

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

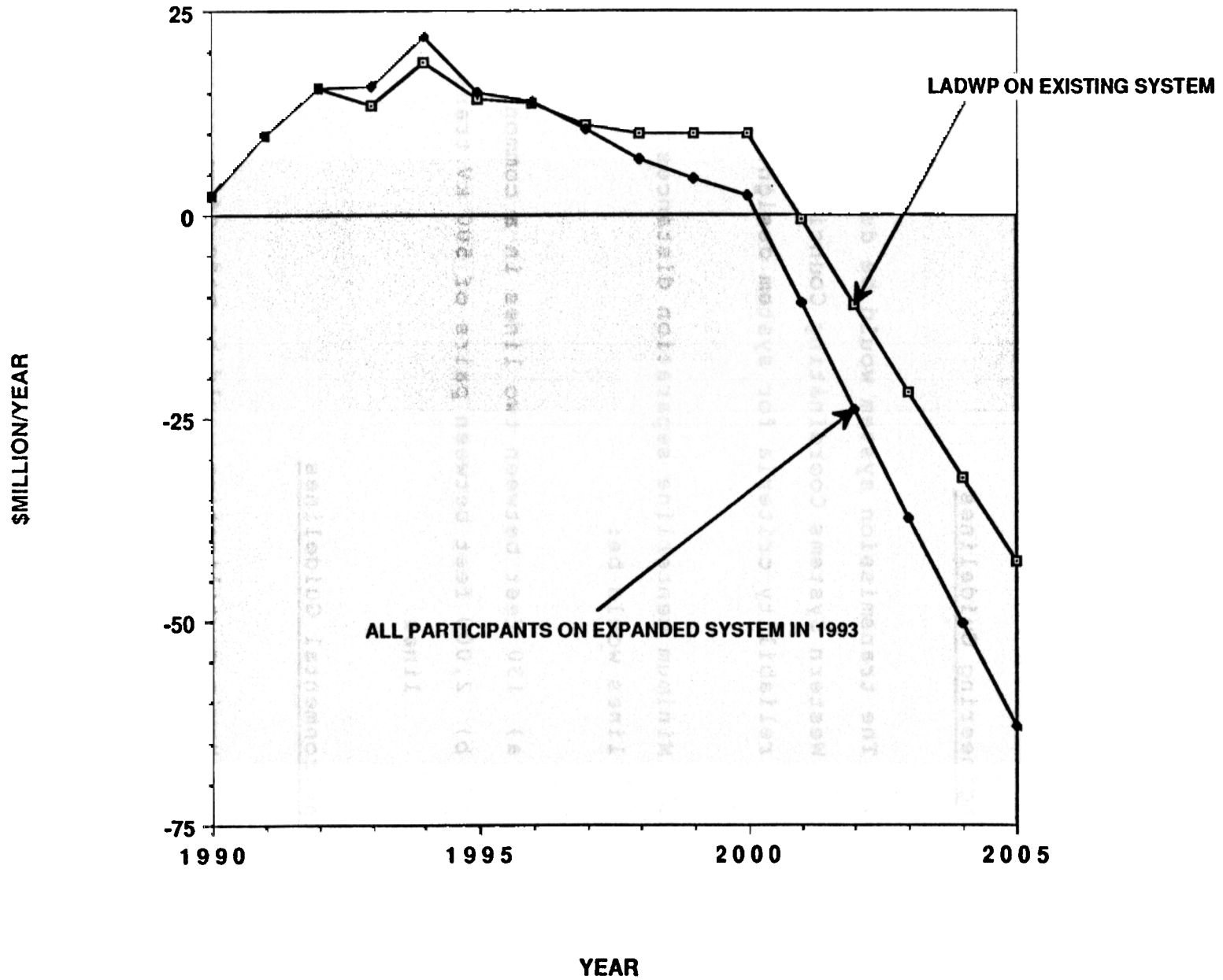
10.4.1 Route Selection Study Process

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



10-25

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:

- o Subalternate 1: Points AC-EA-E; Links 3, 4a, 4b, and 4c
- o Subalternate 2: Points AC-EA-HH-F; Links 3, 5, and 11
- o Subalternate 3: Points FL-MN-MF; Links 7 and 9
- o 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-AZ 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 House 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 lacustrine 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 than 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-ME; 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.

10.4.3.10 Traffic and Transportation

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 |
|-------------------|---|-------------------------|
| <u>Arizona</u> | | |
| 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 | 8,100-12,000 |
| <u>California</u> | | |
| 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 ¹ |
|----------|--|-------------------------|
| 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 Box Canyon Road | 2,200 500* |
| 14 | Mountain View Road north of Varner 1000 Palms Road north of Ramon | 2,600* 900* |
| 14 | Ramon Road | |
| | West of Bob Hope Drive | 13,000* |
| | East of Kubic | 3,600* |
| | Date Palm Drive southwest of Varner | 2,000* |
| | 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 |

¹ 1984 Traffic Volumes on the California State Highway 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:

| | <u>Impact</u> | <u>Significance</u> |
|--|---------------|---------------------|
| 1. Conflict with the present land use of the area in which it will be located? | | |

| | | |
|------------------------|-----------|-------------------------|
| <u>Subalternate 1:</u> | 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

| | <u>Impact</u> | <u>Significance</u> |
|------------------------|---------------|----------------------------|
| <u>Subalternate 2:</u> | 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.

| | <u>Impact</u> | <u>Significance</u> |
|------------------------|---------------|----------------------------|
| <u>Subalternate 3:</u> | 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).

| | <u>Impact</u> | <u>Significance</u> |
|------------------------|---------------|----------------------------|
| <u>Subalternate 4:</u> | 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?

| | <u>Impact</u> | <u>Significance</u> |
|-------------------------------|---------------|-------------------------|
| <u>Subalternates 1 and 4:</u> | 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

| | | |
|------------------------|-----------|-------------------------|
| <u>Subalternate 2:</u> | 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?

| | <u>Impact</u> | <u>Significance</u> |
|------------------------|---------------|---------------------|
| <u>Subalternate 1:</u> | 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.

| | <u>Impact</u> | <u>Significance</u> |
|------------------------|---------------|-------------------------|
| <u>Subalternate 2:</u> | 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.

| | <u>IMPACT</u> | <u>SIGNIFICANCE</u> |
|------------------------|---------------|-------------------------|
| <u>Subalternate 3:</u> | 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

| | <u>IMPACT</u> | <u>SIGNIFICANCE</u> |
|------------------------|---------------|---------------------|
| <u>Subalternate 4:</u> | 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?

| | <u>Impact</u> | <u>Significance</u> |
|------------------------|---------------|-------------------------|
| <u>Subalternate 2:</u> | 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:

| <u>Impact</u> | <u>Significance</u> |
|---------------|-------------------------|
| 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

| | <u>Impact</u> | <u>Significance</u> |
|--|---------------|---------------------|
| 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?

| | <u>Impact</u> | <u>Significance</u> |
|-------------------------------|---------------|----------------------------|
| <u>Subalternates 1 and 4:</u> | 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:

| | <u>Impact</u> | <u>Significance</u> |
|---|---------------|----------------------------|
| 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:

| | <u>Impact</u> | <u>Significance</u> |
|--|---------------|-------------------------|
| 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 and 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.

| | <u>Impact</u> | <u>Significance</u> |
|---|---------------|-------------------------|
| 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.

| | <u>Impact</u> | <u>Significance</u> |
|--|---------------|-------------------------|
| 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.

| | <u>Impact</u> | <u>Significance</u> |
|-------------------------------|---------------|---------------------|
| 12. Affect soil productivity? | | |
| <u>Subalternates 2 and 3:</u> | 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:

| | <u>Impact</u> | <u>Significance</u> |
|--|---------------|---------------------|
| 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 (O₃) 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.

| | <u>Impact</u> | <u>Significance</u> |
|---------------------------------|---------------|---------------------|
| 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).

| | <u>Impact</u> | <u>Significance</u> |
|---|---------------|---------------------|
| 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.

| | <u>Impact</u> | <u>Significance</u> |
|---|---------------|---------------------|
| 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

| | <u>Impact</u> | <u>Significance</u> |
|--------------------------------|---------------|---------------------|
| 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:

| | <u>Impact</u> | <u>Significance</u> |
|---|---------------|---------------------|
| 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.

| | <u>Impact</u> | <u>Significance</u> |
|--|---------------|---------------------|
| 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.

| | <u>Impact</u> | <u>Significance</u> |
|---|---------------|---------------------|
| 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.

| | <u>Impact</u> | <u>Significance</u> |
|-------------------------------------|---------------|---------------------|
| 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.

| | <u>Impact</u> | <u>Significance</u> |
|--|---------------|---------------------|
| 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.

| | <u>Impact</u> | <u>Significance</u> |
|---|---------------|---------------------|
| 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.

| | <u>Impact</u> | <u>Significance</u> |
|---|---------------|---------------------|
| 25. Alter or affect any ocean, river, or stream or any channel, or shore? | | |

| | | |
|-------------------------------|-----------|---------------|
| <u>Subalternates 2 and 3:</u> | 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

| | <u>Impact</u> | <u>Significance</u> |
|------------------------------|---------------|---------------------|
| Affect any flood-prone area? | No | N/A |

proposed subalternate routes would not affect any flood-prone area

| | <u>Impact</u> | <u>Significance</u> |
|--|---------------|---------------------|
| 27. Affect any water oriented recreation area? | | |

| | | |
|-------------------------------|-----------|---------------|
| <u>Subalternates 2 and 3:</u> | Potential | Insignificant |
|-------------------------------|-----------|---------------|

These two subalternate routes would cross the Colorado River. 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:

| | <u>Impact</u> | <u>Significance</u> |
|---|---------------|-------------------------|
| 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:

o Subalternates 1 and 4

Desert Bighorn Sheep

Desert Tortoise

Cereus greggii

o Subalternate 2

Desert Bighorn Sheep

Desert Tortoise

Cereus greggii

Coryphantha vivipara var. alversonii

Riparian Habitat

o Subalternate 3

Riparian Habitat

| | <u>Impact</u> | <u>Significance</u> |
|---|---------------|---------------------|
| 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.

| | <u>Impact</u> | <u>Significance</u> |
|--|---------------|---------------------|
| 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. 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.

| | <u>Impact</u> | <u>Significance</u> |
|--|---------------|---------------------|
| 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.

| | <u>Impact</u> | <u>Significance</u> |
|---|---------------|-------------------------|
| 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.

| | <u>Impact</u> | <u>Significance</u> |
|---|---------------|---------------------|
| 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.

| | <u>Impact</u> | <u>Significance</u> |
|--|---------------|-------------------------|
| 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.

| | <u>Impact</u> | <u>Significance</u> |
|--|---------------|---------------------|
| 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:

| | <u>Impact</u> | <u>Significance</u> |
|--|---------------|---------------------|
| 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.

| | <u>Impact</u> | <u>Significance</u> |
|---|---------------|---------------------|
| 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:

| | <u>Impact</u> | <u>Significance</u> |
|--|---------------|---------------------|
| 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 5)

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.

| | <u>Impact</u> | <u>Significance</u> |
|---|---------------|---------------------|
| 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

| | <u>Impact</u> | <u>Significance</u> |
|--|---------------|---------------------|
| 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:

| | <u>Impact</u> | <u>Significance</u> |
|--|---------------|---------------------|
| 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.

| | <u>Impact</u> | <u>Significance</u> |
|--|---------------|---------------------|
| 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

| | <u>Impact</u> | <u>Significance</u> |
|---|---------------|-------------------------|
| 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

| | <u>IMPACT</u> | <u>SIGNIFICANCE</u> |
|---|---------------|---------------------|
| 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

| | <u>IMPACT</u> | <u>SIGNIFICANCE</u> |
|--|---------------|---------------------|
| 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.

| | <u>IMPACT</u> | <u>SIGNIFICANCE</u> |
|--|---------------|---------------------|
| 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.

| | <u>IMPACT</u> | <u>SIGNIFICANCE</u> |
|--------------------------------|---------------|------------------------|
| 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