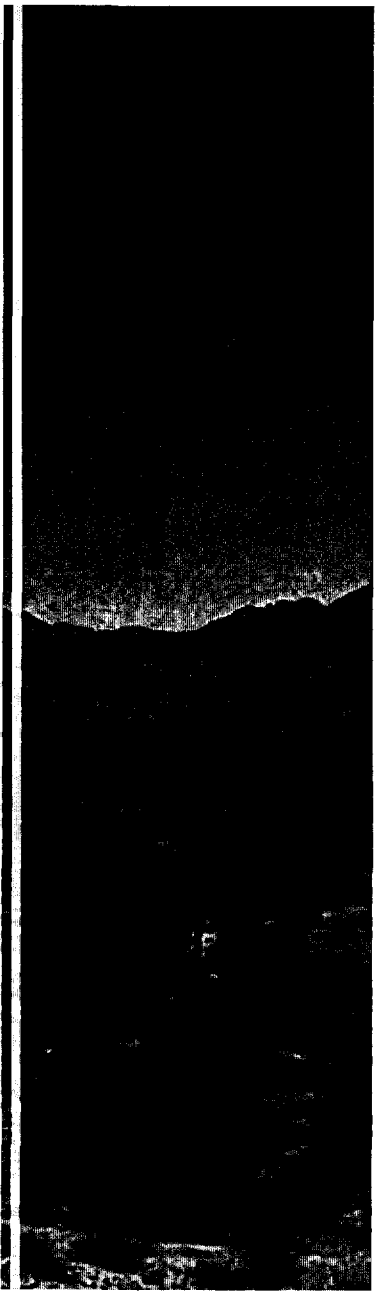
MEDIA

- East Valley Tribune
- Arizona Republic
- Arizona Daily Star
- Parker Pioneer
- Phoenix Business Journal
- West Valley View
- Southwest Valley Sun
- Associated Press



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OPEN HOUSE INVITATION

Southern California Edison Company (SCE) SCE proposes to build a new 500 kilovolt (500kV) transmission line connecting the Harquahala Switchyard, located approximately 40 miles west of Phoenix, Arizona, to SCE's existing Devers Substation located approximately 10 miles north of Palm Springs, California. The project is called the Devers Palo Verde No. 2 Project (DPV2).

The proposed transmission line is approximately 230 miles long, of which approximately 102 miles would be built in Arizona. The majority of the transmission line will be constructed within existing SCE rights of ways and designated utility corridors parallel to the existing Devers-Palo Verde No. 1 (DPV1) 500kV transmission line. SCE proposes to construct this segment using lattice steel towers similar to the existing DPV1 towers. Approximately five miles of the proposed line would parallel an existing transmission line between the DPV1 right of way and the Harquahala Switchyard. This segment would be constructed using tubular steel poles. Additional transmission facilities would be constructed west of Palm Springs, California to complete this project.

Alternatives to SCE's proposed route include the Harquahala West alternate, which would extend directly west from the Harquahala Generating station to the DPV1 right-of- way, and the Palo Verde alternate that would connect to the Palo Verde Generating Station Switchyard. SCE's evaluation of these routes determined that they are not environmentally or technically preferred over the proposed route.

SCE invites you to join the DPV2 Project Team at an open house in your community. The purpose of the open house is to provide information to property owners, area residents and other interested parties about the proposed project, and answer your questions. The Project Team will have project maps and photo simulations available for viewing. SCE welcomes your attendance at any one of the open houses listed below.

Tuesday, April 11
4:00 p.m. – 8:00 p.m.

Quartzsite Elementary School – Cafeteria

930 W. Quail
Quartzsite AZ, 85346

Wednesday, April 12
9:00 a.m. – 12:00 noon

Best Western Central Phoenix Inn – Classic Room

1100 North Central Ave
Phoenix, AZ 85004

Wednesday, April 12
4:00 p.m. – 8:00 p.m.

Ruth Fisher Elementary School – Cafeteria

38201 W. Indian School Road
Tonopah, AZ 85354

For more information please call (602) 499-9888
or visit *www.sce.com/dpv2*

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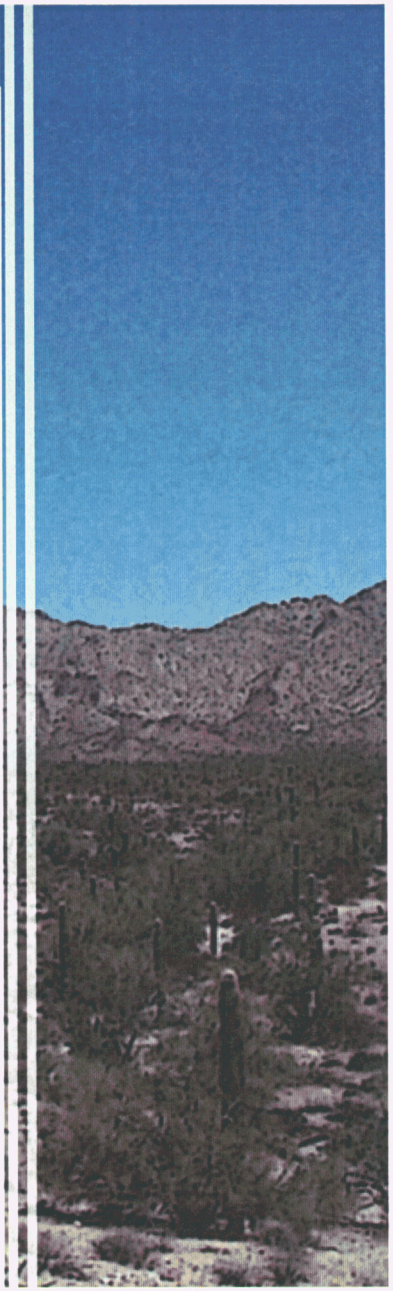

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Password:

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- Power Generation
- Environmental Commitment
- Electric Transportation
- Goals & Improvement Projects
  - Overview of Projects
  - Devers - Palo Verde No. 2
    - Project Description
    - Project Review Process
    - Current Project Status
    - Public Outreach and Communication
    - Project Contact Information
  - Antelope Valley
  - Auld-Moraga
  - Riverway
- Bettering Energy Efficiency and Power Sources
- Environmental Education
- Advanced Metering Infrastructure

Expand All | Collapse All

Goals & Improvement Projects

Devers - Palo Verde No. 2

Southern California Edison Company (SCE) is proposing to construct a new 230-mile, high-voltage electric transmission line between California and Arizona, within SCE's existing transmission corridor, parallel to an existing transmission line. The new line would also require upgrades to some of SCE's existing electrical transmission facilities in California. The project is known as Devers-Palo Verde No. 2 (DPV2).

To view a more detailed map of the proposed route click here.

Additional Documents

- SCE invites you to join the DPV2 Project Team at an **open house** in your community.
- A complete Project Update document is available **here** for your review
- This **Frequently Asked Questions mailer** and insert was mailed to residents of Banning, Beaumont, San Bernardino County, Colton, Grand Terrace, Calimesa, Loma Linda, Redlands and Yucaipa
- This **Frequently Asked Questions** mailer and insert was mailed to residents of Coachella, Indian Wells, Indio, La Quinta, Palm Desert, Rancho Mirage, Cathederal City, Desert Hot Springs, Palm Springs, Riverside County, and Blythe
- You can view the **documents** SCE filed at the California Public Utilities Commission, including the Application.

Tools & Resources

To view PDF files, download **Adobe® Reader®**

DPV2 Open House Fact Sheet

Related Links

Utility Glossary

Have Questions?

Click **here** for project contact information.

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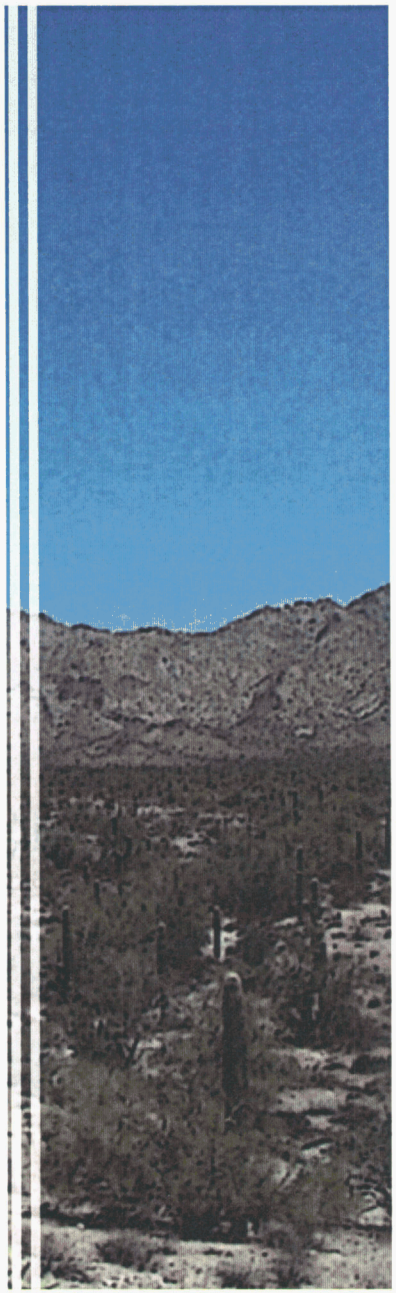

SOUTHERN CALIFORNIA EDISON
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SOUTHERN CALIFORNIA EDISON®
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Date: March 29, 2006

RE: SCE Devers-Palo Verde No. 2 500kV Transmission Project

Dear

SCE proposes to build a new 500-kilovolt (500kV) transmission line connecting the Harquahala Switchyard, located approximately 40 miles west of Phoenix, Arizona, to SCE's existing Devers Substation located approximately 10 miles north of Palm Springs, California. The majority of the transmission line will be constructed within existing SCE rights-of-ways and designated utility corridors. (see enclosed fact sheet).

The proposed transmission line is approximately 230 miles long, of which approximately 102 miles are in Arizona. The majority of the proposed transmission line would parallel the existing Devers-Palo Verde No. 1 (DPV1) 500kV transmission line. SCE proposes to construct this segment using lattice steel towers similar to the existing DPV1 towers. Approximately five miles of the proposed line would parallel an existing transmission line between the DPV1 right-of-way and the Harquahala Switchyard. This segment would be constructed using tubular steel poles. Additional transmission facilities would be constructed west of Palm Springs, California to complete this project.

Alternatives to SCE's proposed route include the Harquahala-West alternate, which would extend directly west from the Harquahala Generating station to the DPV1 right-of- way, and the Palo Verde alternate that would require construction of 10 miles of new transmission line that would connect to the Palo Verde Generating Station Switchyard. Project construction is scheduled to begin in 2007 and be completed in 2009.

The purpose of this letter is to request information regarding development plans in the vicinity of the proposed transmission line route in Arizona. Your response will be included in Exhibit H of the Application for a Certificate of Environmental Compatibility. Submittal of this application to the Arizona Power Plant and Transmission Line Siting Committee of the Arizona Corporation Commission is in compliance with Arizona Revised Statute 40-360 (Article 6.2).

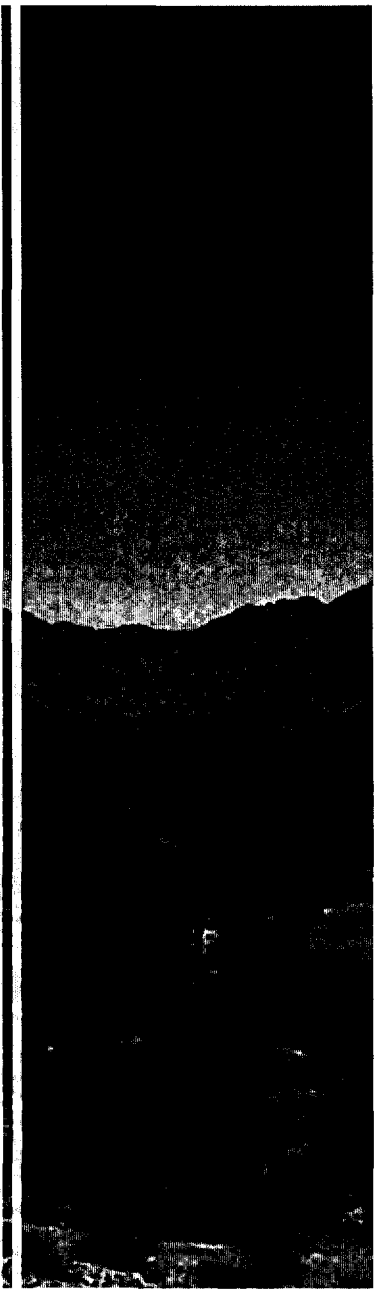
We respectfully request your response in writing as to whether or not you are aware of any planned developments or activities in the vicinity of the proposed transmission line that should be brought to our attention.

We would appreciate your response by April 14, 2006 so that we can evaluate the information prior to the submittal of the application. Thank you in advance for your reply. Should you have any questions, please do not hesitate to call the DPV2 project office at 714-626-4666

Sincerely,

Fred Salzmann
Project Manager

Enclosure



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S

P.O. Box 800
2131 Walnut Grove Ave.
Rosemead, CA 91770

PUBLIC HEARING
SOUTHERN CALIFORNIA EDISON (SCE)

PALO VERDE HUB TO DEVERS No. 2 TRANSMISSION PROJECT

ARIZONA CORPORATION COMMISSION DOCKET No. L-00000A-06-0295-00130

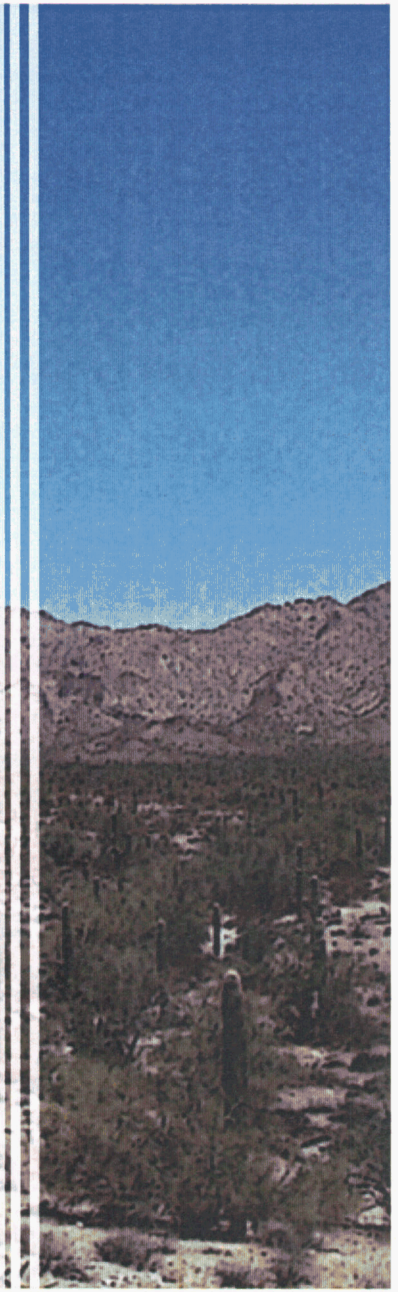
The Public is invited to participate at a public hearing before the Arizona Power Plant and Transmission Line Siting Committee

Commencing on:

June 26, 2006 at 9:30 a.m. at
The Wigwam Resort
300 Wigwam Blvd.
Litchfield Park, Arizona

SCE INFO: www.sce.com/powerandenvironment/goalsandimprovements/dpv2

ACC INFO: www.cc.state.az.us



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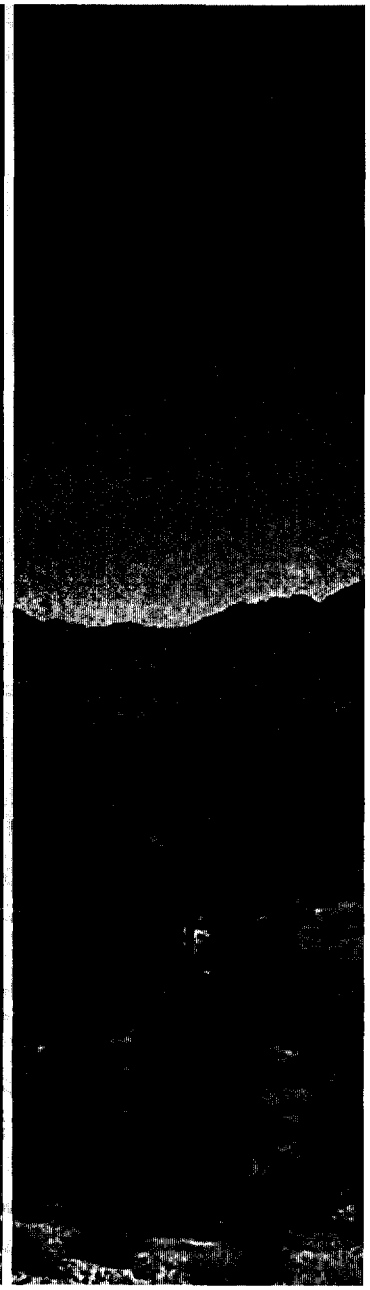
T

BLM RECORD OF DECISION
BLM - 1989

"The route alignment proposed by SCE is the preferred route of the Bureau of Land Management. It is also the environmentally preferred alternative for the following reasons. The route is utilized for interstate pipelines and transmission lines; impacts are confined to a utility corridor where environmental disturbances have already taken place. The original decision to route Devers-Palo Verde (DPV) No. 1 transmission line, which DPV No. 2 parallels, through the Kofa NWR was based on the greater potential for significant impact to bighorn sheep along the other alternatives. Detailed studies before, during and after construction of DPV No. 1 have not identified any significant adverse effect, and DPV No. 2 is expected to result in a similar negligible effects."



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VIRTUAL TOURS

- Virtual tour of proposed route
- Virtual tour of Palo Verde alternate route
- Virtual tour of Harquahala- West alternate route

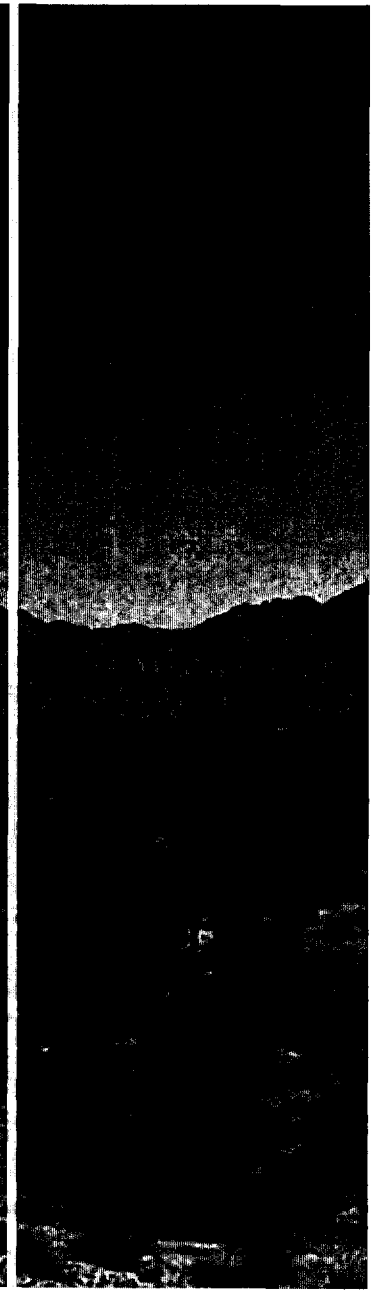

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Exhibit A-2
LAND OWNERSHIP AND JURSIDICTION
Devers - Palo Verde No. 2 Transmission Line Project

Sources

United States Geological Survey (USGS), Phoenix, AZ (1969), Salton Sea, AZ (1969), 1:250,000-scale topographic maps. Arizona land ownership, EPG, Inc. 2000. Arizona land jurisdiction, Town of Quartzsite, 2003. KOFA, U.S. Fish and Wildlife Service. U.S. Bureau of Land Management, California State Office, June 1998. U.S. Department of the Interior, Bureau of Land Management, BLM Arizona Access Guide (La Posa), October 1999. Devers to Palo Verde No.2 PEA (1988), SEIS (1988).

Prepared By: Environmental Planning Group, Inc. May 2, 2006

Ownership

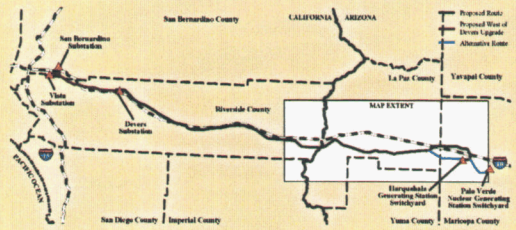
- Bureau of Land Management
- Bureau of Reclamation
- U.S. Fish and Wildlife Service
- Native American Tribe
- Yuma Proving Ground
- State
- Private

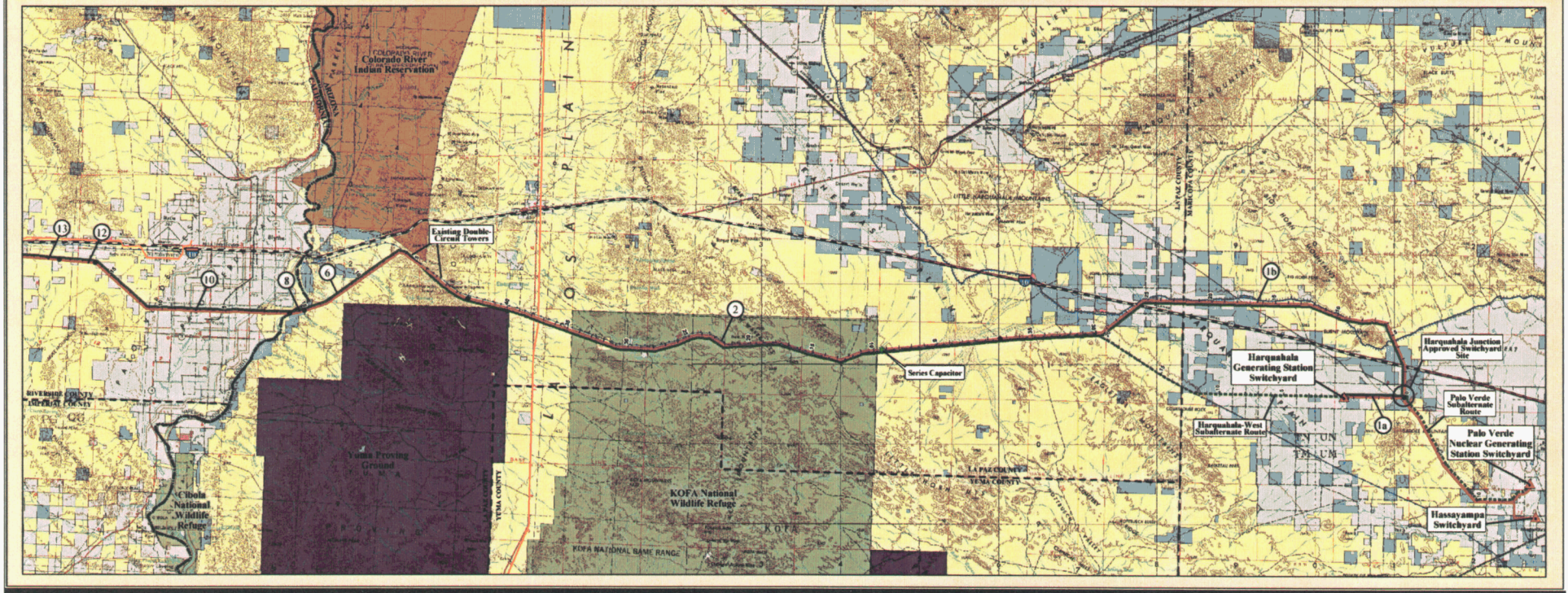
General Reference Features

- Proposed 500kV Transmission Line Route
- Alternative 500kV Transmission Line Route
- Existing 500kV Transmission Line
- Existing 230kV Transmission Line
- Existing 161kV Transmission Line
- Natural Gas Pipeline
- Central Arizona Project Canal (USBR)
- State Boundary
- County Boundary
- Substation/Switchyard
- Series Capacitor

Link Identifier
Reference Centerline
Milepost Identifier
Link Node

Index Map





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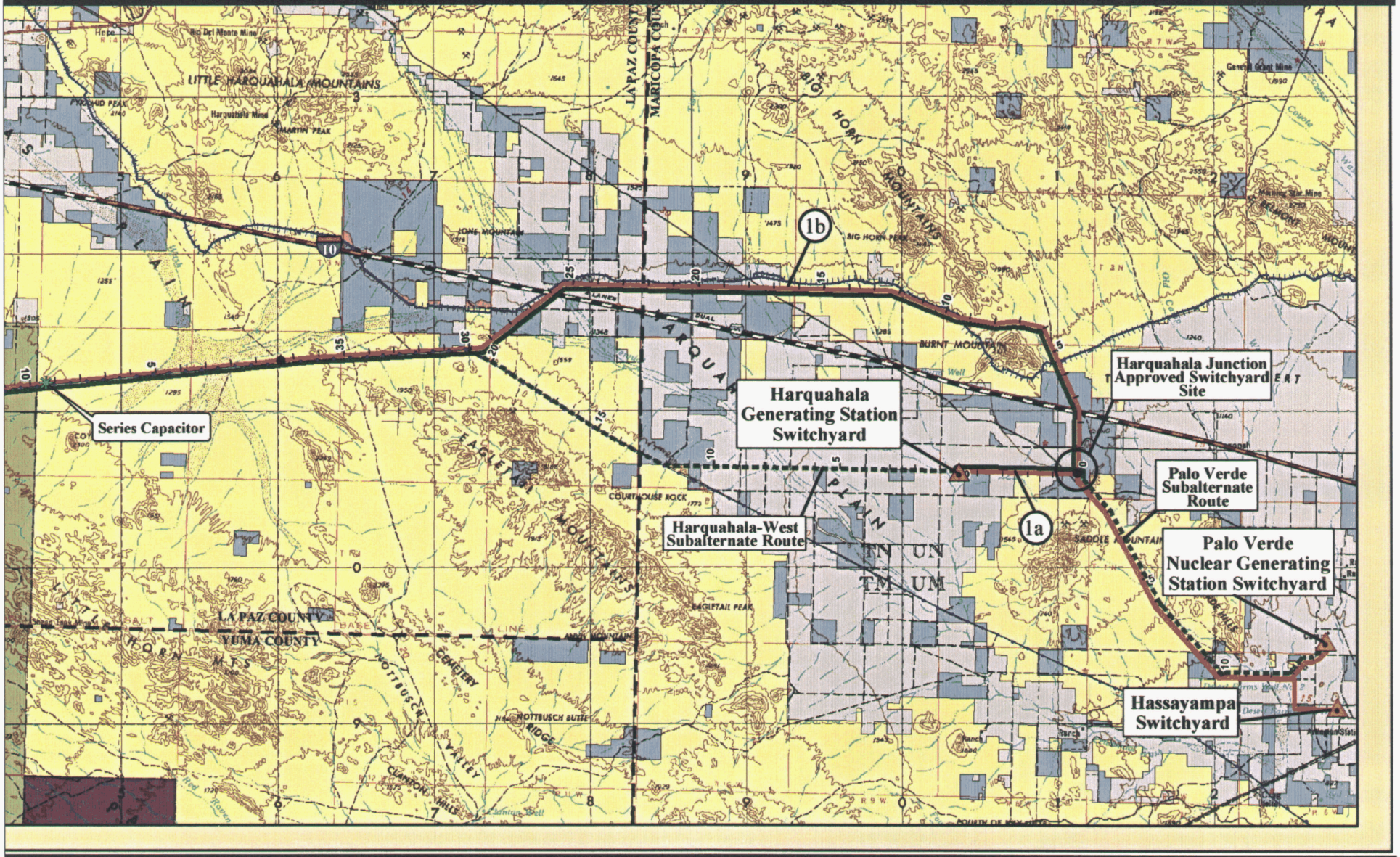

Series Capacitor
Harquahala Generating Station Switchyard
Harquahala-West Subalternate Route
Harquahala Junction Approved Switchyard Site
Palo Verde Subalternate Route
Palo Verde Nuclear Generating Station Switchyard
Hassayampa Switchyard
1a
1b
LA PAZ COUNTY
YUMA COUNTY
LITTLE HARQUAHALA MOUNTAINS
BIG HORN MOUNTAINS
EAGLETAIL MOUNTAINS
COURTHOUSE ROCK
BURNT MOUNTAIN
SADDLE MOUNTAIN
HOTTBUSCH BUTTE
HOTTBUSCH RIDGE
CLANTON HILLS
EAGLETAIL PEAK
HARQUAHALA PLAIN

X

EXISTING AND PLANNED LAND USE

Devers - Palo Verde No. 2 Transmission Line Project

Panel 1 of 2

Sources

United States Geological Survey (USGS), hillshade derived from USGS 30-meter Digital Elevation Models. Planned Land Use, Maricopa County 2002 & La Paz County Land Use Plan 2005. Land use data, EPG, Inc. 2003.

Prepared By: Environmental Planning Group, Inc. June 13, 2006

Land Use

EXISTING LAND USE

- Wilderness
- Residential - Low Density
- Single Family Dwelling Unit
- Industrial
- Agriculture
- Agriculture - Outstructure
- Communication Facility
- Abandoned Building
- Rest Area
- Airstrip

PLANNED LAND USE

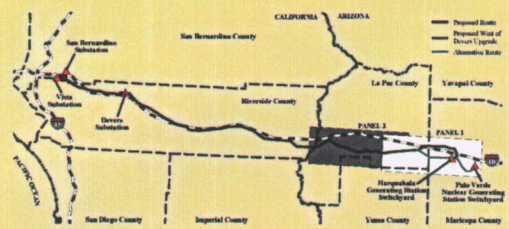
- Rural Residential
- Utility
- Employment
- Undesignated
- Platted Subdivision
- BLM Designated Utility Corridor

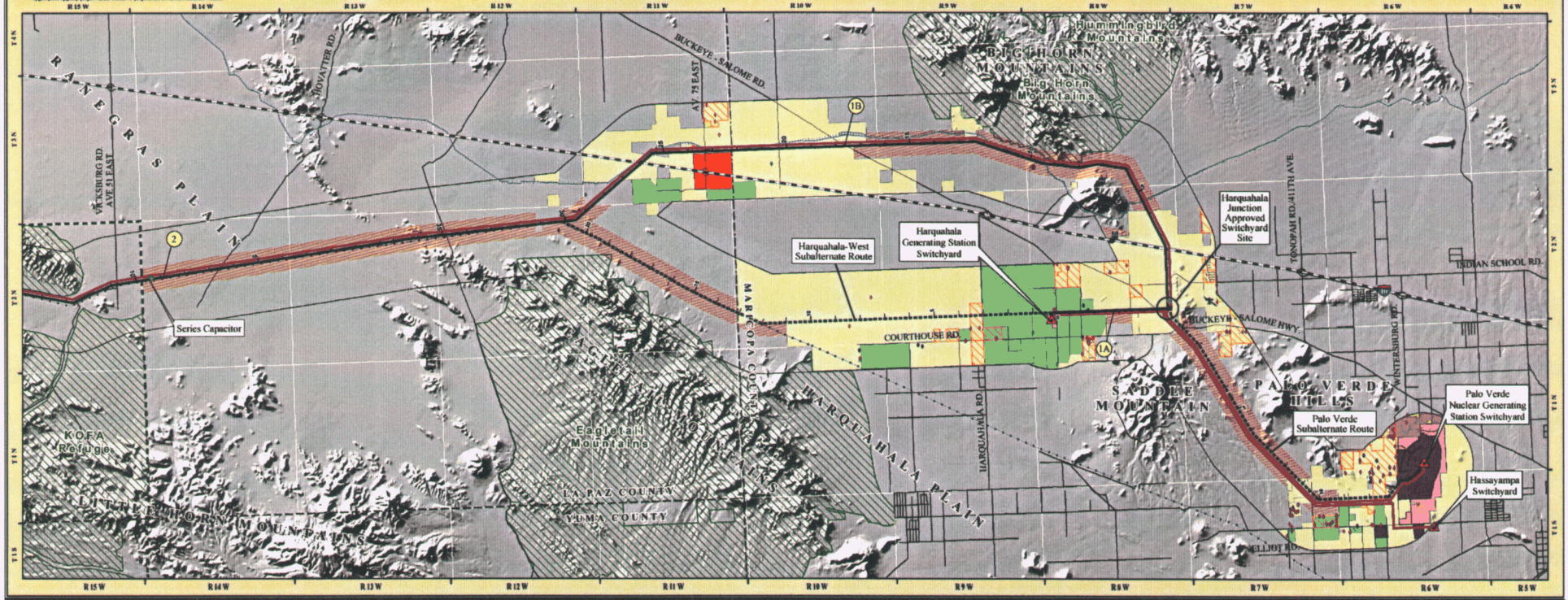
General Reference Features

- Proposed 500kV Transmission Line Route
- Subalternate Route
- Existing 500kV Transmission Line
- County Boundary
- Substation/Switchyard
- Interstate/Highway
- Central Arizona Project Canal
- Natural Gas Pipeline
- Roads
- Township and Range
- KOFA National Wildlife Refuge
- Series Capacitor

Link Identifier
Reference Centerline
Milepost Identifier
Link Node

Panel Index Map





EXISTING AND PLANNED LAND USE

Devers - Palo Verde No. 2 Transmission Line Project

Panel 2 of 2

Sources

United States Geological Survey (USGS), hillshade derived from USGS 30-meter Digital Elevation Models. Land use data, EPG, Inc. 2003.

Prepared By: Environmental Planning Group, Inc. June 13, 2006

Land Use

EXISTING LAND USE

- Wilderness
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- Single Family Dwelling Unit
- Communication Facility

PLANNED LAND USE

- Undesignated
- BLM Designated Utility Corridor

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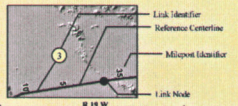
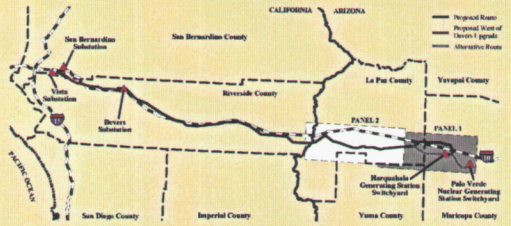
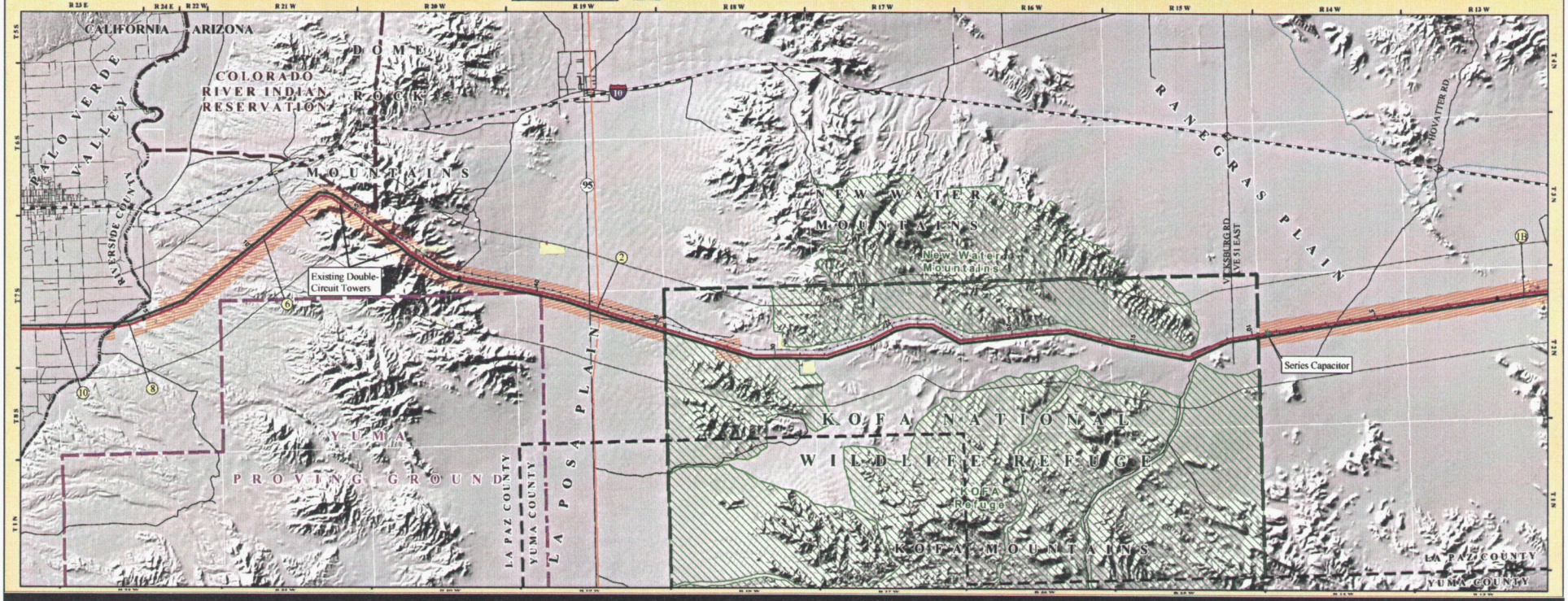


Panel Index Map





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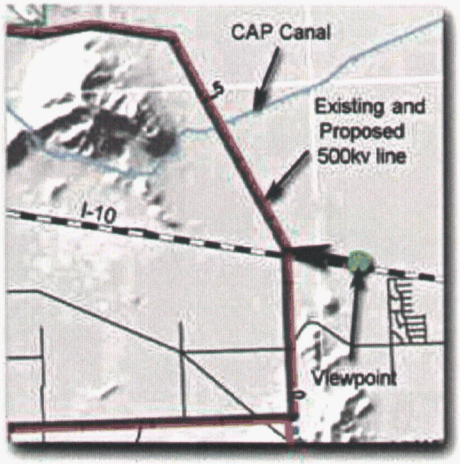
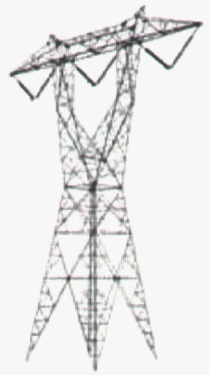
Existing Conditions - Transmission line corridor crossing Interstate 10 west of Tonopah, Arizona.
Photograph taken 7/26/04 at 12:26 p.m. using a 50mm focal length.

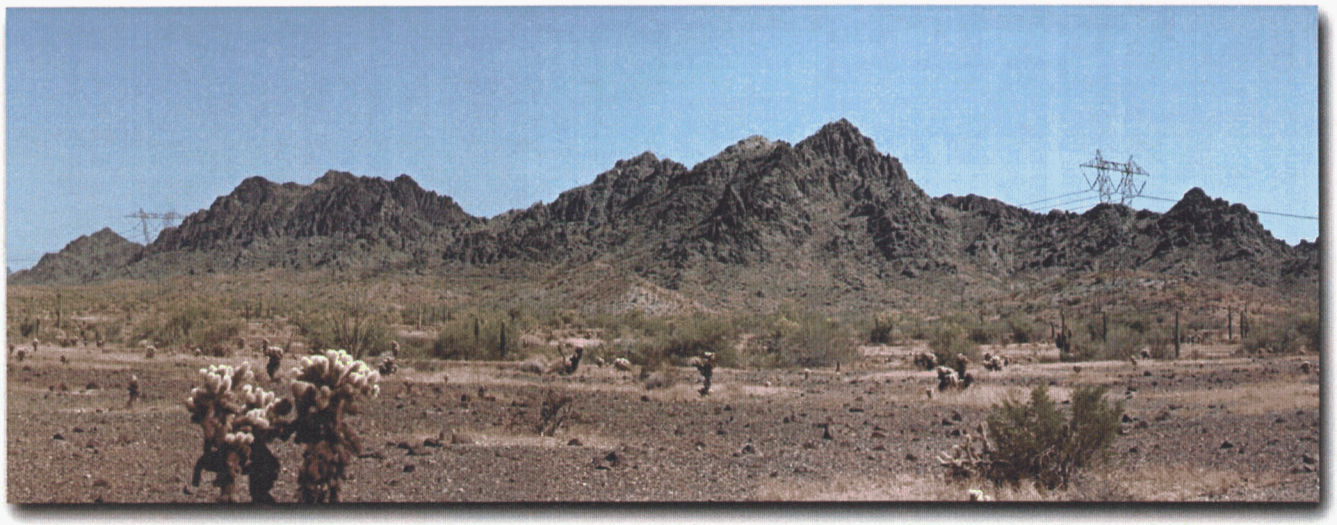


Viewpoint located along Interstate 10 west of Phoenix, Arizona looking west across the proposed project, approximately 0.6 mile from route crossing.

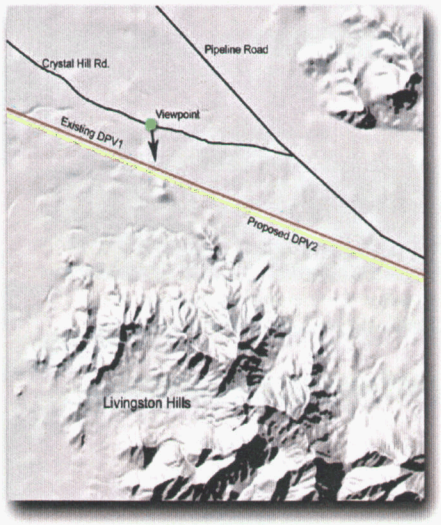
Simulation - Transmission line corridor crossing Interstate 10 west of Tonopah, Arizona with proposed Devers-Palo Verde No. 2 500kV lattice steel structure transmission line.
This image is most accurately viewed at a distance of approximately 11 inches from the page to match the actual field of view.



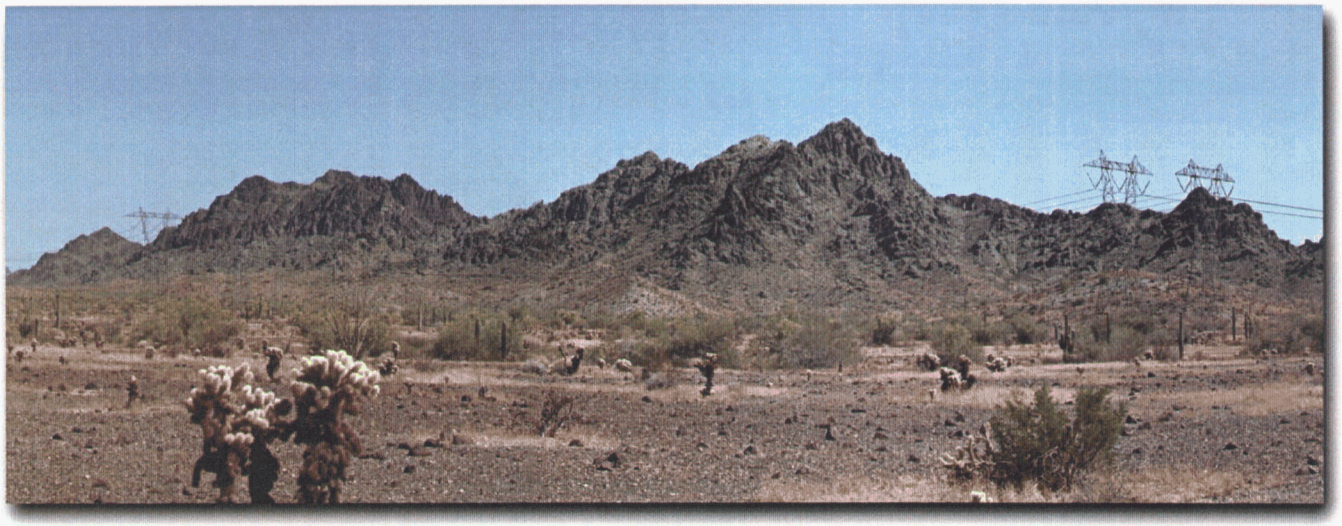
Typical 500kV single-circuit lattice steel tower used in simulations.
Proposed towers are simulated to match existing tower heights and spans.



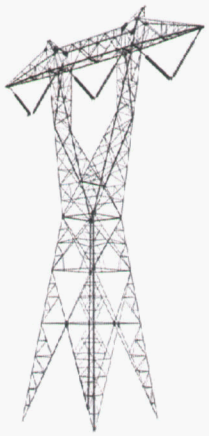
Existing Conditions – Looking southeast toward the Livingston Hills approximately 4.8 miles east of US 95, in the Kofa National Wildlife Refuge. Photograph taken 5/10/06 at 4:35pm using a 50mm focal length.



Viewpoint looking southeast from Crystal Hill Road toward the Livingston Hills, approximately 1/8 mile north of DPV1.



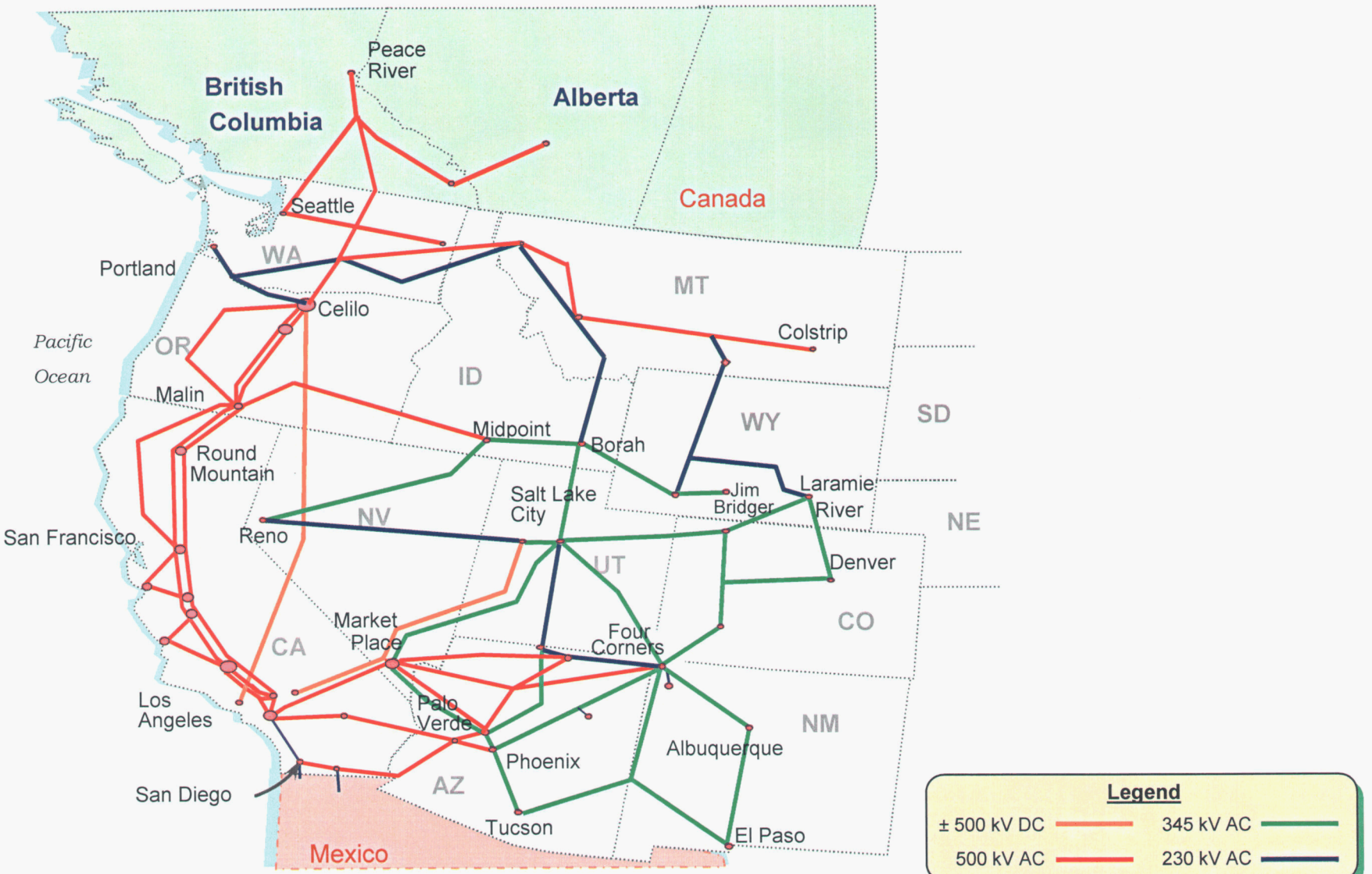
Simulation – Devers-Palo Verde No. 2, 500kV steel-lattice structure transmission line running adjacent to DPV1, north of the Livingston Hills. The proposed DPV2 line is offset 130 feet to the south of the DPV1 line.



Typical 500kV single-circuit steel lattice tower used in simulations. Tower/structure design has been provided by SCE engineering and is conceptual.

BB

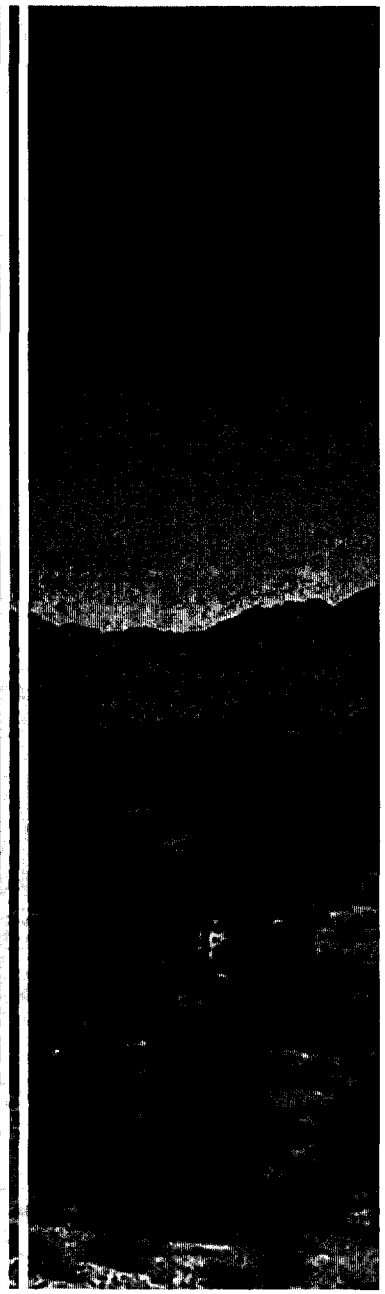
WESTERN TRANSMISSION GRID



CC

REGIONAL PLANNING ORGANIZATIONS: WECC

- Regional Reliability Organization for the Western Interconnection
- Mission:
  - Maintain a reliable electric power system in the Western Interconnection to support efficient competitive power markets
  - Act as the coordinating entity for activities of regional organizations with responsibilities for reliability and market functions



DD

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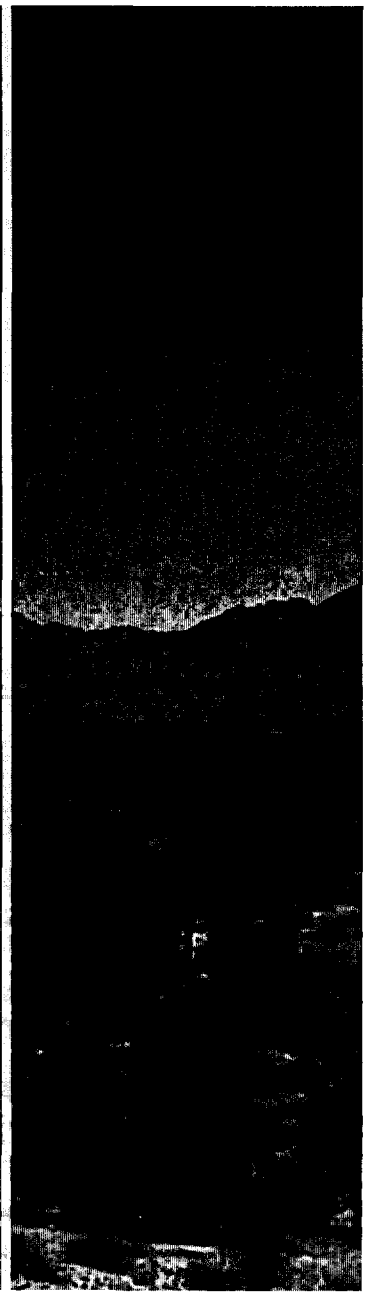
REGIONAL PLANNING ORGANIZATIONS: STEP

- Ad-hoc voluntary organization whose membership is open to all interested stakeholders
- Provide a forum to plan, coordinate, and implement a robust southwest transmission system capable of supporting a competitive, efficient, and seamless west-wide wholesale electricity market while meeting established reliability standards



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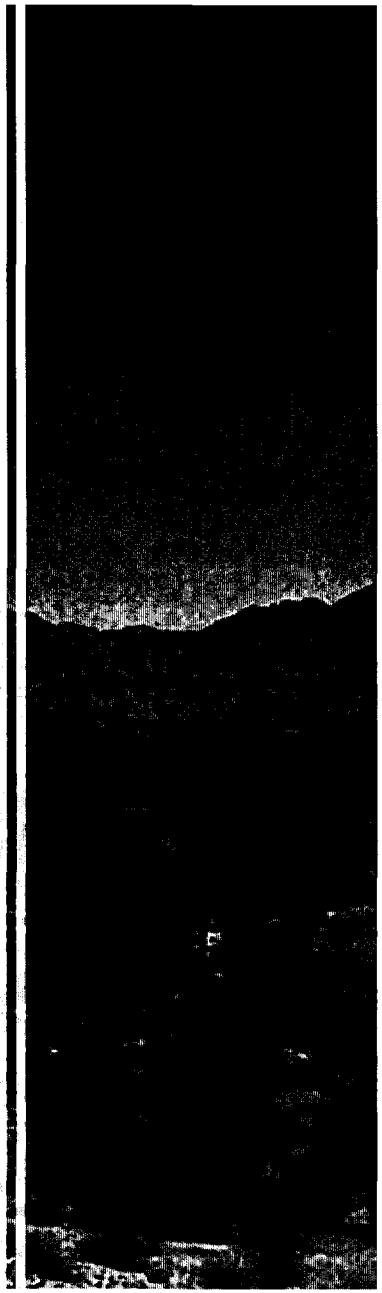
REGIONAL PLANNING ORGANIZATIONS: SWAT

- Comprised of transmission regulators/governmental entities, transmission users, transmission owners, transmission operators, and environmental entities

- Promotes regional planning in the Desert Southwest



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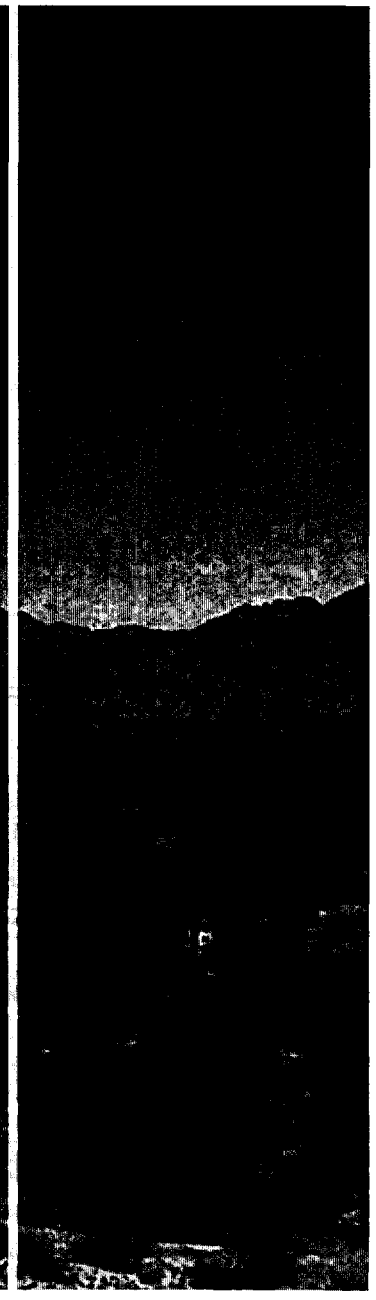
REGIONAL PLANNING ORGANIZATIONS: WATS

- Task Force's primary responsibilities
  - Act as the planning analysis and operating technical study group used for consultation to Transmission E & O Committees:
    - Mead – Phoenix
    - ANPP
    - Navajo System
  - Provide planning and operating technical consultation for the East of River Transmission Path, WECC East of the River (Path 49)



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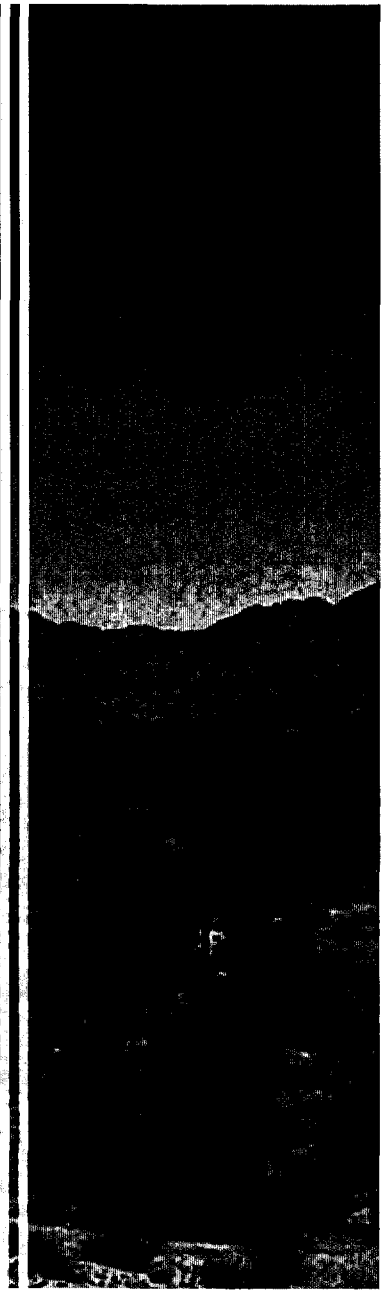
DPV2 TECHNICAL STUDIES

- East of the River (EOR) Rating Studies
  - WECC approved Aug '05
- West of the River (WOR) Rating Studies
  - WECC approved May '06
- Palo Verde Hub Extreme Contingency Analysis
  - WATS and PV E&O approved April '06
- Short Circuit Duty Analysis
  - WATS and PV E&O approved April '06



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DPV2 TECHNICAL STUDIES
(continued)

- Sub Synchronous Resonance Analysis
  - WATS and PV E&O approved April '06
- Special Protection Scheme Phase 1 Analysis
  - WATS and PV E&O approved April '06
  - Mead-Phoenix Project E&O endorsed on April '06

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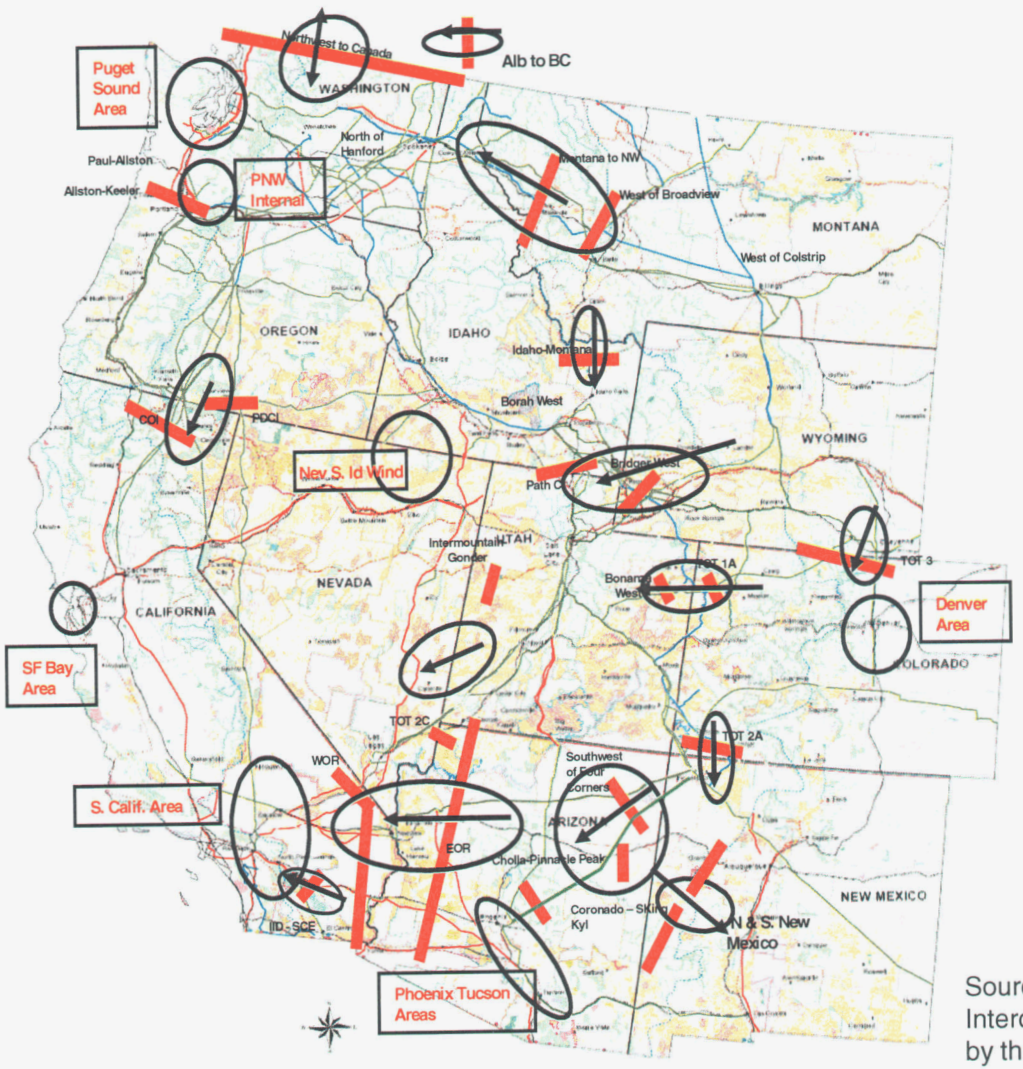
PROPOSED REGIONAL TRANSMISSION PROJECTS

	Project Name	Transfer Capability	Planned Operating Year
A.	DPV2	1,200 MW	2009
B.	TransWest Express	3,000 MW	2013
C.	Frontier	3,000 MW	2015
D.	Navajo Transmission Project	1,500 MW	2010
E.	Palo Verde-North Gila	1,500 MW	2012
F.	Ely Energy Center	2,000/ 1,000 MW	2011
G.	Great Basin	1,430 MW	2008
H.	Northern Lights – Celilo Project	3,000 MW	2011
I.	Northern Lights – Inland Project Phase 1 & 2	3,000 MW	2011

Legend

New 500 kV AC

IDENTIFIED CONGESTED CORRIDORS



Congested WECC Path

Congestion Area

Direction of Congestion

Source: DOE Report on Western Interconnect Congestion Areas prepared by the Western Congestion Assessment Task Force (WCATF), dated May 8, 2006

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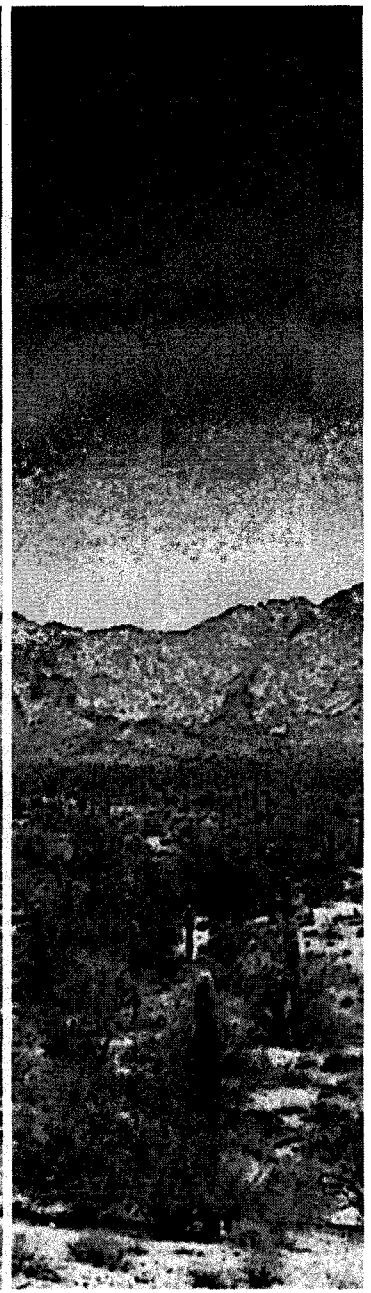
KK

REGIONAL REVIEW: STEP

- Evaluated six alternatives
- DPV2 included in three of six alternatives
- Analyses led STEP to develop a preferred sequence of upgrades to expand the southwest transmission system
- DPV2 was included in this sequence as the preferred new 500kV line between Arizona and California



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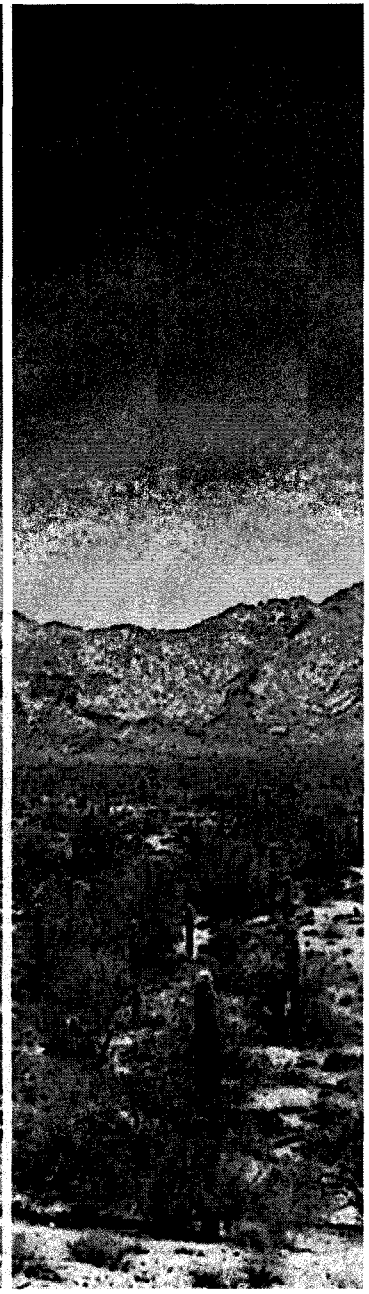
EXCERPT FROM EIR/EIS FOR DPV2 SECTION A. INTRODUCTION

"DPV2 would improve the reliability of the regional transmission system, providing insurance against major outages such as loss of a major generating facility or of another high-voltage transmission line; i.e., DPV2 will provide a hedge against low-probability, high-severity events such as short- and long-term outages of generating facilities, substations, and transmission lines." (Page A-9)



MM

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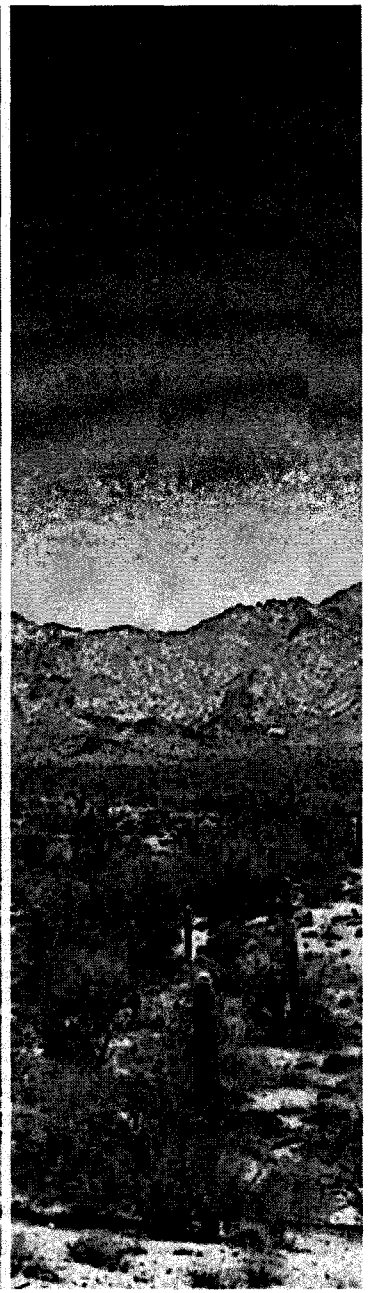
Excerpts from June 2, 2006 Letter to Commissioner Mayes from Jack Davis, APS President & CEO

"APS generally believes that the Western Electric Coordinating Council (WECC) region will benefit from the addition of interstate transmission such as the DPV2 project. The DPV2 line has been part of the regional planning efforts for many years because of the belief that its addition will increase the grid reliability throughout the region."



NN

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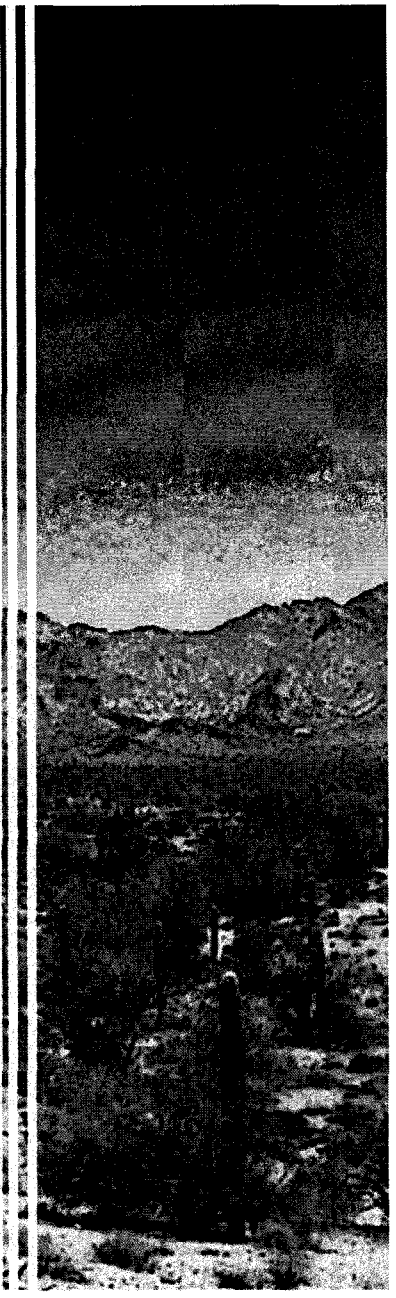
EXCERPTS (continued)

"Another interstate transmission project that could benefit overall grid reliability and is presently under study is the TransWest Express Project (TransWest) that APS has proposed. In addition to improving grid reliability, TransWest would allow APS, SRP and other southwest utilities to access the significant wind and coal resources located in Wyoming."

"The addition of DPV2 also could facilitate interest in the TransWest project by Southern California utilities, thus increasing the feasibility, and viability, of the project. APS will need to seek siting approval from other states for the TransWest line and hopes that those other states consider the regional value of the project when evaluating APS's request for siting approval."



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An EDISON INTERNATIONAL Company

3

THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
2221 WEST GREENWAY ROAD
PHOENIX, AZ 85023-4399
(602) 942-3000 • AZGFD.GOV
Yuma Office, 9140 E 28th Street, Yuma, AZ 85365-3596 (928) 342-0091

GOVERNOR
JANET NAPOLITANO
COMMISSIONERS
CHAIRMAN, JOE MELTON, YUMA
MICHAEL M. GOLIGHTLY, FLAGSTAFF
WILLIAM H. MCLEAN, GOLD CANYON
BOB HERNBRODE, TUCSON
W. HAYS GILSTRAP, PHOENIX
DIRECTOR
DUANE L. SHROUFE
DEPUTY DIRECTOR
STEVE K. FERRELL

June 2, 2006

Fred Salzmann
Project Manager
DPV2 Project Office
1321 State College Blvd.
Fullerton CA 92831

Re: Application for Certificate of Compatibility for Devers Palo Verde No. 2 Transmission Line Project

Dear Mr. Salzmann:

The Arizona Game and Fish Department (Department) has reviewed the above-referenced Application for Certificate of Compatibility for the Devers-Palo Verde No. 2 Transmission Line Project (DPV2). The following comments are provided for your consideration.

The Department understands that the Southern California Edison (SCE) proposes to construct a 500 kV electrical transmission line from the Harquahala Generating Station Switchyard to the Devers Substation. The proposed route exits the Switchyard, parallels the existing Harquahala-Hassayampa 500 kV line to the existing Palo Verde Devers Transmission Right of Way (ROW). The route continues within the existing ROW and adjacent to the existing Palo Verde-Devers Transmission Line No. 1 to the California border.

The Department notes that proposed route is within an existing ROW and Bureau of Land Management utility corridor, is adjacent to the existing Palo Verde-Devers Transmission Line No. 1 and that existing access roads will be used to maximum extent possible. We further note that the application includes best management practices and mitigation to minimize potential impacts to biological resources. For these reasons the Department does not anticipate that the proposed route will result in significant adverse impacts to wildlife and wildlife habitats.

Thank you for the opportunity to provide comments on this application. The Department appreciates the opportunity to participate in this process and would appreciate an opportunity to review the draft EIR/EIS when it becomes available. If you have any questions, please contact me at 928-341-4047.

Arizona Pioneer Award for Quality
2005 Recipient

Sincerely,

William C. Knowles
Habitat Specialist
Region IV, Yuma

Attachment

cc: Russell Engel, Habitat Program Manager, Region IV
Rebecca Davidson, Proj. Eval. Prog. Supervisor, Habitat Branch

AGFD 05/25/06 (A)

Maricopa County
Planning & Development Department

501 North 44th Street, Suite 100
Phoenix, Arizona 85008
Phone: (602) 506-3301
Fax: (602) 506-3601
www.maricopa.gov/planning

May 22, 2006

Southern California Edison
Attention: Fred Salzmann
Devers – Palo Verde No. 2 Project Office
1321 State College Boulevard
Fullerton, CA 92831

SUBJECT: SCE Devers – Palo Verde No. 2 500kV Transmission Project

Dear Mr. Salzmann:

Thank you for the opportunity to provide information regarding development plans in the vicinity of the above referenced transmission project in western Maricopa County. While there are no applications for large developments currently being processed through our office in this vicinity, we know that this will likely change in the near future. There are several large master planned communities already in progress in the Tonopah region, and a continuation of this growth pattern is expected in the Harquahala region where this transmission project is located.

Given the anticipated growth and development in the Harquahala region, coupled with the significant impact that large transmission projects such as this have on development, Maricopa County reiterates its position that a new transmission line in this area would have a devastating effect on the Harquahala community and its future. Therefore, Maricopa County restates its recommendation for the transmission route that parallels the existing Devers-Palo Verde No. 1 route north of Interstate 10 and along the CAP Canal. This will help mitigate impacts to the Harquahala community by placing these transmission lines along a route where similar transmission lines already exist.

Thank you again for the opportunity to provide this information to you. Please feel free to contact me if you have any questions regarding my comments.

Sincerely,

Matthew Holm, AICP
Principal Planner

DEPARTMENT OF THE ARMY
UNITED STATES ARMY GARRISON YUMA
301 C. STREET
YUMA, ARIZONA 85365-9498

May 17, 2006

Directorate of Public Works

Fred Salzmann
Southern California Edison
DPV2 Project Office
1321 State College Blvd.
Fullerton, CA 92331

Dear Mr. Salzmann:

This responds to your letter of March 31, 2006. There is no planned development in the vicinity of that portion of the proposed Devers-Palo Verde No. 2 500kV transmission line which may enchroach upon Yuma Proving Ground at the northeast corner of Section 6, Range 19 West, Township 2 North, Gila and Salt River Meridian.

Point of contact for this action is the undersigned, telephone (928) 328-3137. A copy of this letter is furnished to the Garrison Manager, U. S. Army Garrison Yuma.

Sincerely,

James R. Marler
Realty Officer
U. S. Army Garrison Yuma

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, CORPS OF ENGINEERS
ARIZONA-NEVADA AREA OFFICE
3636 NORTH CENTRAL AVENUE, SUITE 900
PHOENIX, ARIZONA 85012-1939

REPLY TO
ATTENTION OF

April 27, 2006

Office of the Chief
Regulatory Branch

Fred Salzmann
Southern California Edison
One North Central Ave, Suite 1120
Phoenix, Arizona 85004

File Number: 2006-00957-SDM

Dear Mr. Salzmann:

It has come to our attention that you plan to construct a new 500kV transmission line connecting the Harquahala Switchyard west of Phoenix, Arizona, to the Devers Substation near Palm Springs, California.

This activity may require a Department of the Army permit issued under Section 404 of the Clean Water Act. A Section 404 permit is required for the discharge of dredged or fill material into the "waters of the United States," including adjacent wetlands. Examples of activities requiring a permit are placing bank protection, temporary or permanent stock-piling of excavated material, grading roads, grading (including vegetative clearing operations) that involves the filling of low areas or leveling the land, constructing weirs or diversion dikes, constructing approach fills, and discharging dredged or fill material as part of any other activity.

For more information, please access our website at www.spl.usace.army.mil/regulatory.

If you have questions, please contact Sallie D. McGuire at (602) 640-5385 x 221. Please refer to file number 2006-00957-SDM in your reply.

Sincerely,

Cindy Lester

Cindy Lester P.E.
Chief, Arizona Section
Regulatory Branch

Janet Napolitano
Governor

Mark Winkleman
State Land
Commissioner

Arizona
State Land Department

1616 West Adams Street Phoenix, AZ 85007 www.land.state.az.us

April 24, 2006

Southern California Edison
Attn: Fred Salzmann, Project Manager
DPV2 Project Office
1321 State College Blvd.
Fullerton, CA 92831

Re: Your Letter Of March 31, 2006
SCE Devers-Palo Verde No. 2 500kV Transmission Project

Dear Mr. Salzmann:

We are responding to your request for information on planned developments in the vicinity of the proposed transmission line routes in Arizona. We have been aware of the original route for some time. Given the lead time our development and planning activities have taken the possibility of a parallel second 500 kV line into consideration and we do not anticipate alignment conflicts..

Regretfully this is not true regarding the Harquahala-West Alternate Route. This is a relatively recent proposal and we have been unable to incorporate the alignment in our planning activities. While specific development plans for the effected parcels have not been completed, our long term conceptual plans indicate the possibility of significant negative impact. As a result we are advising that right of way across our land, for this alternative alignment, would be problematic.

We appreciate the chance to once again respond to the proposed alignments. We were unable to make the April 14, 2006, deadline given the short time period from when we received your request on April 6, 2006. If we can be of further assistance please contact me at 602-542-4041.

Sincerely,

James E. Gross
Project Leader II

Cc: Arizona Power Plant and Transmission Line Siting Committee of the Arizona Corporation Commission

DEPARTMENT OF THE AIR FORCE
AIR EDUCATION AND TRAINING COMMAND

11 April 2006

Mr. James R. Mitchell
Director, Community Initiatives Team
56th Fighter Wing
14185 West Falcon Street
Luke AFB AZ 85309-1629

Mr. Fred Salzmann, Project Manager
DPV2 Project Office
1321 State College Boulevard
Fullerton CA 92831

Re: SCE Devers-Palo Verde No. 2 500kV Transmission Project

Dear Mr. Salzmann

Thank you for the opportunity to provide comments on the proposed SCE Devers-Palo Verde No. 2 500kV Transmission Project. The project is proposing to build a new 500-kilovolt transmission line connecting the Harquahala Switchyard, located approximately 40 miles west of Phoenix, Arizona to SCE's existing Devers Substation located approximately 10 miles north of Palm Springs, California. The proposed line will be approximately 230 miles long, extending west, generally south of the Interstate 10.

Although this project is outside the area affecting Luke AFB flying operations, it may affect Military Training Routes (MTR) throughout Arizona. To ensure compatibility with the MTRs, please review the following web site: http://www.re.state.az.us/militaryairport1.html . We also recommend a review of the Luke AFB web site at http://www.luke.af.mil, Community Interests and Community Initiatives links, for further information.

If there are any questions, please contact my Community Planner, Mr. Bob Dubsky, at (623) 856-6195.

Sincerely

JAMES R. MITCHELL

cc:
Colonel David L. Orr, Vice Commander, 56th Fighter Wing

From: Mike Sabatini - MCDOTX [mailto:MikeSabatini@mail.maricopa.gov]
Sent: Wednesday, June 07, 2006 1:59 PM
To: Frederick.Salzmann@SCE.com
Cc: Mickey Siegel
Subject: RE: SCE letter response

Fred Salzmann, Project Manager
DPV2 Project Office
1321 State College Blvd.
Fullerton, CA 92831

RE: SCE Devers-Palo Verde No. 2 500kV Transmission Project

Mr. Salzmann,

I have reviewed the attached letter and maps against the capital improvements program for the Maricopa County Department of Transportation (MCDOT). MCDOT does not have any capital improvements scheduled in the next five years in the SCE Devers-Palo Verde No. 2 500kV Transmission Project corridor. We do conduct regular maintenance activities on the roads we maintain in the vicinity. Feel free to visit our website where we have an electronic copy of our capital improvement program (http://mcdot.maricopa.gov/tip/home.htm).

You should be aware of a subarea road study underway by the Maricopa Association of Governments (MAG). Bob Hazelett is the project lead at MAG. The western limits of the study extend to approximately the Tonopah Road vicinity. It is not likely there will be any imminent capital projects derived from the planning effort.

Feel free to e-mail me or call me at 602-506-8628 if you have any questions.

Sincerely,

Michael W. Sabatini

Michael W. Sabatini, P.E.
Division Manager
Transportation Planning Division
Maricopa County Department of Transportation
2901 W. Durango
Phoenix, AZ 85009
P: 602-506-8628
F: 602-506-4882

4

The Arizona Republic

May. 19, 2006

Ariz.-Calif. power line mulled

Palo Verde plan could raise prices here

Ken Alltucker

State regulators worry that a proposed high-voltage electricity line from Palo Verde Nuclear Generating Station to California could significantly raise electricity costs for Arizonans and divert needed power away from Arizona.

One study estimates that Southern California Edison Co.'s 230-mile transmission line from Palo Verde to the Palm Springs, Calif., area would cost Arizona consumers more than $230 million from 2009 through 2014.

The reason: The transmission line would give Californians access to Arizona's less-expensive electricity.

"The consumer impact is a real concern," Arizona Corporation Commissioner Kris Mayes said. "Is this going to drain Arizona of much-needed energy, and is this going to drain the pocketbooks of consumers?"

Southern California Edison needs the Corporation Commission's approval to build the $581 million transmission line, which would link an electrical switchyard near Palo Verde to the Devers substation near Palm Springs.

The proposed line would run parallel to an existing transmission line that already is full of electricity zapped from Palo Verde to southern California.

Southern California Edison wants to build the second line to get Arizona's excess electricity, including power from several independently owned natural-gas plants ringing the Palo Verde nuclear plant.

Southern California Edison representatives say the line would be a boon for Arizona because it would bolster the reliability of the state's electricity supply, generate nearly 500 construction jobs over two years and provide about $2 million in annual property taxes for Maricopa and La Paz counties.

But Arizona regulators say they will scrutinize the project's impact on Arizona ratepayers, the state's electricity grid and the environment. The project also needs approval from the California Public Utilities Commission and the Bureau of Land Management.

Both Mayes and Corporation Commission Chairman Jeff Hatch-Miller have written letters questioning the project's costs, benefits and impact.

"There is no doubt that California wants the cheaper power," Hatch-Miller said. "California is not building (many new power plants) inside their state."

Southern California Edison representatives said they soon will answer specific questions raised by Mayes and Hatch-Miller.

In a written statement, SCE said the line would be paid for by California consumers and would benefit Arizona's electrical grid.

SCE declined to discuss its economic report submitted last year to the California Independent System Operator, which oversees California's electricity grid. The report shows the transmission line would cost Arizona consumers more than $230 million from 2009 through 2014.

The same report shows that Arizona power plants would get a $164 million boost through sales to California customers. The plants around Palo Verde have struggled, being unable to sell excess power due to a lack of demand in Arizona and insufficient transmission capability to send the power to California.

SCE's report also showed that Californians would greatly benefit from access to Arizona's cheaper electricity. The report estimated that California consumers would get a net benefit of nearly $970 million from 2009 though 2014.

There are other factors, however, that state regulators must consider.

Arizona Public Service could use the line to sell its excess electricity.

During the company's annual meeting on Wednesday, Chairman Bill Post said the line has the potential to "expand our wholesale power markets."

"I believe California's electric prices will always exceed ours and, therefore, the California market offers important business opportunities," Post said.

"Greater access to those markets will give us the opportunity to reduce our customers' costs with additional sales while increasing our own profitability."

Associated Press Newswires
May 19, 2006

New power line could lead to higher Arizona rates

PHOENIX (AP) - An Arizona-to-California power line proposed by Southern California Edison could cost Arizona ratepayers more than $230 million in its first five years of operation, the utility said in a report filed with California's grid operator.

But it could save California customers $970 million in the same period, provide a boost to some underused power plants in Arizona and help the state's largest utility when it has extra power to sell, the Edison report shows.

Edison hopes to build the high-voltage transmission line from the Palo Verde Nuclear Generating Station outside Phoenix west to Palm Springs, Calif. The intent: tap into cheaper power available here and ship it to California.

The $581 million transmission line would run parallel to an existing line already sending Palo Verde power to California, but its added capacity would also allow the utility to tap into power from several new private gas-fired generating plants in the area.

More demand for Arizona power would likely lead to an estimated $230 million in higher prices for local utility customers between 2009 and 2014, according to Edison's economic impact report to the California Independent System Operator, the overseer of the power supply there.

"The consumer impact is a real concern," said Kris Mayes, who sits on the utility-regulating Arizona Corporation Commission. "Is this going to drain Arizona of much-needed energy, and is this going to drain the pocketbooks of consumers?"

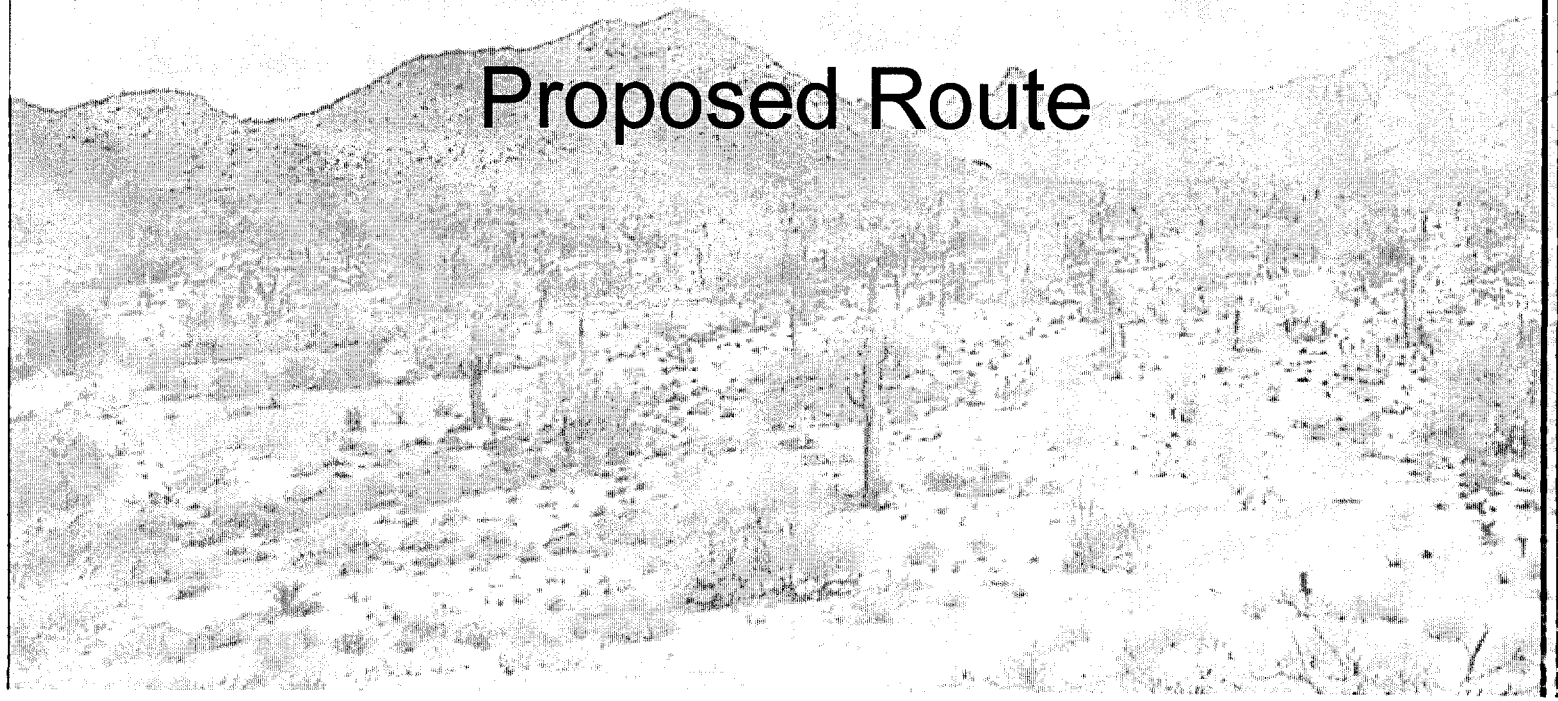
Edison needs approval from the Arizona regulators, the California Public Utilities Commission and the Bureau of Land Management to build the line.

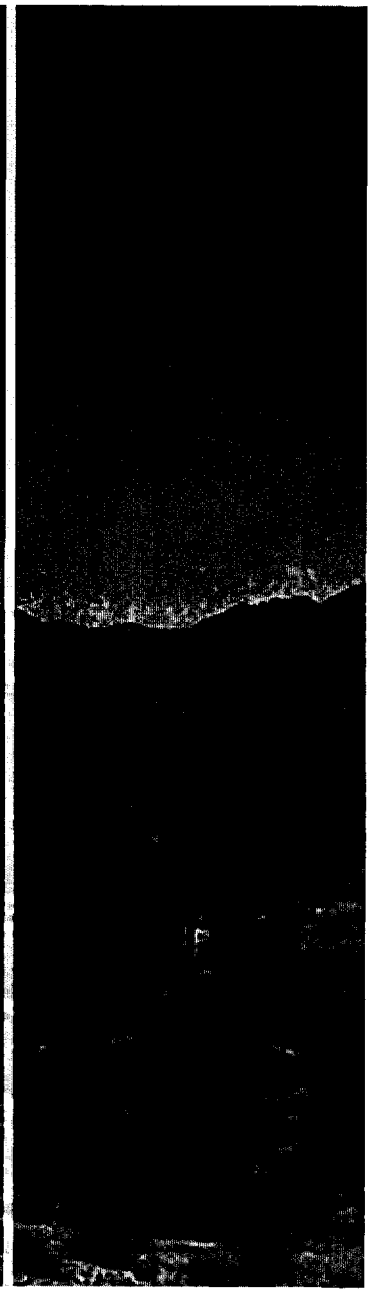
Edison officials say the line would benefit Arizona by improving the state grid's reliability, creating 500 jobs during the two-year construction period and paying $2 million a year in property taxes in Maricopa and La Paz counties.
Both Mayes and Jeff Hatch-Miller, the Corporation Commission's chairman, have written letters questioning the project's costs, benefits and impact. Edison representatives said they will answer specific questions by June 26.

5

Virtual Tour

Proposed Route





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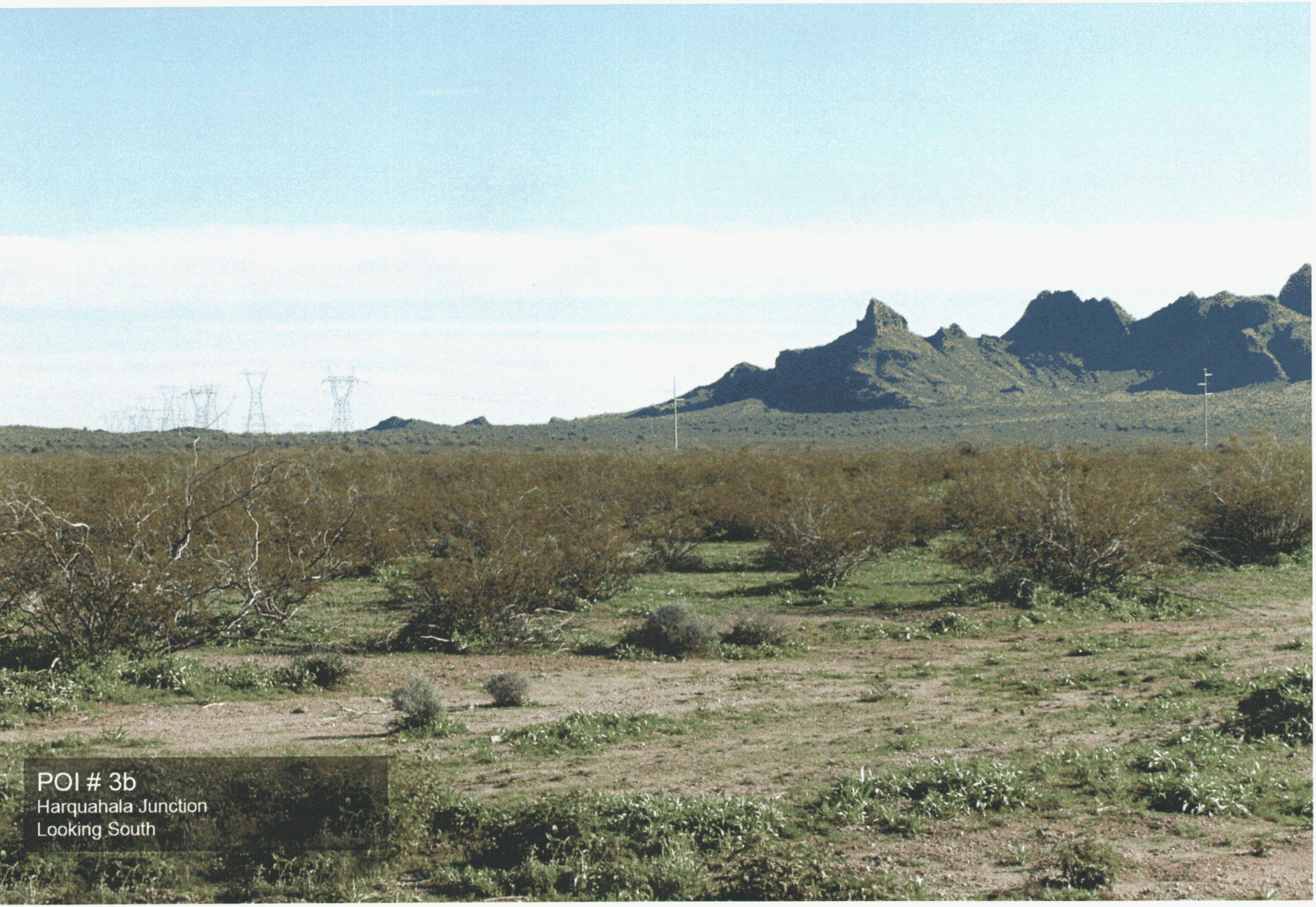
POI # 01
Harquahala Generating Station
Looking Northeast

POI # 02
Farmlands
Looking East

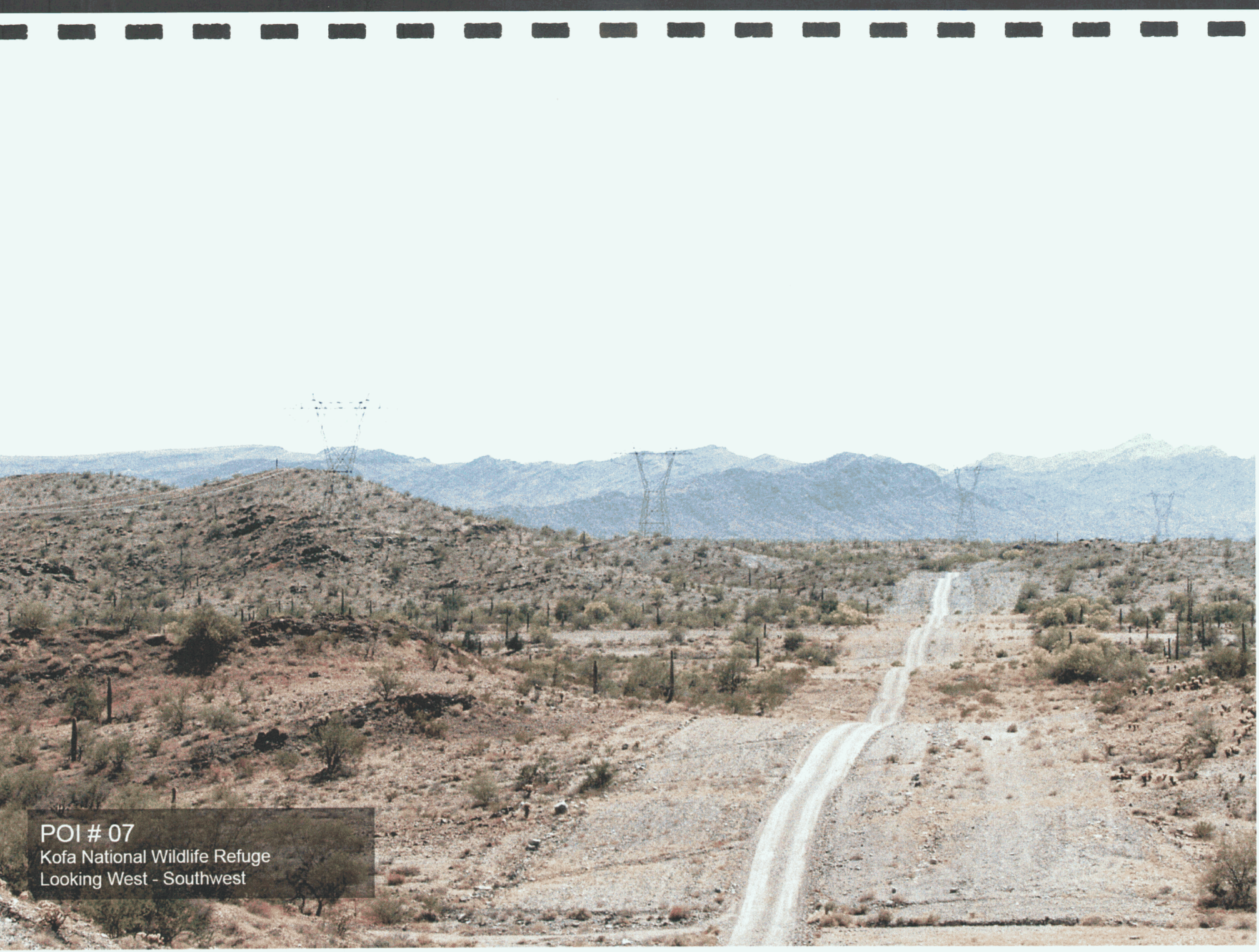
POI # 3a
Harquahala Junction
Looking North

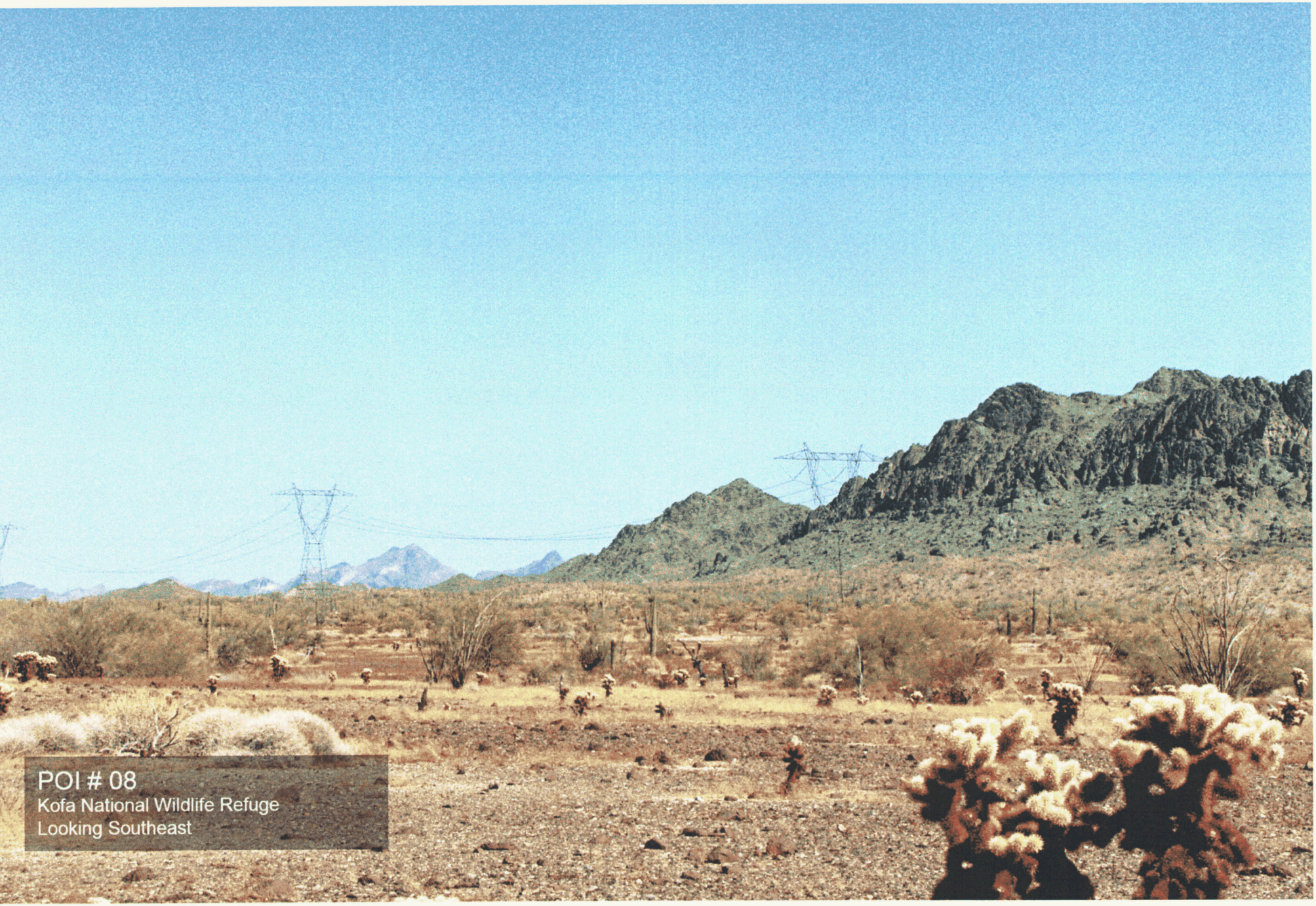

POI # 3b
Harquahala Junction
Looking South

POI # 04
Interstate 10
Looking West

POI # 05
Big Horn Mountains
Looking North

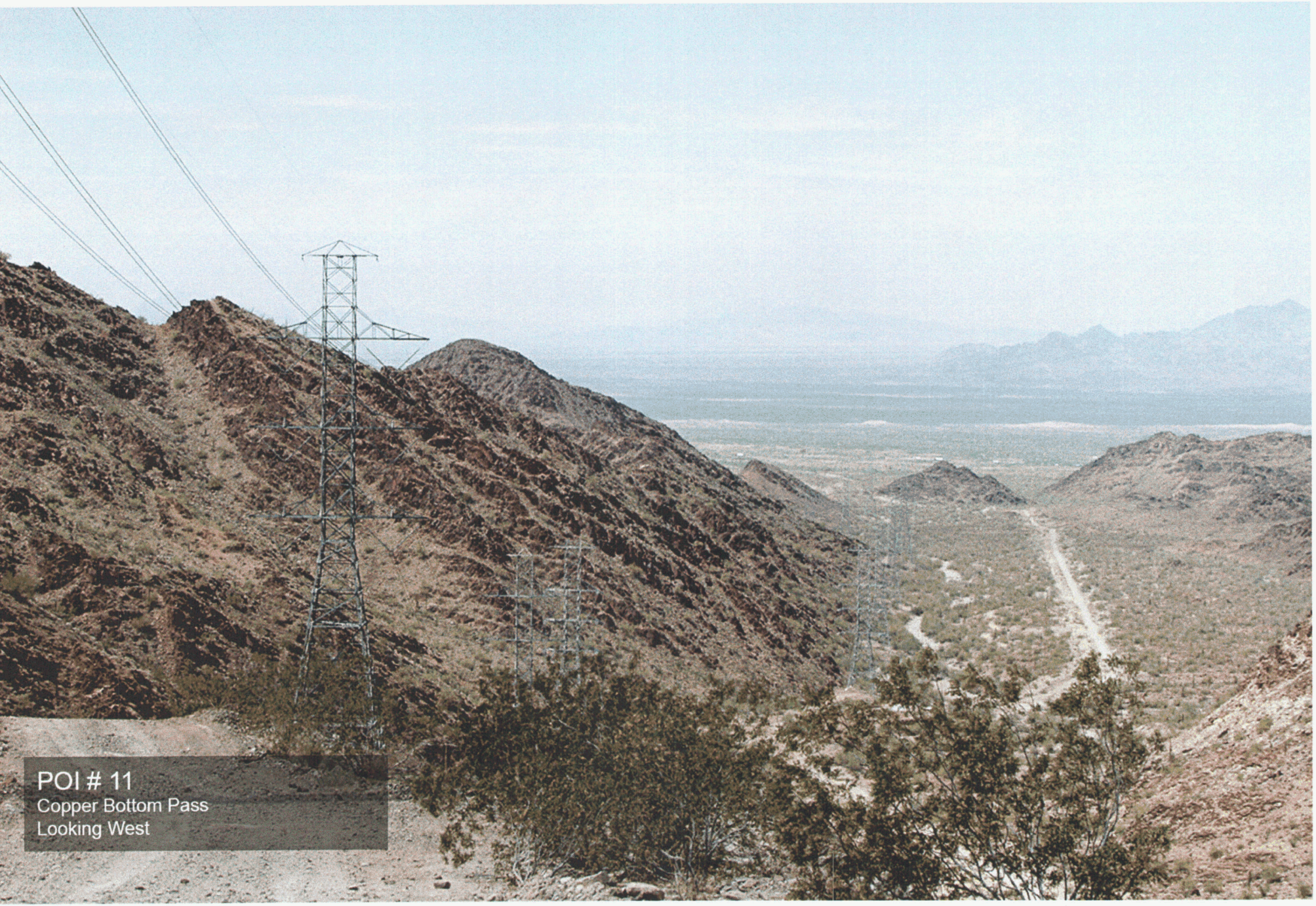
POI # 06
Interstate 10
Looking West


POI # 07
Kofa National Wildlife Refuge
Looking West - Southwest

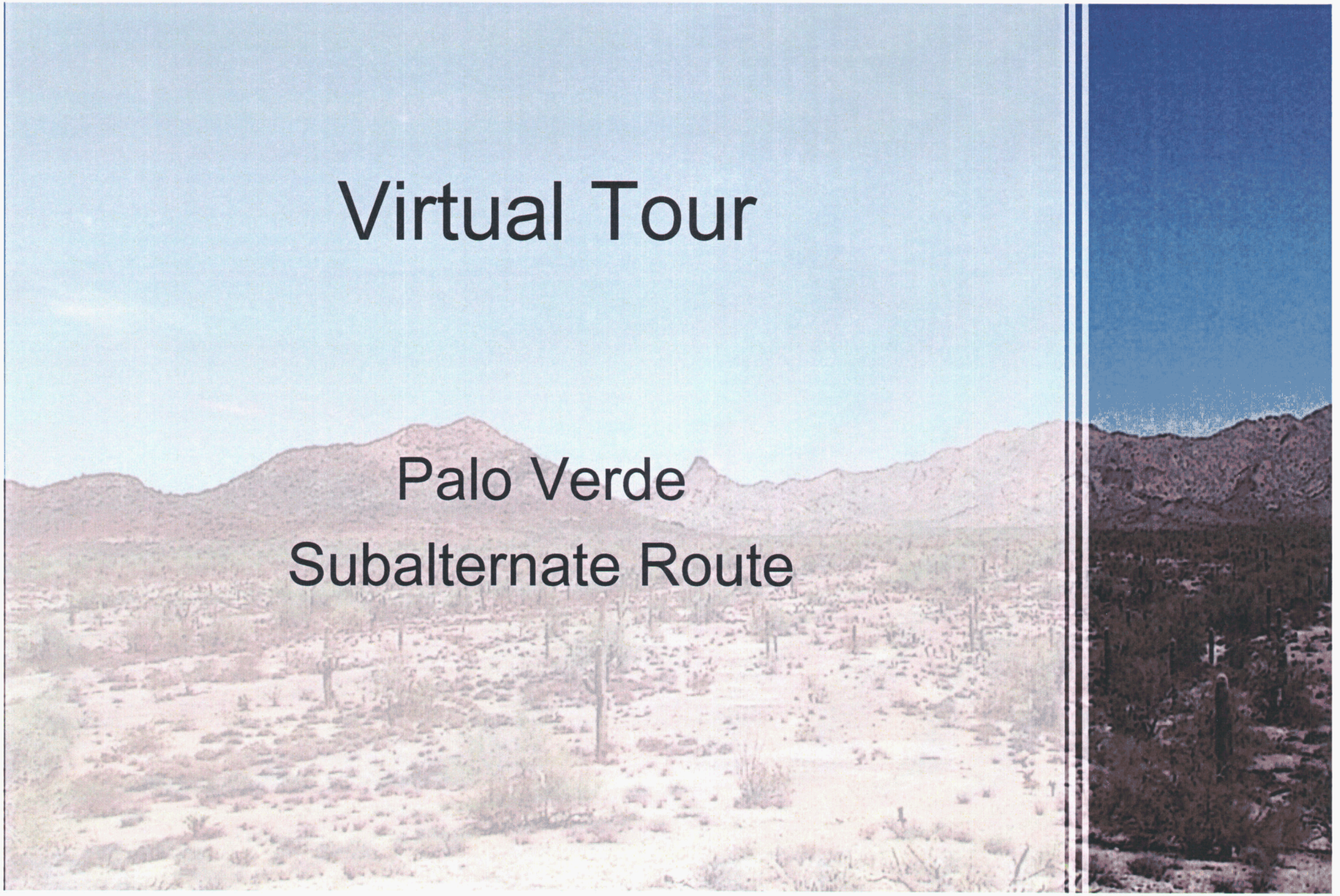

POI # 08
Kofa National Wildlife Refuge
Looking Southeast

POI # 09
U.S. Highway 95
Looking East

POI # 10
Copper Bottom Pass Road
Looking East


POI # 11
Copper Bottom Pass
Looking West

POI # 12
Colorado River
Looking East



Virtual Tour

Palo Verde
Subalternate Route

SOUTHERN CALIFORNIA
EDISON
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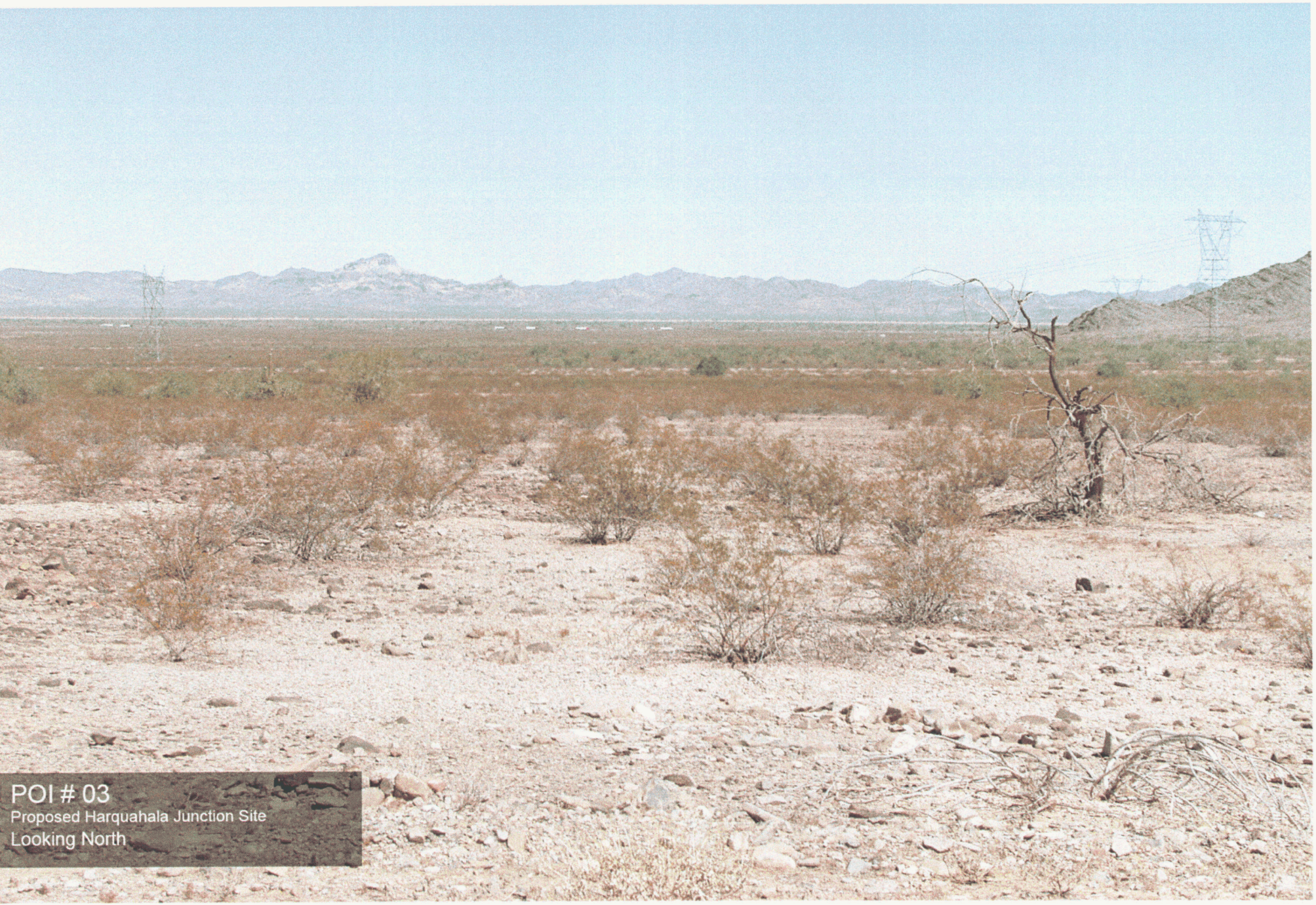
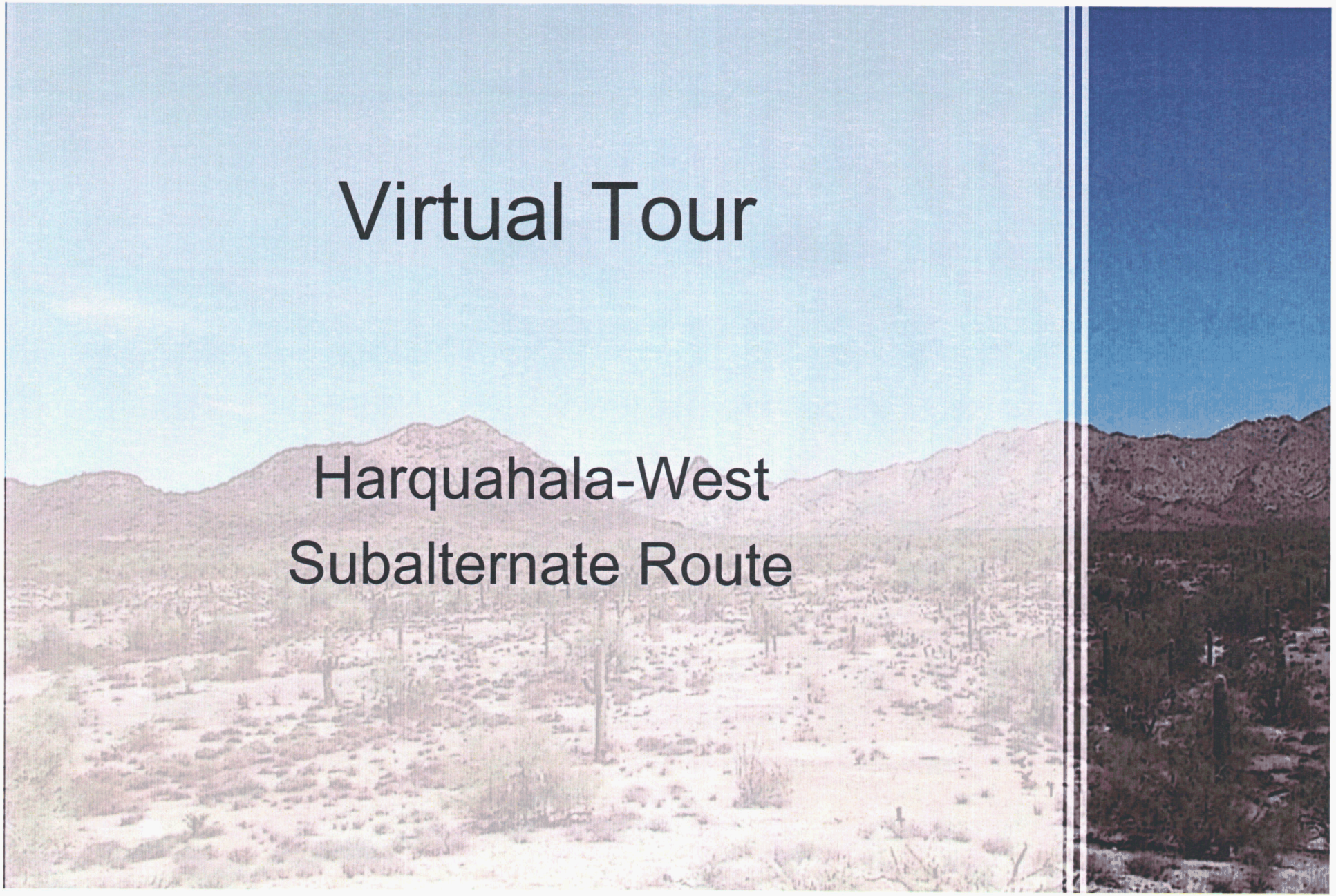
POI # 01
Wintersburg Road
Looking Southwest

POI # 02
Saddle Mountain
Looking South


POI # 03
Proposed Harquahala Junction Site
Looking North

Virtual Tour

Harquahala-West Subalternate Route



SOUTHERN CALIFORNIA EDISON

An EDISON INTERNATIONAL® Company

POI # 01
Harquahala Generating Station
Looking East

POI # 02
Fallow Farmland
Looking West

POI # 03
Pipeline Road, adjacent to the Eagletail Mountains
Looking West - Northwest

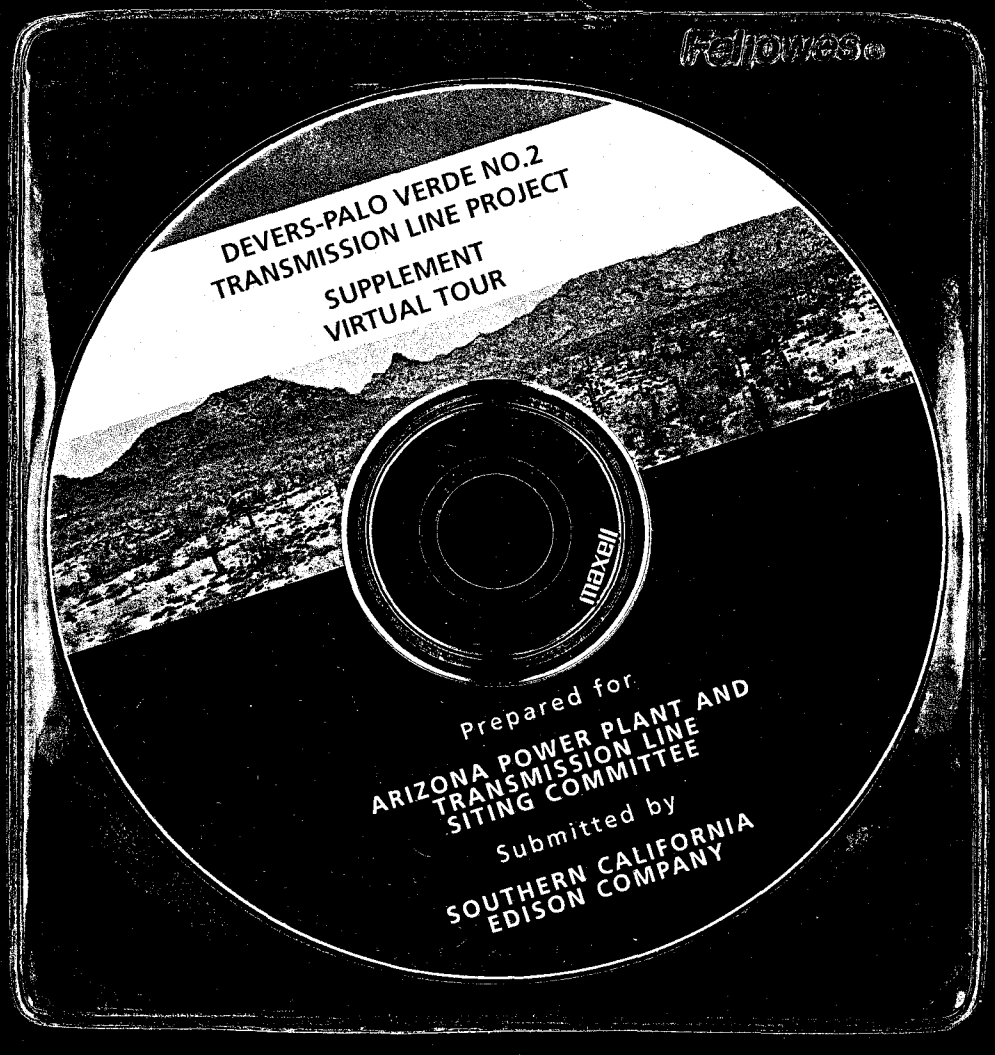
POI # 04
Connection with Proposed Route
Looking West - Northwest

DISC

- Devers-Palo Verde No.2 Transmission Line Project: Supplement Virtual Tour

TO REVIEW SEE DOCKET SUPERVISOR

DOCKET
L-00000A-06-0295-00130


DEVERS-PALO VERDE NO.2
TRANSMISSION LINE PROJECT
SUPPLEMENT
VIRTUAL TOUR
maxell
Prepared for
ARIZONA POWER PLANT AND
TRANSMISSION LINE
SITING COMMITTEE
Submitted by
SOUTHERN CALIFORNIA
EDISON COMPANY