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Docket#(s): L-00000A-06-0295-00130

Exhibit # : A-28 to A-34

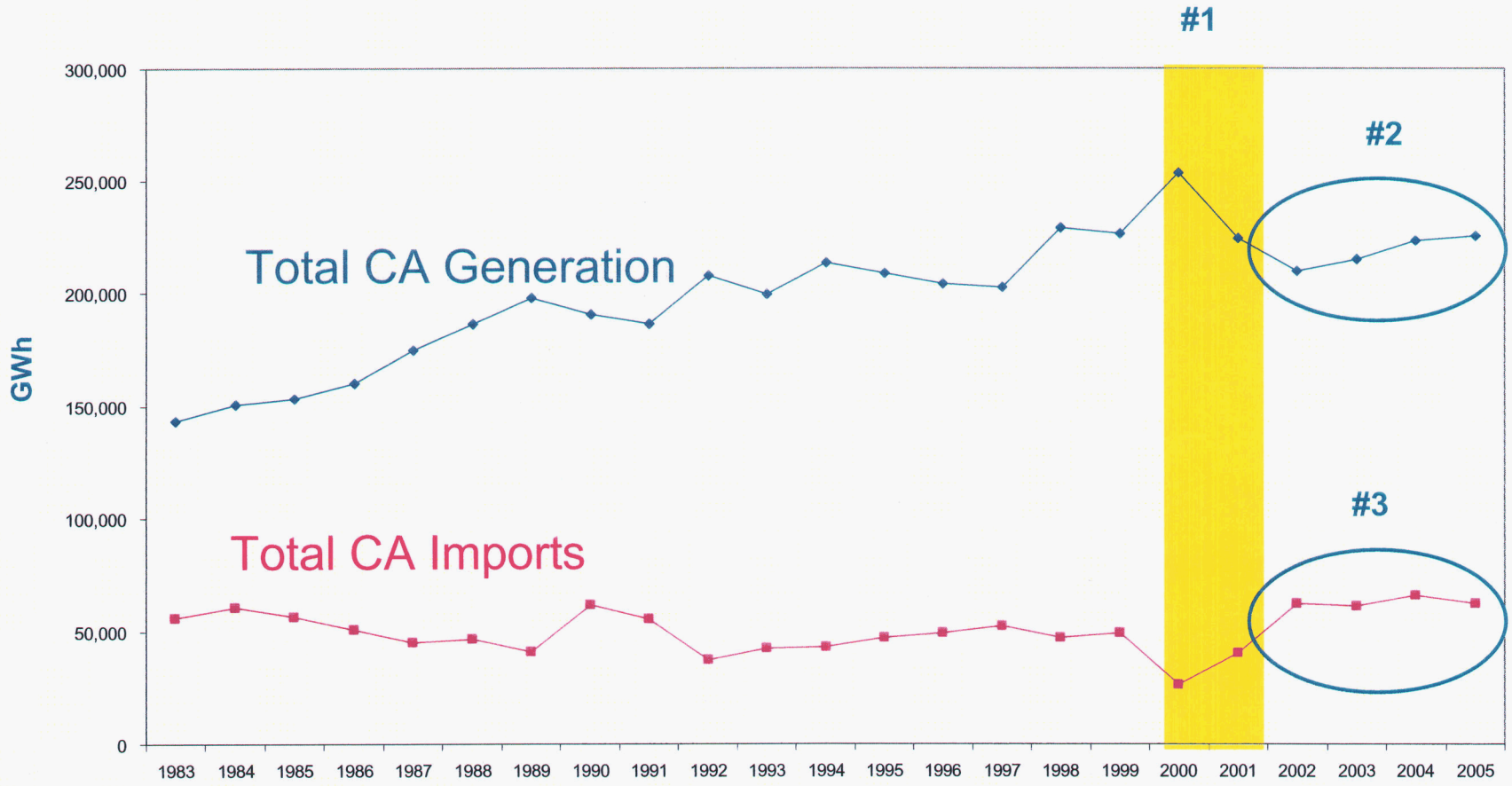
Com 1-4 RUCO 1-3

CAWCD 1-2 Sierra Club 1-6

EXHIBIT
A-28
admitted

California Generation Supply

(Source: Applicant's Exhibit A-17, and Staff's Exhibit S-29a; website is: http://www.energy.ca.gov/electricity/electricity_generation.html)



#1 – Data during the Energy Crisis should not be compared to data in other periods.

Note: Data prior to 2001 did not count CA utility out-of-state generation as an import, but for 2001 and beyond such utility generation is counted as an import, thus overstating the reliance on imports.

#2 – Generation from within California has been steadily increasing since the Energy Crisis, while …

#3 – Imports have been flat for the past four years.

EXHIBIT
tabbies
A1-29
admitted

California Generation and Imports in GWh

	2002	2003	2004	2005	2010-15
Total California Generation and Imports [GWh]	272,509	276,969	289,359	287,977	
	100%	100%	100%	100%	
California-internal Generation [GWh]	209,650	215,159	223,081	225,521	
	77%	78%	77%	78%	
Total Imports [GWh]	62,859	61,811	66,278	62,456	
	23%	22%	23%	22%	
Imports -- NW total	27,186	22,303	20,831	20,286	
	10%	8.1%	7.2%	7.0%	
Imports -- SW total	35,673	39,508	45,447	42,170	
	13%	14%	16%	15%	
Imports -- DPV1/PV-North Gila branchgroup	17,291	18,617	19,902	19,481	
	6.3%	6.7%	6.9%	6.8%	
Increase of AZ generation due to DPV2 [avg 230 MW = 2015 GWh]					2,015

California Generation and Imports in Average MW

	2002	2003	2004	2005	2010-15
Total California Generation and Imports [average MW]	31,108	31,617	33,032	32,874	
	100%	100%	100%	100%	
California-internal Generation [average MW]	23,933	24,562	25,466	25,744	
	77%	78%	77%	78%	
Total Imports [average MW]	7,176	7,056	7,566	7,130	
	23%	22%	23%	22%	
Imports -- NW total	3,103	2,546	2,378	2,316	
	10%	8.1%	7.2%	7.0%	
Imports -- SW total	4,072	4,510	5,188	4,814	
	13%	14%	16%	15%	
Imports -- DPV1/PV-North Gila branchgroup	1,974	2,125	2,272	2,224	
	6.3%	6.7%	6.9%	6.8%	
Average MW increase of AZ generation due to DPV2					230

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December 22, 2006

VIA UNITED PARCEL SERVICE

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Mr. Paul Cornes
Refuge Manager
Kofa National Wildlife Refuge
356 W. 1st Street
Yuma, CA 85364

Subject: Comments Regarding the Draft Compatibility Determination for the Devers-Palo Verde No. 2 Transmission Line Project

Dear Mr. Cornes:

Southern California Edison Company (SCE) has reviewed the Draft Compatibility Determination (CD) prepared by the United States Fish and Wildlife Service, Kofa National Wildlife Refuge, for the SCE Devers-Palo Verde No. 2 (DPV2) Transmission Line Project (Project). The U.S. Fish and Wildlife Service (Service) issued a Notice for Public Review seeking comments on the Draft CD. This letter constitutes the SCE comments.

EXECUTIVE SUMMARY

The Draft CD concludes that the proposed DPV2 use of the Kofa NWR is "not compatible" with the NWR System mission and the purposes of the Kofa NWR. This Draft CD determination is founded on an improper application of the legal requirements for making a CD and upon certain incorrect information and analysis. When these errors are corrected, the Kofa NWR should find the proposed DPV2 Project "compatible".

Importantly, the Kofa NWR did not need to issue a new CD for the DPV2 Project because the existing 1989 CD for the Project was still valid and the Draft CD provided no compelling reason for revising or making a new CD. Any new CD must comply with the legal requirements for issuing a CD, as set forth in both the National Wildlife Refuge System Administration Act, as amended, and the Service's implementing regulations. Here, the basis for the Draft CD "not compatible" finding is that the Project would (i) potentially cause significant adverse impacts to wildlife and archaeological/cultural resources, and (ii) cause significant and unmitigable impacts to visual and recreation resources. However, neither the NWR System mission nor the purpose of the Kofa NWR mentions archaeological, cultural, visual, or recreation resource protection. The mission and purpose are limited to determining if the DPV2 Project will materially interfere with or detract from the conservation and management of wildlife resources. Therefore, the Draft CD must only evaluate the proposed impacts to wildlife resources. The Draft CD cannot consider other resource issues, such as visual, recreation, and cultural resources, when issuing the CD. SCE

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understands that the Service may evaluate the potential for other resources impacts when the Service acts upon the SCE right-of-way application (after the Service first concludes that the DPV2 Project is compatible).

Clearly, the DPV2 Project will not materially interfere with or detract from the conservation and management of bighorn sheep, birds, and reptiles within the Kofa NWR. No significant impacts to wildlife have been identified due to the construction and operation of the existing DPV1 transmission line, natural gas pipeline, and the dirt Pipeline Road. Studies conducted in consultation with the Kofa NWR have specifically shown that the DPV1 transmission line does not harm bighorn sheep movements or lambing within the Kofa NWR. The construction of DPV2 will use the existing Pipeline Road and tower access roads such that only 3.4 acres of additional land will be permanently disturbed. None of the impacted land is considered sensitive habitat for bighorn sheep lambing or foraging. Similarly, the small amount of land to be disturbed will not impact movements of sensitive reptiles, which were not even found in the Project area. Also, DPV1 has not been shown to cause significant mortality due to bird collisions. In fact, the likelihood of bird collisions is extremely low due to the flight patterns associated with both resident and migratory birds that may be found within the Kofa NWR. Consequently, this minor land disturbance will not materially interfere with wildlife within the Kofa NWR. Importantly, the alternative routes outside the Kofa NWR would each result in substantially greater amounts of undisturbed land, leading to increased impacts to wildlife, visual, recreation, and cultural resources.

Moreover, the Bureau of Land Management and the California Public Utilities Commission prepared a Final Environmental Impact Report/Environmental Impact Statement that sets forth a large number of mitigation measures to help ensure that the Project will not create significant impacts to wildlife (and other resources). To the extent the Kofa NWR believes it necessary, these mitigation measures may be included as stipulations within a final CD to ensure wildlife conservation. One mitigation measure, proposed by the Service itself, would have SCE compensate the Service for impacts by purchasing private property in-holdings within the Kofa NWR.

A critical error in the Draft CD analysis of impacts to wildlife, visual, recreation, and cultural resources is the failure to consider the appropriate environmental baseline, which includes the existing natural gas pipeline, its appurtenant structures (generator buildings, engine house, valve stations, and signage), the existing DPV1 transmission line, and the existing Pipeline Road. This existing infrastructure establishes a key part of the environmental setting against which potential incremental impacts from the proposed DPV2 Project must be measured. Contrary to the findings in the 1989 CD, the Draft CD does not account for these pre-existing structures or their impacts on the environment. That failure leads to an inaccurate conclusion that wildlife, visual, recreation, and cultural resources would experience significant adverse impacts. Rather, the final CD should use an analysis like that in the December 2002 CD issued for the Schultz-Hanford Area Transmission Line Project within the Columbia National Wildlife Refuge. There, the Service recognized that the incremental impacts caused by a second transmission line to be built adjacent to an existing transmission line would create only minor impacts.

Based upon the lack of significant impacts, and given the mitigation measures that would be imposed on the Project, no material interference with the conservation of wildlife on the Kofa NWR will occur. Therefore, the Service has the authority to find the DPV2 Project is "compatible" with the Kofa NWR.

I. BACKGROUND

a. The SCE DPV2 Project.

SCE is proposing to construct the 230-mile, 500 kilovolt (kV) DPV2 transmission line between the Devers Substation in California (near Palm Springs) to the "Palo-Verde Hub" area in Arizona (near Phoenix). DPV2 would traverse approximately 24 miles of the Kofa NWR and run parallel and adjacent to SCE's existing 500 kV transmission line (DPV1), which was constructed in the early 1980s, an El Paso natural gas pipeline, and the Pipeline Road, which was built when the natural gas pipeline was installed. In February 2005, the California Independent System Operator (ISO) found that the DPV2 Project was a "necessary and cost effective addition to the ISO Controlled Grid" and directed SCE to "proceed with permitting and construction" of the Project.[1] SCE is seeking regulatory approvals from a number of governmental agencies, including the California Public Utilities Commission (CPUC), the Bureau of Land Management (BLM), and the Arizona Corporation Commission. The CPUC and BLM prepared a Final Environmental Impact Report/Environmental Impact Statement (FEIR/EIS) in October 2006. The FEIR/EIS concluded that the DPV2 Project, with the route through the Kofa NWR, was the Environmentally Superior/Preferred Alternative. (FEIR/EIS p. ES-1).[2]

The purposes of DPV2 include increasing California's capability to import power from outside the area, enhancing the competitive wholesale electricity market in the Southwest, and improving transmission grid reliability. The DPV2 Project would also help address and resolve concerns identified by the Department of Energy (DOE) in their August 2006 "National Electric Transmission Congestion Study." This report, which was prepared pursuant to Section 1221(a) of the Energy Policy Act of 2005, identified Southern California as one of two "Critical Congestion Areas" in the United States. There, DOE identified the need for increased power flows between Arizona and California to reduce congestion in Southern California. The construction of DPV2 would significantly increase power flows between Arizona and California and address the congestion concerns expressed by DOE.

On March 1, 1989, the Kofa NWR issued to SCE a final CD that concluded that the DPV2 Project would be compatible with the Kofa NWR. On October 29, 2005, SCE submitted its application for a right-of-way grant to the USFWS for the construction of the DPV2 through the Kofa. Based on meetings held with Kofa NWR staff that preceded the filing of the October 2005 right-of-way application, SCE expected that the Kofa NWR would rely upon the existing 1989 CD

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[1] The ISO is a not-for-profit, public-benefit corporation charged with operating the majority of California's high-voltage wholesale power grid. The ISO decision is at http://www.caiso.com/docs/09003a6080/34/e4/09003a608034e440.pdf.
[2] SCE found a few errors in the FEIR/EIS and submitted comments to the BLM on December 4, 2006 requesting that these errors be corrected. These errors would not change the FEIR/EIS conclusion regarding the environmentally preferred route.

as the basis for issuing the right-of-way grant. Instead, the Kofa NWR issued the Draft CD, which SCE received on November 28, 2006.

b. The Kofa NWR.

The Kofa NWR refuge was established as a game refuge by Executive Order No. 8039 on January 25, 1939. The National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. §668dd) (1966 Act) consolidated the administration of the Kofa NWR, and other similar refuges, under the jurisdiction of the Service. The National Wildlife Refuge System Improvement Act of 1997 (1997 Act) made certain amendments that direct how the Service issues a CD and manages wildlife refuges. As the 1966 Act has been amended a number of times, these comments will refer generally to the National Wildlife Refuge System Administration Act of 1966, and all its subsequent amendments, as "the Act."

II. THE REGULATORY BASIS FOR MAKING A COMPATIBILITY DETERMINATION

a. The *1989* CD Is Valid.

The March 1, 1989 CD is still valid; as such, a new CD should not have been prepared without a showing of a compelling reason. The 1997 Act provided that "Compatibility Determinations in existence on October 9, 1997 shall remain in effect until and unless modified." (16 U.S.C. §668dd(d)(3)(A)(iv)). The statute provides for reevaluation of the CD "if conditions under which the use is permitted change significantly or if there is significant new information regarding the effects of the use." (16 U.S.C. §668dd(d)(3)(B)). While the proposed use evaluated under the 1989 CD (e.g., the DPV2 Project) was not constructed, no significant change has occurred in the currently proposed DPV2 Project nor does the Draft CD cite to any new information regarding effects that are likely to occur from the DPV2 Project that were not already considered in the development of the 1989 CD. Moreover, the Draft CD does not explain why the 1989 CD conclusion that the Project is compatible should now be reversed.

Given that the Act grandfathers the 1989 CD and the Service has not shown any compelling reason for reevaluating the 1989 CD, the Draft CD should not have been issued and certainly should not have concluded that the DPV2 Project is not compatible. Since 1989, nothing in the Act has substantively changed the criteria for the Service to issue a CD. With regard to issuing CDs, the 1997 Act (i) provided direction for handling wildlife-dependent recreation, (ii) confirmed that the Service may not issue a permit for the use of a NWR without a CD, and (iii) required the Service to establish a procedure to issue CDs. (16 U.S.C. §668dd(a)(3) and (d)(3))[3]. The same is true of the Service regulations that further defined the procedure for issuing a CD. (50 CFR §26.41, 65 Fed. Reg. 62,458 (October 18, 2000)). The Service regulations certainly provide the authority to issue a CD for the DPV2 Project, if the Project is compatible with the NWR System mission and Kofa NWR purpose. (50 CFR §29.21-8).

[3] Among other administrative requirements, the 1997 Act also defined the NWR System mission, directed the Service to manage the NWR System to fulfill that mission, and directed the Service to prepare a comprehensive conservation plan for each refuge.

b. The Draft CD Does Not Comply With Statutory Requirements.

Assuming that the Service has the authority to prepare a new CD, the issuance of the CD must comply with the Act's requirements. The Act provides that the Secretary of the Department of the Interior is authorized to:

> permit the use of, or grant easements in, over, across, upon, through, or under any areas within the System for purposes such as but not necessarily limited to, powerlines, ... and roads, including the construction, operation, and maintenance thereof, whenever he determines that such uses are compatible with the purposes for which these areas are established. (16 U.S.C. §668dd(d)(1)(B)).

The Act defines "compatible use" to mean:

> a wildlife-dependent recreational use or any other use of a refuge that, in the sound professional judgment of the Director, *will not materially interfere with or detract from* the fulfillment of the mission of the System or the purposes of the refuge. *emphasis added* (16 U.S.C. §668ee(1)).

According to the Act, the Service clearly has the authority to issue a permit for the DPV2 Project if the Service finds that the Project will be compatible, that is, it will not materially interfere with the Service's fulfillment of the NWR System mission or the purposes of the Kofa NWR. The Act provides that the NWR System mission is to:

> Administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats .... (16 U.S.C. §668dd(a)(2)).

The purpose of the Kofa NWR is found in the 1939 Executive Order that established the Kofa.[4] The 1939 Executive Order provides that the lands of the Kofa are "reserved and set apart for the conservation and development of natural wildlife resources, and for the protection and improvements of public grazing lands and natural forage resources..." Thus, when issuing a CD for DPV2, the Service must determine if the Project will materially interfere with the conservation and management of wildlife resources within the Kofa NWR. (50 C.F.R. §26.41(a)(10) and §29.21).[5]

The Draft CD analysis supporting the "not compatible" finding goes well beyond the authorized scope for evaluating whether DPV2 will materially interfere with the conservation and management of wildlife resources within the Kofa NWR. Instead of limiting its inquiry to that required by the Act, the Draft CD conducts an abbreviated environmental analysis of many potential impacts. Part of the Draft CD merely excerpts a few paragraphs describing various resource

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[4] The term "purpose of the refuge" is defined to "mean the purposes specified in or derived from the law, proclamation, executive order, ... establishing ..." the refuge. (16 U.S.C. §668ee(10)).

[5] "Conservation" means to sustain a healthy population of fish, wildlife, and plants. Where appropriate, this could be extended to restoring and enhancing these populations. (50 C.F.R. §25.12).

impacts from the Final Administrative EIR/EIS.[6] While the Draft CD cites to numerous potential resource impacts, the Draft CD also acknowledges that SCE would be implementing mitigation measures that reduce impacts to (i) less than a significant level, or (ii) an acceptable level. The Draft CD states that only a few resources/issues would have significant impacts and would "prevent the Service from achieving its mandates under law and policy". (Draft CD at p. 11). The Draft CD claims that these significant impacts arise from impacts to recreation, archaeological/cultural, and visual resources. (Draft CD at p. 11).

Yet, neither the NWR System mission nor the Kofa NWR purposes include any commitments to recreation, archaeological/cultural, and visual resources. The mission and the refuge's purposes are limited to the conservation and maintenance of wildlife resources on the Kofa NWR. Thus, the Draft CD cannot consider the impacts, if any,[7] to other resources when making a compatibility determination. The final CD must be revised to strike any reference to potential impacts to resources other than wildlife conservation and management.

The Draft CD cites to Service Policy 601 FW 1, which is intended to reiterate the mission of the NWR System, and claims that DPV2 would prevent the Service from achieving Goals A and D of the policy. Goal A is related to conserving wildlife and their habitat. Goal D is related to wildlife-dependent recreation. As explained above, the Act establishing the NWR System does not provide that wildlife-dependent recreation (hunting, observation, photography, fishing, and environmental education and interpretation) is part of the mission. Therefore, Goal D is irrelevant to a compatibility determination. Moreover, as explained below, DPV2 would not materially interfere with such recreation on the Kofa NWR.

The only potential significant impacts to wildlife resources (Goal A) that is raised by the Draft CD are the claimed potential impacts to bighorn sheep, migratory birds, and reptiles. The potential impacts to these resources will be discussed below. SCE acknowledges that these potential impacts to wildlife may form the basis for a compatibility determination. But, the other factors, such as recreation, visual, and archaeological/cultural resources, have no role in a CD.

c. The Appropriate Use Policy is Irrelevant to the DPV2 Compatibility Determination.

The Draft CD incorrectly claims that DPV2 would be in conflict with the Service's Appropriate Uses Policy. In reaching that conclusion, the Draft CD misapplies the Appropriate Use Policy (603 FWS 1). The Draft CD states that all uses occurring on a refuge must be appropriate uses, and then goes on to provide that the use must meet certain conditions. However, the Federal Register Notice advising the public about the availability of the Appropriate Use Policy explicitly states that the policy **does not** apply to Rights-of-Way determinations:

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[6] *The Draft CD admits that its citations to the FEIR/EIS are actually from the Final Administrative EIR/EIS. (Draft CD* at p. 3) The FEIR/EIS was finalized in October 2006, in time for the Service to incorporate those citations into the Draft CD. The Draft CD reliance upon the Administrative document results in errors because the FEIR/EIS is different in many respects.

[7] As explained below, the DPV2 Project will not cause significant, unmitigable impacts to recreation, *archeological/cultural, or visual resources.*

> *Issue 12: Rights-of-Way* ... Rights-of-way will continue to be handled through the compatibility and right-of-way permit processes, not this [Appropriate Use] policy. We did not make any changes to the final policy based on this comment. (71 Fed. Reg. 36408 (June 26, 2006)).

Thus, the Service must remove any reference to the Appropriate Use Policy in the final CD as that policy is not relevant to a compatibility determination.

Even if the Appropriate Uses Policy were applicable, which is not the situation, the DPV2 Project would not conflict with the policy. The Appropriate Uses Policy states that the management goals that the NWR System expects to achieve are, in essence: a) conserving diverse wildlife, b) maintaining habitats for wildlife, c) conserving ecosystems, and d) providing opportunities to participate in wildlife-dependent recreation (hunting, fishing, wildlife observation and photography, and environmental education and interpretation). The DPV2 Project in no way precludes the achievements of these goals due to the limited impacts associated with the Project, as explained later in these comments. Moreover, the Act and the Service's implementing regulations specifically provide that right-of-way uses for power lines may be permitted when the use is compatible. (16 U.S.C. §668dd(d)(1)(B); 29 C.F.R. §29.21-8). The Appropriate Use Policy cannot now limit the rights provided by the statute and regulations.

In preparing the CD regulations, the Service addressed an issue similar to that in the Appropriate Use Policy – should the Service prohibit "commercial uses of the refuges unless they can be demonstrated to contribute to the achievement of the National Wildlife Refuge System mission and the refuge purposes, and that they are compatible." This position was rejected as going beyond both what the Act "mandates and the general scope of the policy and regulations establishing the process we will use to determine compatibility of uses." (65 Fed. Reg. 62471-72 (10/18/2000)). Therefore, the Appropriate Use Policy, even if it were applicable, does not preclude the issuance of a right-of-way grant for the Project.

d. DPV2 is Consistent with the Kofa NWR & Wilderness and New Water Mountains Wilderness Interagency Management Plan and Environmental Assessment (Management Plan).

i. The Management Plan does not apply to the DPV2 Project.

In 1996, the Kofa NWR, the BLM, and the Arizona Department of Fish and Game issued the Management Plan, which is designed to provide long-term management direction for the Kofa NWR and the New Water Mountains Wilderness. The Management Plan contains land under the administrative jurisdiction of both the Kofa NWR and the BLM. This takes advantage of the ecological commonality of the two adjacent areas.

The management strategy for the Management Plan is "issue driven". That is, the Management Plan creates objectives that are designed to address particular issues identified by the agencies through the process of developing the plan, which included public input. (Management Plan at p. 29). Part III of the plan sets forth the issues to be addressed. The issues are defined as "problems or opportunities arising from agency directives, resource conflicts, and expectations" that should be addressed. Issues are broken into two categories: (i) those issues that are addressed by

the management activities in the plan, and (ii) those issues that are solved by policy. (Management Plan at p. 25).

Importantly, the issuance and use of rights-of-ways within the planning area are identified as potential issues that are resolved through existing policy. Management Plan Issue #8 provides that: "Guidance for the management of utility easements in nonwilderness portions of the Kofa NWR can be found in 50 CFR 29.21. No additional guidance is needed." (Management Plan at p. 26). Essentially, the Management Plan notes that rights-of-way may create issues of concern on the Kofa NWR. More importantly, the Management Plan then states that it will not attempt to develop objectives or guidelines that provide management direction to the Kofa NWR as to how to manage rights-of-way. The Management Plan recognizes that the existing Service regulations and the Act already provide sufficient regulation over the issuance of rights-of-way. Thus, the Management Plan specifically does not apply to the issuance of a right-of-way, or a compatibility determination, for the DPV2 Project. Consequently, as the Management Plan does not provide direction regarding rights-of-way, the DPV2 Project cannot conflict with the Management Plan.

ii. DPV2 is consistent with the Management Plan.

Even if the Kofa NWR Management Plan were applicable to the preparation of the compatibility determination for DPV2, the Project would be consistent with the plan. The Management Plan lists four objectives, none of which are in conflict with the DPV2 Project. The first objective, Preservation of Wilderness Values, is inapplicable to the Project, as the utility corridor is outside the Wilderness Area and the FEIR/EIS confirms that the Project will not impact the adjacent wilderness areas. (See FEIR/EIS at p. D.5-3; Management Plan at pp. 20-21). The Management Plan lists three other objectives (Wildlife and Habitat Management; Recreation, Legal Access and Information; and Mineral Management) that in turn propose various management actions designed to implement the objectives. Importantly, the Service rulemaking establishing the compatibility regulations concluded that evaluation of how the proposed use would impact specific management objectives should only be considered when those management objectives "clearly support the refuge's ability to fulfill its purposes." (65 Fed. Reg. 62473 (10/18/2000)). As the Kofa NWR purpose is for the conservation and management of natural wildlife resources, the three management objectives related to Wilderness Values, Recreation, Legal Access and Information, and Mineral Management, are inapplicable to a CD determination. Even if these three management objectives were to be evaluated, the DPV2 Project would not materially interfere with these objectives because the Project's potential impacts are minor, if they exist at all.

The only potential management objective to be evaluated is Wildlife and Habitat Management. This objective lists six steps to enhance the flora and fauna within the Kofa NWR:

- Managing fire to maintain the areas natural values.
- Preventing the introduction of new exotic pathogens into the area that could adversely impact wildlife.
- Managing wilderness portions of the planning area using the minimum tools needed for maintaining an optimal bighorn sheep population while providing for maximum viable species diversity.

- Providing for allowable resource uses within an ecologically compatible and sustainable framework while minimizing impacts to wilderness values.
- Identifying sensitive wildlife areas and minimizing user conflicts.
- Eliminating potential impacts to wildlife habitat from probable mining activity on nonfederal lands within the planning area.

The Management Plan then lists 11 Management Actions that it will implement:

1. Fire management.
2. The capture and transplanting of bighorn sheep.
3. Helicopter use for sheep capture.
4. Management of waters used by wildlife.
5. Evaluation of options to bury water systems for wildlife use.
6. Management of Nugget water tank.
7. Administration of flight operations for wildlife management purposes.
8. Collection of scientific data.
9. Closure of sensitive habitat areas during certain periods.
10. Management of abandoned mine sites.
11. Purchase of private in-holdings within the refuge.

The Draft CD did not specifically identify any one of the above management actions or enhancement steps as a concern. However, based upon the Draft CD text, the only management item at issue is minimizing user conflicts with sensitive wildlife areas (step five) due to the potential impact of DPV2 construction on bighorn sheep lambing areas that are more than one mile from the closest construction zone.[8] As discussed below, SCE will not undertake construction during the lambing period to the extent that these lambing areas would be disturbed. Otherwise, the Project would not impact the Kofa NWR's ability to manage fire, eliminate impacts from mining operations, managing wilderness areas to maintain bighorn sheep and species diversity, etc. Thus, the Project is consistent with the Kofa NWR Management Plan objectives. The FEIR/EIS also came to this conclusion. (FEIR/EIS at p. D.2-167).

[8] Construction of Project towers and spur roads will occur only for a limited time in any one location as Project construction proceeds from one tower site to another. Construction will not occur throughout the entire Kofa NWR at the same time.

e. Congress Expressed an Intent to Allow DPV2 Within the Kofa NWR.

The Arizona Desert Wilderness Act of 1990, Section 301(a)(3), established a Wilderness Area of over 500,000 acres, which covers the majority of the Kofa NWR. (H.R. 2570, Public Law 101-628, 104 Stat. 4478). The Wilderness Area excludes the proposed DPV2 utility corridor. In fact, Congress amended H.R. 2570 in two instructive ways. First, the acreage designated for wilderness was reduced by 100 acres, the approximate width of the DPV2 right-of-way, from 511,000 acres to 510,900 acres (amendment 7). Second, the map depicting the Wilderness Area was revised to reflect the reduction of the 100 acres. The staff memo explaining the amendments to the wilderness bill, prepared by Mr. David Brooks, counsel of the Senate Committee on Energy and Natural Resources, states that:

> Amendment 8 is a conforming amendment updating the map reference for the Kofa Wilderness to correct the acreage modification made by amendment 7 and also to clarify that a power corridor operated by Southern California Edison located adjacent to the public lands included in the Kofa Wilderness is excluded from the wilderness boundary. (See Attachment 1).

These revisions to the Arizona Desert Wilderness Act of 1990 intentionally excluded the DPV2 right-of-way from the Kofa Wilderness.[9] Congress would not have recognized the utility corridor and ensured that the corridor was wide enough to accommodate the DPV2 transmission line if Congress had believed that the DPV2 transmission line was not compatible with the Kofa NWR.

f. Executive Orders Require the Consideration of Impacts to Energy Distribution.

On May 18, 2001, the President issued Executive Order No. 13211 to address some of the Country's energy problems. The Executive Order provides direction to federal agencies when they take steps that constitute "significant energy actions". A "significant energy action" is defined as one that "is likely to have a significant adverse effect on the supply, distribution, or use of energy." The DPV2 Project is critical to SCE's ability to provide reliable electric service to our customers, as described in the FEIR/EIS Executive Summary at page ES-2. According to the Executive Order, the Service must prepare a Statement of Energy Effects that includes a detailed description of any adverse effects on energy distribution if the Service issues a final CD with a "not compatible" finding.

Similarly, Executive Order No. 13212, also issued on May 18, 2001, provides that agencies "shall take appropriate actions, to the extent consistent with applicable law, to expedite projects that will increase the production, *transmission*, or conservation of energy." (Section 2 of the Executive Order, emphasis added). Thus, as the DPV2 Project is compatible with the Kofa NWR, the Service should issue a right-of-way for the Project to facilitate increasing the transmission of energy to southern California.

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[9] The DPV1 right-of-way was already excluded from the legislation; the amendment was not related to DPV1.

III. A BROAD-BASED RESOURCE ANALYSIS IS INAPPROPRIATE FOR A COMPATIBILITY DETERMINATION

As explained above, a CD is only to evaluate the NWR System mission and the Kofa NWR purposes. Nevertheless, the Draft CD discusses a number of resources in a fashion similar to that raised in a National Environmental Policy Act (NEPA) environmental review document. As explained above, that broad level of analysis is inappropriate to make a CD. Instead, this type of analysis would be appropriate when the Service is considering whether to issue a right-of-way grant for DPV2 across the Kofa, which would occur after, or at the same time as, the CD finding of compatibility is issued. The Service should use the FEIR/EIS prepared by the CPUC and BLM to comply with the Service's NEPA obligations associated with issuing the right-of-way grant to SCE. The FEIR/EIS considered all of the potential environmental impacts associated with the construction and operation of DPV2 within the Kofa NWR. As discussed in Section VIII.a., the FEIR/EIS evaluated a reasonable range of alterative routes and determined that the other routes would have greater adverse environmental impacts compared to the Kofa NWR route.

a. The Project Impacts Must be Accurately Characterized.

Should the Service wish to keep the discussion of these other resources in the CD, then an accurate environmental analysis must be conducted.[10] The Draft CD selectively quotes from the Administrative FEIR/EIS regarding the following issues: vegetation and soils, non-native invasive species, wildlife, recreation, noise, air quality, visual resources, public health and safety, cultural and palentological resources, and transportation and traffic. For some reason, the Draft CD does not use the FEIR/EIS issued in October 2006 as the basis for its discussion. While SCE never received a copy of the Administrative FEIR/EIS, the October 2006 FEIR/EIS is clearly different from the Administrative FEIR/EIS in a number of respects, based upon the Draft CD's citations to the Administrative FEIR/EIS. Some of these differences in the two documents have led to inaccurate conclusions in the Draft CD.

Importantly, the Draft CD acknowledges that mitigation measures will reduce or minimize Project impacts to an acceptable level. (Draft CD at p. 11) Only in a few instances does the Draft CD claim that impacts are not sufficiently mitigated for the affected resources on the Kofa NWR:

> In other cases, the proposed mitigation measures are not adequate for the affected resources and where impacts could be significant (desert bighorn sheep movements and reproduction). Finally there are a number of resources/issues where the impacts are significant and unmitigable (recreation, archeological/cultural, visual). These resource impacts cause the greatest concern for the future management of the Refuge and prevent the Service from achieving its mandates under law and policy. (Draft CD at p. 11)

In the "Justification" paragraph of the Draft CD, the Service elaborates on the basis for concluding the Project is not compatible:

[10] Also attached is a letter from SCE to the BLM advising the BLM of certain errors and faulty analysis in the FEIR/EIS that pertain to potential impacts to visual and recreation resources in the Kofa NWR.

> There is also the potential for significant negative impacts to other important biological resources, but information is currently lacking to make this determination with any certainty for two adjoining powerlines. The biological resources that fall into this category include migratory birds, desert bighorn sheep, reptiles[sic]. Taken together with DPV#1, the negative impacts to these resources may be cumulative and could have greater implications on their management than is currently known. (Draft CD at p. 12).

Based upon these alleged potential impacts, the Draft CD concludes that the Project would not achieve the Kofa NWR administrative and management objectives, including those in the NWR System mission, Kofa NWR purpose, and the Management Plan. Section IV of the SCE comments will focus on those resource issues that drive this Draft CD conclusion. SCE is commenting only upon the potential resources impacts that were claimed by the Draft CD as justification for the "not compatible" finding, even though all resources impacts, except wildlife conservation and management, should not be considered in forming a compatibility determination.

b. The Project Impacts Must be Based Upon the Existing Environmental Baseline.

The DPV2 utility corridor has been substantially modified by the presence of a natural-gas pipeline and its appurtenances (i.e., generator buildings, engine house, valve stations, and signs) since the 1950s and also by the construction, operation, and maintenance of the existing DPV1 transmission line since the 1980s. The dirt Pipeline Road that traverses the Kofa NWR was used for the construction of the existing utility facilities and serves as the primary vehicular access to the northern portion of the Kofa NWR for maintenance of those facilities, along with recreation use and traffic crossing the Kofa NWR for non-recreation purposes. The dirt road is also used routinely by vehicles for refuge management. The Pipeline Road would be the primary access route for construction and maintenance of the DPV2 Project. This existing infrastructure constitutes the environmental baseline and is a key to evaluating the potential Project impacts.

Both NEPA and the California Environmental Quality Act (CEQA) provide for the use of the existing baseline as the foundation for evaluating a project's environmental impacts. NEPA requires that federal agencies describe the "affected environment" against which the proposed action must be evaluated. (40 C.F.R. §1502.15) That includes the existing conditions in the project area.[11] (*Conservation Law Foundation v. FERC*, 216 F.3d 41, 45-46 (D.C. Cir 2000); *American Rivers v. FERC*, 201 F.3d 1186, 1195-99 (9th Cir. 1999)) CEQA has the same requirement to use the existing conditions as the baseline from which to evaluate a project's environmental impacts. (see Title 14 California Code of Regulations §15125; *Fairview Neighbors v. County of Ventura*, 70 Cal. App. 4th 238, 243 (1999)). The existing DPV1 transmission line, including its operation and maintenance activities, the existing dirt Pipeline Road, and the existing natural gas pipeline are all

[11] "To effectively evaluate the significance of impacts, it is important to establish a baseline against which to compare the impacts of a proposed action. Usually the baseline consists of the pre-project environmental conditions. The significance of impacts is determined by comparing the impacts of the proposed action and alternatives to this baseline. For example, when determining traffic impacts, the baseline would be the existing level of traffic on a particular roadway before implementing the proposed action (e.g., 1,000 vehicles per hour)." Bass, Herson, Bogdan, *The NEPA Book, A step-by-step guide on how to comply with the National Environmental Policy Act (2000 Solano Press Books).*

within the proposed Project's utility corridor and constitute the baseline against which Project's impacts must be measured. While the Draft CD clearly recognizes the presence of the DPV1 transmission line, the Draft CD does not consistently consider the existing environmental setting associated with the DPV1 transmission line. Instead, the claimed visual and recreational resource impacts ignore the DPV1 transmission line when asserting that DPV2 will cause significant impacts.

For example, using the proper environmental baseline is critical when comparing the potential alternative routes to the Kofa NWR route. The four alternative routes would each require a new access road for construction and maintenance, which would result in greater environmental impacts than the proposed route through the Kofa NWR because this preferred route would use the existing dirt Pipeline Road. Thus, the amount of additional ground disturbance resulting from new construction would be substantially greater than the amount of total ground disturbance that would result from construction of the proposed DPV2 route along the utility corridor through the Kofa NWR. (FEIR/EIS, pp. C-22 through C-28).[12] Similarly, the visual impacts attributed to the alternative routes discussed in Section VIII.a would be potentially significant because these areas have no existing infrastructure like the existing DPV1 transmission line along the preferred route through the Kofa NWR.

Here, the Draft CD fails to take into consideration the existing infrastructure within the Kofa NWR when determining the Project's visual and recreational impacts. If the existing infrastructure's environmental impacts had been evaluated, the document would have concluded that the addition of the DPV2 transmission line adjacent to the existing DPV1 transmission line and natural gas line appurtenances, and the Pipeline Road would cause less than significant visual and recreational impacts. Briefly, if the presence of a transmission line in the Kofa NWR is sufficient to cause a significant adverse environmental affect, then the existing DPV1 transmission line has already created that impact and it becomes part of the affected environment. The addition of a second transmission line adjacent to the current transmission line certainly would not create significant additional impacts as the environmental setting must reflect the existing transmission line's impact.

In fact, the Columbia National Wildlife Refuge issued a CD in December 2002 finding that a transmission line across that refuge was "compatible" because the transmission line would be constructed adjacent to an existing transmission line within the refuge. Similar to our situation here, the Columbia National Wildlife Refuge noted that the additional right-of-way would (i) exclude the construction of new buildings, (ii) the existing roads and adjacent corridor would be used for access, (iii) the new towers would be lined up with existing towers, and (iv) the new construction would be limited to mostly the footprints of the new towers. There, the Service determined that the route through the refuge was "the least environment-damaging route among six considered. It is adjacent to another power line which uses the same access roads and rights-of-way."[13] (Schultz-Hanford

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[12] Using the Pipeline Road for construction access, the DPV2 project would result in less than 4 acres of permanent ground disturbance within the Kofa NWR compared to between 88 and 99 acres for the three shortest alternatives to the Kofa NWR route, and 129 additional acres of permanent disturbance for the North of Blythe route. (Ap. 1-39, Table Ap. 1-3a, Ap. 1-47).

[13] The Columbia NWR CD adopted a few mitigation measures, which are similar to those in the DPV2 FEIR/EIS, that the Service concluded were necessary to ensure compatibility.

Area Transmission Line Project CD, Columbia National Wildlife Refuge, December 2002, . Attachment 2).

IV. DPV2 WOULD NOT MATERIALLY INTERFERE WITH WILDLIFE IN THE KOFA NWR

The Draft CD reached its decision of "not compatible" based, in part, on potential impacts to wildlife. However, the Draft CD admits that "information is currently lacking to make this [significant impact] determination with any certainty for two adjoining powerlines. . . . . Taken together with DPV#1, the negative impacts to these resources *may be* cumulative and *could have* greater implications on their management than is currently known." (*emphasis added.* Draft CD at p. 12). The Draft CD does not allege that significant impact to these wildlife resources is occurring due to the presence of DPV1, nor does the Draft CD claim that the construction of the DPV1 line caused significant adverse impacts to the conservation of wildlife on the Kofa NWR. The Draft CD merely expresses concern that the installation of a second powerline would somehow create significant cumulative impacts to wildlife resources when no significant impacts occur today. For example, the Draft CD claims that the removal of vegetation may eliminate necessary ground cover or protection and cause habitat fragmentation for the rosy boa, common chuckwalla, Gila monster, and desert tortoise.

However, the Draft CD cites to no hard evidence explaining why such impacts would be likely to occur. The FEIR/EIS did not conclude that these species would be significantly impacted. In fact, the Draft CD concedes that the common chuckwalla, Gila monster, rosy boa, and desert tortoise have not even been found in the proposed construction area within the Kofa NWR. If these wildlife resources are not going to be directly impacted, and only a minor amount of habitat (3.4 acres) would be disturbed, the DPV2 Project would not materially interfere with the conservation and protection of these wildlife resources. SCE urges the Service to follow the requirements for preparing a final CD, as set forth in the Service's regulations, and issue a CD concluding that DPV2 is compatible with the purposes of the Kofa NWR.

a. Bighorn Sheep in the Kofa NWR Would Not be Significantly Impacted.

The Draft CD states that the potential exists for significant adverse impacts to bighorn sheep, especially when the impact is taken together with DPV1 impacts. (Draft CD at p. 12) However, DPV1 construction activity did not interfere with ram movements or lambing between the New Water Mountains and the Kofa Mountains/Livingston Hills complex. SCE acknowledges that during construction in a particular area, a ram moving from the Kofa Mountains across relatively flat terrain toward the New Water Mountains would either return to the Kofa Mountains or go around the construction area upon encountering construction crews at the base of the New Waters Mountains. A reverse scenario is also possible.[14] But, the Draft CD fails to mention that the

[14] DPV2 construction will not create a substantial interference with bighorn sheep as construction activities will not occur throughout the Kofa NWR at the same time. Construction of DPV2 will consist of several sequential construction activities: spur road construction, foundation excavation, foundation construction, tower assembly, tower erection, conductor stringing and tensioning, hardware installation, and cleanup. Each operation may include one or more crews performing similar work at different tower sites. Each operation will be focused on a relatively small number of tower sites at any one time, and will generally progress in one direction (east to west or west to east). At an individual tower

monthly rate of ram crossings was higher after DPV1 construction than it was before or during construction (Smith et al. 1986). The presence of DPV1 did not deter ram crossings at all, thus negating habitat fragmentation concerns with respect to movements between the two major mountain ranges. Certainly, a sustained, healthy population of bighorn sheep exists despite the presence of DPV1. In fact, the 1996 Management Plan states that bighorn sheep populations were stable since 1985. The Management Plan goes on to note that not only are permits issued for hunting bighorn sheep within the planning area, but bighorn sheep are transplanted off the planning area to other locations in the Southwest. (Management Plan at p. 11).[15]

Also noteworthy are the statistically significant results for sheep crossings of Copper Bottom Pass in the Dome Rock Mountains during and after transmission line construction. In that location the crossing rates were significantly higher both during and after construction than they were in the several years before construction. Smith et al. (1986) also noted that the radio-collared sheep in the Dome Rock Mountains spent more time *in* the construction zone during construction than they did before or after construction. Construction crew members frequently reported seeing individual sheep (sheep collars were distinctly colored) watching them from nearby hills or ridges. The Dome Rock sheep were undeterred by construction, probably because of readily available escape terrain on all sides. As with the Kofa-New Water Mountains situation, the presence of the transmission line had no effect in preventing sheep from moving freely across Copper Bottom Pass. Several days after the line was energized the first time, biologists watched a lamb and ewe foraging under the power line at the base of a tower.

Lambing is a critical element in the life of the desert bighorn sheep and potential impacts to lambing should be considered. When ready to give birth, bighorn ewes usually move to higher, rugged terrain to have their lambs. The term "lambing area" and the drawing of "lambing area polygons" on the FEIR/EIS maps implies that these are the areas that all the ewes go to for lambing. This is not a totally accurate picture. Rather, ewes move to the higher parts of whatever mountain mass that contains their home range. For example, in the EIS for DPV1, the BLM identified lambing areas in the western New Water Mountains and in the southern and central Plomosa Mountains. These were displayed by polygons on maps. By the end of the second year of their study of desert bighorn in the same mountains, Witham et al. (1980) had identified seven additional areas where ewes gave birth to lambs, including the Livingston Hills. Importantly, none of the previously identified or the newly identified lambing areas is within one mile of the proposed DPV2 corridor, nor does the corridor traverse any habitat that is similar to the type of habitat desert bighorn ewes select for parturition. Moreover, none of the data collected by Witham and Smith et al. between 1977 and 1984 suggested that ewes changed their home ranges or made any unusual movements in response to construction and operation of DPV1. No lambs were abandoned, no "lambing areas" vacated, and no lambs or ewes were denied access to water or any other life necessity.

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location, each of the sequential construction activities must be completed before the next operation can begin. The entire construction period through the Kofa NWR is expected to last 4 to 5 months.

[15] A November 17, 2006 press release from the Service indicated that bighorn sheep populations have decreased since 2003, likely in response to a severe drought, the presence of mountain lions, and potentially other factors. The existing DPV1 was not listed as one of the potential confounding factors. The Service translocated 30 sheep in 2005 to the San Andres NWR in New Mexico.

The temporal nature of lambing is an important aspect of the sheep's life cycle. While breeding and lambing can occur in almost any month of the year, the vast majority of lambing (in excess of 90 percent) occurs from January through April. Clearly, the most active lambing period in western Arizona is not October – April, which the Draft CD claims is the "most active lambing period". (Draft CD, p. 9) Witham et al. documented, in their study conducted between November 1977 and January 1984, that nearly all lambs were born in the January-April period (between 48 and 60 in each year). Only occasional, single births were documented in any other month (i.e., not more than one lamb per month and none in October or November).

The Draft CD cites Graham (1980), who claims that actions that significantly increase human activity in key portions of bighorn sheep ranges can result in great harm. SCE acknowledges that desert bighorn sheep have disappeared from many mountain ranges in southern Arizona and disappearances seem to have been coincident with increasing human populations. For example, bighorn sheep disappeared from the Tucson Mountains in the last century as the range became home to more and more humans. In the last decade, a herd of bighorns in the Santa Catalina Mountains north of Tucson essentially disappeared after at least a decade of decline. This herd, which occupied the Pusch Ridge Wilderness Area of the Santa Catalinas, apparently succumbed to near constant contact with hikers (and their pet dogs).

The construction and operation of DPV2 would not result in impacts to bighorn sheep on the Kofa NWR similar to those described above. Sheep-human interactions associated with the transmission line would be infrequent and widely-spaced over the course of construction and would be minimal during Project operation and maintenance during any given year. There is no large human population center near the Kofa NWR, and visitors to the refuge are small enough in number that any individual sheep is likely to be disturbed by humans very infrequently, as opposed to the almost daily as was the situation on Pusch Ridge. Current population declines on the Kofa NWR are almost certainly related to the extreme drought conditions that have persisted over southern Arizona over most of the past decade. There have been no significant increases in any anthropogenic factors that could account for the decline and no claim that DPV1 has caused any decrease.[16]

The Draft CD expresses the opinion that habitat fragmentation caused by the DPV2 Project would impact wildlife and that habitat destruction would affect the ability of the Kofa NWR to conserve a representative example of Arizona Upland habitat. However, the FEIR/EIS reached a different conclusion. The FEIR/EIS found that wildlife in construction areas would be only temporarily impacted and the wildlife would need to stay away from construction areas for a limited period. The species would be able to use adjacent habitat. The FEIR/EIS concluded that impacts to wildlife movement and biological resources due to construction would be less than significant.

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[16] Graham, H. 1980. The impact of modern man. Pages 288-309 in: The desert bighorn: its life history, ecology, and management. G. Monson and L. Sumner, eds. University of Arizona Press, Tucscon, AZ.
Smith, E.L., Gaud, W.S., Miller, G.D., and M.H. Cochran. 1986. Studies of Desert bighorn sheep (Ovis Canadensis mexicana) in western Arizona: Impacts of the Palo Verde to Devers 500kV Transmission Line. Final Report-Volume II. E. Linwood Smith and Associates, Tucson, AZ. Submitted to Southern California Edison Co. and Arizona Public Service Co. 51pp.
Witham, J. H., E. L. Smith, and W.S. Gaud. 1980. Studies of Desert Bighorn Sheep (*Ovis canadensis mexicana*) in western Arizona. Report on findings – Year II. Report to Southern California Edison Co. and Arizona Public Service Co. 168 pp.

(FEIR/EIS at pp. D.2-146, 154, and 167). The Arizona Game and Fish Department likewise concluded that it "does not anticipate that the proposed route will result in significant adverse impacts to wildlife and wildlife habitats". (See June 2, 2006 letter from William Knowles to Fred Salzmann of SCE, Attachment 3.)

DPV2 would involve installation of approximately 85 towers on the Kofa NWR, and each tower pad would replace 0.01 acres of native desert habitat, or a total of approximately 0.85 acres. Spur road extensions would be needed for approximately 60 towers, and each spur road would be approximately 130-feet long and 14-feet wide, which would add about 2.5 acres of permanent ground disturbance for the entire project crossing the Kofa NWR. The native habitat area thus committed to the DPV2 Project would be a total of about 3.4 acres, which is a very small fraction (less than 0.00001 percent) of the Arizona Upland and Lower Colorado River Valley Subdivisions within the Kofa NWR, which encompasses 665,400 acres of Sonoran Desert. Conversely, the impacts of habitat fragmentation on wildlife, including bighorn sheep, would be much greater along any of the other routes north of the Kofa NWR as new access and stub roads would have to be created.

b. Birds in the Kofa NWR Would Not be Significantly Impacted.

The Draft CD extrapolates the estimated number of birds that would potentially be killed on the Kofa NWR as a result of collisions with the proposed DPV2 transmission line. (Draft CD at p. 8). This calculation is highly misleading, inaccurate, and not based upon any evidence related to actual bird mortality associated with the DPV1 transmission line. The Draft CD estimate that 20,121 birds would be killed on the refuge is based on a study of bird collision mortality on Mare Island in San Pablo Bay, located northeast of San Francisco, California. In the Mare Island study, the power line traversed hay meadows and a pond. Birds would fly from a resting site at the pond on one side of the transmission line to forage in the hay field on the other side of the line. This increases the number of flights well beyond migratory activity and presents a unique situation that is likely to attract substantial numbers of birds and lead to multiple collisions with the transmission lines.

The birds most frequently killed were ducks and shorebirds (i.e., Ruddy Ducks, sandpipers, plovers). Sandpipers frequently travel in dense flocks and both Ruddy Ducks and plovers also travel in flocks making individuals somewhat more prone to colliding with small diameter distribution lines. These types of birds are attracted to water bodies, and the transmission lines were closely linked to the areas where these birds like to rest, feed, and breed. Other birds killed included Red-winged Blackbirds and meadowlarks, both common to abundant in hay fields and Red-winged Blackbirds also travel in flocks during the non-breeding season. In contrast, no habitat feature are found within the Kofa NWR that would attract large flocks of birds, nor are there physical land or water features north and south of the transmission line right-of-way that would cause large numbers of birds to be frequently traveling back and forth across the corridor. Moreover, the Mare Island study power line was a 115kV transmission line; the DPV2 Project would have larger, bundled conductors (similar to DPV1) that are easily visible to flying birds.[17]

[17] Albert Manville II, Ph.D. with the Service has concluded that "Very little of the power grid, however, is currently being examined so these estimates [of bird mortality based upon extrapolation from other studies] are not particularly meaningful." Manville, A.M. II, 2005. Bird strikes and electrocutions at power lines, communication towers, and wind turbines: state of the art and state of the science – next steps toward mitigation. Bird Conservation Implementation in

Furthermore, unlike the Mare Island area, the Kofa NWR is not known as a major migratory corridor for birds. The level of avian use along the transmission line is expected to be commensurate with other similar habitat types in the Arizona or California deserts. Most birds within the Kofa NWR are likely residents of the local habitat and are small passerine birds that spend most of their time close to the ground foraging and nesting. Therefore, they do not possess a high collision potential. The main bird species that would fly at the heights of the conductors are raptors and corvids (principally ravens). The eyesight on these birds is generally very keen (up to 10 times greater than humans) and they are excellent and agile flyers. For these reasons, the potential for bird mortality along the transmission line is expected to be very low or non-existent.

The Draft CD states the bird collision hazard is likely to be at its highest in spring and fall when north south migrants cross the refuge and encounter the existing DPV1 line, and states that the DPV2 would exacerbate the problem. In fact, most neotropical (and other) migrants that traverse the Kofa in spring and fall are songbirds, most of which migrate at night. However, night migrating birds travel at altitudes between 500 and 6000 feet above the ground and more than 75 percent of songbirds travel between 500 and 2000 feet (Deinlein 2006). All of the DPV2 transmission line structures, conductors, and static lines within the Kofa NWR would be less than 200 feet above the ground. Thus, migrating birds traveling across the transmission line corridor are highly unlikely to be flying low enough to collide with conductors, towers, or static lines.

The Draft CD correctly states that there is a body of scientific literature documenting that many birds of different kinds die from collisions with power lines and utility structures. However, evidence of conflicts between birds, whether migratory or not, and 500kV lines is very sparse and limited (California Energy Commission 1995). Power lines, in general, account for far less avian mortality than windows, airport celiometers, TV and radio towers, and automobiles. Klem (1991) estimates that 97 million birds are killed by colliding with windows, 57 million with automobiles, and 1.2 million with tall structures (presumably including transmission lines and towers). Erickson et al. (2001) cites very similar mortality numbers, but he also indicates that power lines specifically are responsible for less than 0.0001 percent of bird kills annually across the nation.[18]

To address the potential impacts of birds with the DPV2 transmission line, the FEIR/EIS requires that SCE install the transmission line using Avian Power Line Interaction Committee (APLIC) standards for collision-reducing techniques as outlined in "Mitigating Bird Collisions with

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the Americas: Proceedings 3rd International Partners in Flight Conference 2002. U.S.D.A. Forest Service General Technical Report PSW-GTR-191, Pacific Southwest Research Station, Albany, CA: 1051-1064.

[18] California Energy Commission. 1995. Avian collision and electrocution: an annotated Bibliography. California Energy Commission Publication No. P700-95-0001.
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Power Lines: The State of the Art in 1994" (APLIC 1996). (FEIR/EIS Mitigation Measure B-15a on p. D.2-170).[19]

c. Reptiles in the Kofa NWR Would Not be Significantly Impacted.

The Draft CD asserts the cumulative width of the DPV2 right-of-way would discourage crossing by small animals such as rosy boas, common chuckwalla, and desert tortoise, and that the rosy boa has been significantly impacted by highways in southern Arizona. First, while the cumulative width of the actual right-of-way would increase, construction and maintenance for DPV2 would be done using the existing dirt Pipeline Road; the width of the right-of-way would not be cleared. About 3.4 acres of vegetation would be removed on spur roads and at tower sites. But, the areas between tower sites would generally not be permanently disturbed or significantly affected in most locations. And, aside from structure foundations, the Project would not pave any locations. Finally, the study by Rosen and Lowe (1994) cited by the Draft CD (Draft CD, p. 9) was conducted along the paved State Highway 85 between Why and Lukeville, a roadway that carries a much higher volume of traffic at higher speeds than would ever occur on the dirt Pipeline Road for construction or maintenance of DPV2. Therefore, a substantially higher incremental impact to reptiles crossing the utility corridor likely would not result from the DPV2 project, and habitat fragmentation would not occur.[20]

Repeated surveys of the DPV2 route over the years, particularly the last set of surveys conducted for the Project EIR/EIS have found scant evidence of desert tortoise. There should be little or no concern for desert tortoise within the Kofa NWR because they generally are not found in the area where the DPV2 transmission line is proposed. Moreover, since the construction of the DPV1 transmission line was built, the Management Plan concluded that desert tortoise populations were healthy. If desert tortoise populations were sustained after the construction of DPV1, the disturbance of another 3.4 acres of land for DPV2 will similarly allow for a sustainable and healthy population of desert tortoise in the Kofa NWR.

V. VISUAL, RECREATION, AND CULTURAL RESOURCES IN THE KOFA NWR WOULD NOT BE SIGNIFICANTLY IMPACTED

a. Visual Resources.

i. Visual Resource Baseline

The Draft CD cites to the Administrative FEIR/EIS for the proposition that DPV2 would cause significant and unmitigable visual impacts. (Draft CD at p. 5)[21] As the Draft CD relies upon the FEIR/EIS to support its visual impact conclusion, these comments will explain why the FEIR/EIS analysis is incorrect regarding this finding.[22] The FEIR/EIS describes the existing environmental setting in the Kofa NWR. However, the actual description of visual impacts that

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[19] SCE staff, along with Service staff, have been extremely active in APLIC for well over 20 years. SCE staff support the use of the APLIC guidance documents.

[20] Rosen, P.C., and C.H. Lowe. 1994. Highway mortality of snakes in the Sonoran desert of southern Arizona. Biological Conservation 68:143-148.

[21] The Draft CD also claims that the Project will cause significant cumulative visual impacts. (Draft CD at p. 11). Cumulative impacts will be addressed in Section VIII.b.

[22] On December 4, 2006, SCE sent a letter to BLM pointing out this error in the FEIR/EIS.

could occur within the Kofa NWR is not accurate in either the FEIR/EIS or the Draft CD.. The FEIR/EIS applied the "VS-VC" method for evaluating visual impacts in the Kofa NWR, using only one viewpoint within the Kofa NWR as a basis for determination of impacts. The result of that inappropriate analysis was reported as a "Class I" impact (i.e., significant and unmitigable) in the FEIR/EIS.

The results of visual resource analyses can differ depending on various factors, including the experience and orientation of the analyst, but any method that is used should be based on a comprehensive visual resource inventory and analysis that is applied consistently for the entire project. The FEIR/EIS responses to SCE comments E-5-5 and E-5-6 on this issue (underlining added) support the use of a consistent approach to evaluate visual impacts.

> E5-5 Impact significance is defined (in the context of significance criteria) on pages D.3-54 and D.3-55 as noted in previous comments. Further, determination of impact significance under the VS-VC method is clearly discussed on page D.3-55 along with the use of Table D.3-7:
>
> Under the **Visual Sensitivity–Visual Change methodology**, the degree of impact significance is generally arrived at as a function of overall visual sensitivity and visual change. Table D.3-7 illustrates the general interrelationship between visual sensitivity and visual change and is used primarily as a consistency check between individual KVP [Key View Point] evaluations. <u>Actual parameter determinations (e.g., visual contrast, project dominance, and view blockage) are primarily based on analyst experience and site-specific circumstances</u>. (FEIR/EIS v.3, p.262).
>
> E5-6 Although NEPA does not specifically require a determination of impact significance, it does require a full analysis of impacts. This EIR/EIS <u>analyzes all impacts in a consistent manner whether the impacts occur on federal land or state land, and in California or Arizona.</u> (FEIR/EIS v. 3, p. E-263).

But, in the response to comment E.5-11, the FEIR/EIS acknowledged that two different methods were used to evaluate the visual impacts. The response states that different methods must be used on BLM land versus non-BLM land (i.e., Kofa NWR):

> E5-11 First, it should be made clear again that the BLM method must be used on BLM-administered lands but cannot be used on non-BLM lands since there can be no VRM classifications assigned to those non-BLM lands. While there are differences between the two methods, the foundations of VS-VC approach are consistent with those of the BLM's VRM system in that both methodologies evaluate project-induced change against a given landscape's ability to accommodate change. A principal difference is that the ability to accommodate change (or overall visual sensitivity of the landscape under the VS-VC method) is manifested in the concluding management objectives (VRM Classifications) under the BLM system. (FEIR/EIS v. 3, p. E-265)

However, the two different approaches result in different findings. This is especially noticeable on the Kofa NWR. To narrow the differences between the two methods and provide a consistent approach to visual resource analysis for the DPV2 project, SCE developed a method based on the BLM's VRM system that accounts for the landscape character (scenic quality), viewer sensitivities, and the level of contrast associated with the introduction of new facilities. SCE applied this method consistently throughout the DPV2 study corridor in Arizona. The Kofa NWR provides a good example of the substantial differences that arise from using two different method of evaluating visual impacts. Additional simulations were prepared for purposes of this SCE analysis from five viewpoints located within the Kofa NWR, including the viewpoint from Crystal Hill Road that was used for the visual simulation within the Kofa NWR contained in the FEIR/EIS.

This SCE approach is valid and more appropriate than the method used in the FEIR/EIS because the proposed DPV2 transmission line would be constructed within a rural setting within the Kofa NWR that is similar to the landscape and setting on BLM lands located along the contiguous utility corridor to the east and west of the Kofa NWR. Furthermore, because the Kofa NWR does not have a visual resource management system (i.e., its primary objective is wildlife management, not visual resources), using the BLM Visual Resource Management (VRM) visual contrast assessment method is an appropriate and consistent means for evaluating visual impacts within the Kofa NWR and the adjacent BLM lands. The FEIR/EIS used the "VS-VC method", which contradicts the statement made above in the response to comment E.5-5 that all analyses were evaluated in a consistent manner. As noted in the response to comment E.5-11, the BLM VRM classification method is more appropriate because it explicitly considers the landscape's ability to accommodate change with respect to the construction of the DPV2 line and the resulting changes in existing vegetation, landform, and structures. That factor is important when considering the presence of DPV1, the Pipeline Road, above-ground ancillary pipeline facilities (generator buildings, an engine house, valve stations, and pipeline signage), and the existing spur roads, which would be used for construction of DPV2, in the existing Kofa NWR landscape.

Adding a second transmission line, with similar attributes to DPV1, that causes minimal construction disturbance, will not affect the landscape setting or viewers as much as adding a new transmission line to a previously undeveloped area. For example, on September 15, 2006, the BLM issued a Final EIR/EIS for the Desert Southwest Transmission Project (DSWTP), a 118 mile 500 kV transmission line that would, in large part, either parallel the SCE DPV1 transmission line or become a joint project with DPV2. BLM used its VRM system to evaluate the visual impacts of constructing the DSWTP power line parallel to the existing transmission line, and concluded that the resulting impacts were class III or IV (not significant). The DSWTP FEIR/EIS issued by BLM consistently used the VRM system to measure visual impacts at various key observation points (KOP), including within areas not managed by BLM. The DSWTP FEIR/EIS also consistently concludes that, due to the presence of an existing transmission line and towers, the resultant visual contrast is either weak, or weak to moderate:

> The addition of new lines and towers would be within the existing footprint and corridor of the others. The land at KOP 3 is not managed by the BLM and is, therefore, not subject to the BLM VRM system. However, visual contrast was included in this analysis to comply with CEQA regulations. ...

> The addition of a new transmission line and associated towers adjacent to the existing lines would create a weak to moderate contrast in this viewshed.
> ...
>
> Given the presence of existing transmission lines and associated towers that dominate the landscape at this KOP, the addition of new lines to the viewshed would create a weak contrast to the existing environment because it is within the visual character of the area. (DSWTP FEIR/EIS p.3.6-19, 3.6-28).

Additionally, Mitigation Measure V-3a (see FEIR/EIS p. D.3-53) further ensures that the Project would not add significant incremental impact. The measure requires that the DPV2 Project transmission line be built with similar design specifications to the existing DPV1 transmission line. The FEIR/EIS requires, to the extent feasible, that:

- all new structures be designed to match the DPV1 structure types,
- all new structures be paired with existing DPV1 structures,
- all new structures match the heights of existing DPV1 structures, and
- all new conductor spans match the existing DPV1 conductor spans.

Although VRM classifications have not been assigned to non-BLM land, such as the Kofa NWR, the same approach used to analyze impacts using the VRM system should be used because impact determination in the same area, if based on a sound methodology, must be the same irrespective of jurisdictional boundaries. This is certainly the case when the federal lands managed by two bureaus within the Department of the Interior are adjacent to one another and share similar landscape characteristics.

The visual resource analysis for impacts to the Kofa NWR using the BLM VRM approach, prepared for SCE by EPG Inc., an environmental consulting firm with expertise in this area, was presented by Randall Palmer in testimony before the Arizona Power Plant and Transmission Line Siting Committee during the hearings for the DPV2 project (Case No. 130). A copy of the slide presentation from Mr. Palmer's testimony is on the CD enclosed as Attachment 4, along with the excerpt of the reporter's transcript of the proceedings held on August 21, 2006. These documents support the conclusion that visual impacts resulting from the proposed DPV2 Project on the Kofa NWR would not result in significant impacts. This conclusion is based on the same analysis criteria used to evaluate visual resource impacts that could occur on BLM land in the FEIR/EIS: viewer sensitivity, scenic quality, contrast, and impacts to sensitive viewers. A summary of the analysis of visual impacts on the Kofa NWR using these criteria follows:

> **Viewer Sensitivity** - The Kofa National Wildlife Refuge and Wilderness and New Water Mountains Wilderness Interagency Management Plan and Environmental Assessment (1996), estimated approximately 50,000 users per year on the Kofa NWR and 500 users per year for the New Water Mountains Wilderness Area. Only between 6,000 – 7,000 of these users annually access the northern Pipeline Road route. SCE considered the recreational users in the Kofa NWR, Kofa Wilderness Area, and New Water Mountains Wilderness Area to be of high sensitivity, even though

the FEIR/EIS (p. D.3-2) could define it as medium sensitivity based upon the number of actual users.

Scenic Quality - While portions of the Kofa NWR are more scenic than others, the terrain and vegetation crossed by the proposed Project are considered class C and B, and the setting has been significantly modified by the presence of the existing natural gas pipeline, the pipeline road, associated pipeline facilities and signs, and the existing DPV1 500kV transmission line. Introduction of the Project's new 500kV line adjacent to the existing line, in this modified corridor, would result in less than significant impacts to the overall scenic quality of this area of the Kofa NWR.

Project Contrast – Landform, vegetation, and structure contrast were analyzed. Overall Project contrast would be weak (i.e., the element contrast can be seen but does not attract attention to the project or dominate the view) to moderate (i.e., the element contrast begins to attract attention and begins to dominate the characteristic landscape) due to (i) the already modified conditions associated with the proposed DPV2 corridor, which includes the existing DPV1 transmission line, the pipeline (and ancillary facilities, and signage), and associated access, and (ii) the conforming location of the new towers. To reduce Project contrast, the proposed DPV2 line will be designed similar to the existing DPV1 500kV line, and it is anticipated that only limited grading and vegetation removal will be required. Mitigation measures specified include matching existing tower types, spans, and heights to the extent feasible; selective tower placement; use of dulled steel structures and non-specular conductors, and use of existing access and spur roads.

Impacts to Sensitive Viewers - The proposed Project would be seen from the Kofa NWR and wilderness areas from locations ranging from the immediate foreground along the existing road (0 - 1/2 mile) to the middleground and beyond (dispersed recreation use). These views are within the context of the existing Pipeline Road, spur roads, and transmission line where the landscape has been previously disturbed (modified) and contrast levels are weak to moderate. Based on this assessment, impacts to sensitive viewers on the Kofa NWR would be less than significant.

Thus, using the BLM's more appropriate VRM methodology for analyzing visual impacts results in the conclusion that visual impacts from the proposed DPV2 Project on the Kofa NWR would be less than significant.

The FEIR/EIS application of the VS-VC method for evaluating impacts within the Kofa NWR appears to be overly general and subjective. The visual resource analysis for the Kofa NWR, in FEIR/EIS Section 3.2.2., is based on only one viewpoint and that viewpoint is not typical for all conditions on the Kofa NWR. In Table D.3-9, the FEIR/EIS claims that the Kofa NWR has Class 1

"significant, unmitigable" impacts. Yet, in evaluating the impacts based on overall visual sensitivity and visual change as indicated in Table D.3-7, the impacts should at most have been characterized as "adverse and potentially significant" (Class II). Based on the methodology presented in the FEIR/EIS, for a visual impact to be considered significant, as noted on page D.3-45, two conditions generally needed to exist (1) the existing landscape is of reasonably high quality and is relatively valued by viewers; and (2) the perceived incompatibility of one or more proposed project elements or characteristics tend toward the high extreme, leading to a substantial reduction in visual quality. By using VC-VS system and not fully acknowledging the following factors, an artificially higher and inaccurate level of impact has been determined:

- The existing landscape has been highly modified along the entire corridor throughout this area, including the presence of the existing DPV1 transmission line, the gas pipeline and ancillary facilities and signage, and the existing access roads (e.g., Item 1 above). This environmental baseline must be considered and, due to the existing facilities, the existing landscape could not be considered of high quality.

- The mitigation proposed for the Project (e.g., matching tower types, spans, and heights to the extent feasible, selective tower placement, use of dulled steel structures and non specular conductors, and the use of existing access and spur roads) will limit the amount of disturbance and visual change. This results in weak/moderate levels of contrast for new facilities against the existing background due to minimal modifications to existing vegetation and landforms (use of existing access and spur roads), as well as the use of similar towers and spacing (structure contrast). Due to the weak/moderate contrast, the proposed Project elements (towers, etc.) are not incompatible with the characteristics of the existing corridor, nor do they lead to a substantial reduction in visual quality in an area that has already been significantly modified (e.g., Item 2 above).

With the mitigation required by the FEIR/EIS, the impact would not have been greater than a Class II impact, and had the FEIR/EIS used a more appropriate approach that fully acknowledges the modified character of the corridor, and weak/moderate levels of contrast, a Class III impact may have been the appropriate designation.

b. Recreation Resources.

As with the visual impacts, the Draft CD relies upon the FEIR/EIS analysis of alleged recreation impacts. (Draft CD at p.4). The recreation impacts described in the FEIR/EIS for the Kofa NWR are inaccurate for three main reasons. First, the FEIR/EIS relies upon the faulty visual resource impacts analysis discussed above to conclude that given the claimed "significant" visual resource impacts, there would also be significant recreation impacts. In other words, the FEIR/EIS reasoned that recreation users would have an adverse recreation experience due to the visual impacts caused by the presence of the Project. As explained above, the Project would not have significant visual impacts. Similarly, the recreation resources in the Kofa NWR would not be significantly impacted by the addition of the Project's transmission line within an existing utility corridor that is dominated by the DPV1 transmission line and the Pipeline Road. The FEIR/EIS explains that the DPV2 Project transmission line would be designed to blend into the existing utility corridor to the extent possible, as described by Mitigation Measure V-3a above. With only low to

moderate visual impacts, the recreation user would not experience a significant impact to a recreational experience along the existing utility corridor.

Second, the FEIR/EIS requires additional mitigation measures to address potential recreation impacts, including the coordination with the U.S. Fish and Wildlife Service of the location of towers and spur roads to avoid impacts to recreation. (Mitigation Measure WR-3a, FEIR/EIS p. D.5-22). The Draft CD does not acknowledge this mitigation.

Finally, no recreation sites are located in the utility corridor and none would be affected by the Project. Access to nearby hiking trails and Wilderness Areas would not be limited by Project construction and operation, including the use of spur roads. Therefore, the Project would not cause significant adverse impacts to recreation in the Kofa NWR.

c. **Archaeological and Cultural Resources.**

The Draft CD sites to text in the FEIR/EIS that the Project may cause a significant impact if some hypothetical and as yet undiscovered cultural resources or Native American remains are impacted during construction. (Draft CD at p. 6). The FEIR/EIS concludes that no known National Register of Historic Places (NRHP) eligible cultural/historical sites of significance are within the Kofa NWR Area of Potential Affect (APE) for the Project and therefore 'no further management of this site would be recommended.' (FEIR/EIS, p. D-7-18). Nothing was discovered during DPV1 construction that was not already identified during the archaeological surveys.[23] The DPV2 utility corridor has been subject to archaeological surveys at least three times since 1978, most recently in 2004. During that time, only two archaeological sites (AZ S:5:15 and AZ S:5:18) have been recorded within the Kofa NWR segment APE. Both sites were recorded in 1982 by Carrico and Quillen for the DPV1 environmental assessment, and both were determined not to be eligible for the NRHP. Archaeologists working on the DPV2 Project could not locate the surface lithic scatter designated as AZ S:5:15, and reported that the single rock ring and pair of rock clusters designated AZ S:5:18 is located outside the DPV2 APE (Dobschuetz et al. 2004:30). A reasonable reading of these data leads to the conclusion that the Kofa APE has little archaeological sensitivity. Therefore, the suggestion in the Draft CD that as-yet-undiscovered NRHP-eligible cultural resources, including buried human remains, could suffer Project effects has no foundation. Based on the experience of constructing DPV1 and subsequent archaeological assessments, it is very unlikely that any archaeological resources are present in the proposed DPV2 construction area.

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[23] See, Bean, Lowell J., Henry F. Dobyns, M. Kay Martin, Richard W. Stoffle, Sylvia B. Vane, and David R. M. White 1978, Persistence and Power: A Study of Native American Peoples in the Sonoran Desert and the Palo Verde-Devers High Voltage Transmission Line. Cultural Systems Research, Inc., Menlo Park, CA.
Berry, Claudia, 1978, Final Report for Archaeological Survey of Alternative Transmission Line Corridors between Palo Verde Nuclear Generating Station and the Colorado River. Museum of Northern Arizona, Flagstaff.
Carrico, Richard L., and Dennis K. Quillen, 1982, Cultural Resource Inventory and National Register Assessment of the Southern California Edison Palo Verde to Devers Transmission Line Corridor (Arizona Portion). WESTEC Services, San Diego.
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. 87-71, Institute for American Research, Arizona.
Dobschuetz, Chris, Glennda G. 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. Environmental Planning Group, Phoenix, Arizona.

The Draft CD admits that there are no NHRP eligible cultural sites within the Kofa NWR:

> *Although no known eligible cultural (resource) sites are located within the Areas of Potential Effect* (APEs) for this segment, there are four known sites ... within the general corridor for this segment. (*emphasis added.* Draft CD at p. 5).

However, the Draft CD goes on to state:

> Although no known eligible cultural sites are located within the Areas of Potential Effect (APEs) for this segment, there are four known sites (AZ R:7:66, AZ R:7:61, AZ R:8:42, and AZ R:8:49) recommended as National Register of Historic Places (NRHP)-eligible that are located within the general corridor for this segment. Impacts to those or other newly discovered NRHP-eligible cultural resources could result from construction activities that require earth-disturbing effects. ... The potential to discover unanticipated cultural resources during construction exists throughout the Refuge segment of the Proposed Project and could reveal additional adverse effects to these resources. ... The potential to discover unknown buried Native American human remains or sacred features, in the form of primary inhumations, cremations, ceremonial bundles, or mourning ceremony features during construction could exist.

The four archaeological sites referenced in the Draft CD are located within a one-mile wide study area corridor within the Kofa NWR. As acknowledged in the Draft CD, however, none of these resources are located within the APE and none were deemed eligible for inclusion in the NHRP. Thus, contrary to the assertion in the Draft CD, no impacts to those resources would result from the Project. Given the surveys and past history, finding cultural resources during DPV2 Project construction is unlikely. Therefore, the claim of a potential significant impact is highly speculative. Such an unsupported potential impact should not be used to preclude the Project from going forward.[24]

Additionally, the BLM has corresponded with Native American tribes indicating an interest in the Kofa NWR segment, primarily the Yavapai. By way of this consultation, no Native American places of specific religious or cultural value were identified within the Kofa NWR. Therefore, no evidence exists to support a conclusion that archaeological or cultural resources would be materially affected by construction of DPV2 through the Kofa NWR.

VI. MITIGATION MEASURES WERE NOT PROPERLY CONSIDERED IN DETERMINING COMPATIBILITY

The FEIR/EIS proposes a number of mitigation measures for addressing actual or potential environmental impacts associated with the DPV2 Project. Many of these mitigation measures were proposed by SCE and incorporated into the document by the CPUC and BLM. The Draft CD acknowledges that the mitigation measures are designed to reduce impacts to less than a significant

[24] The FEIR/EIS recognized the unlikelihood of such impacts and chose to propose the Kofa NWR as the environmentally preferred route.

level except for recreation, visual, archaeological/cultural resources, and certain wildlife resources. (Draft CD at p. 11). Rather than repeat all the FEIR/EIS mitigation measures, these SCE comments will reference or summarize some of those measures that would address the concerns expressed in the Draft CD for wildlife, visual, recreation, and archaeological/cultural resources. The FEIR/EIS should be consulted for a full description of all mitigation measures. If the Draft CD had properly considered these mitigation measures, the Draft CD would have concluded that the Project was compatible.

a. Biological Impacts Would be Mitigated.

The FEIR/EIS lists the large number of SCE proposed mitigation measures that would address potential impacts to biological resources. (FEIR/EIS Section D.2.5.2, beginning at p. D.2-95) Other mitigation measures have been added to ensure that the impacts to biological resources are not significant within the Kofa NWR. (FEIR/EIS, Table D.2-8, p. D.2-106). These mitigation measures require SCE to prepare and implement a Habitat Restoration/Compensation Plan and to coordinate with the Kofa NWR the exact placement of each tower to minimize habitat disturbance. (Measures B-1a and B-1b, p. D.2-111). This Habitat Restoration/Compensation Plan would ensure that all lost habitat within the Kofa NWR is either restored or compensated for within the Kofa NWR. (See also APM B-19, FEIR/EIS p. D.2-97). SCE is willing to purchase in-holdings within the Kofa NWR, as suggested by the Kofa NWR to address recreation impacts (FEIR/EIS, p. D.5-22, Mitigation Measure WR-2a), to address the loss of habitat for biological resources. This will ensure that the Project does not result in any net loss in habitat quality or quantity.

The FEIR/EIS requires that where the proposed route crosses the Kofa NWR, SCE shall coordinate with Service personnel to determine specific tower site and spur road locations to minimize habitat disturbance and/or the loss of valuable habitat. (Measure B-1b. p. B-211). SCE must demonstrate compliance with this measure prior to construction. In addition to the mitigation measures designed to protect all biological resources, specific measures for particular animals were also proposed and required.

i. Reptiles Specific Measures.

SCE will also conduct pre-construction surveys for reptiles in areas of suitable habitat for the common chuckwalla, banded Gila monster, and rosy boa. (Measure B-9d, p. D.2-138). This would occur even though common chuckwalla has not been recorded in the Project vicinity and the closest banded Gila monster and rosy boa were recorded three and five miles from the Project area, respectively. (FEIR/EIS, p. D.2-139).

ii. Desert Tortoise Specific Measures.

SCE proposed mitigation measures would address a variety of potential impacts to desert tortoise and their habitat. (See Table D.2-6, APM Nos. B-27 through B-32). For instance, SCE proposed Measure B-35 requires that a qualified biologist be present for construction in upland areas where desert tortoises might occur if those areas cannot be avoided. Other FEIR/EIS imposed mitigation will further eliminate impacts to desert tortoise. For example, measure B-7b requires that SCE survey the transmission corridor for desert tortoise burrows and pallets 14 days prior to construction. The measure also dictates how and when SCE may move desert tortoise within the

Project construction area. Measure B-7c would require that SCE purchase replacement habitat for lost desert tortoise habitat. This measure states that the land would be associated with BLM managed lands. SCE is willing to purchase in-holdings with the Kofa NWR to similarly address lost desert tortoise habitat within the Kofa NWR, in a manner like that required by SCE to address recreation impacts on the Kofa NWR (discussed below).

iii. Bighorn Sheep Specific Measures.

The Draft CD claims that SCE may not agree to conduct construction within the Kofa NWR outside the bighorn sheep lambing period. (Draft CD at p. 9). This statement is inaccurate. In fact, in SCE's October 31, 2005 application to the Kofa NWR requesting a right of way grant across the Kofa NWR for DPV2, SCE stated that "Construction activities would be scheduled in conformance with seasonal limitations to minimize potential impacts to bighorn sheep, specifically during the lambing season." SCE has no concerns with performing construction outside the January 1st through April 30th lambing period identified in the FEIR/EIS (Mitigation Measure B-9f, D.2-146; Table D.2-14, p. D.2-279).[25] This condition is similar to condition B-11 in the BLM 1989 Right-of-Way grant to SCE for DPV2, which restricts construction between January and March in areas that may result in disturbance to bighorn sheep lambing. Such a condition would be satisfactory to SCE for use on the Kofa NWR for construction in areas that may disturb lambing. The Draft CD recommends that construction not occur from October through April. However, as explained above, nearly all lambs were born in the January-April period (between 48 and 60 in each year). Only occasional, single births were documented in any other month (i.e., not more than one lamb per month and none in October or November). Thus, ending construction as early as October appears unnecessary.

Additionally, the FEIR/EIS requires surveys of sensitive wildlife in any area subject to Project disturbance prior to construction of the Project transmission lines. (Mitigation measure B-9a at FEIR/EIS p. D.2-137, and measure B-9f at D.2-146). A biological monitor is also required in areas subject to Project disturbance. (Mitigation Measure B-9b, p. D-2-137). If bighorn sheep are found, SCE must consult with the Service to identify appropriate avoidance measures. (FEIR/EIS at p. D2-146, measure B-9f).

b. Archaeological/Cultural Resource Impacts Would be Mitigated.

Despite no NHRP eligible archaeological or cultural sites being within the DPV2 APE, SCE proposed a number of mitigation measures to address potential cultural resource impacts. (FEIR/EIS p. D.7-35). Furthermore, the FEIR/EIS imposes additional requirements upon SCE to address the potential that cultural resources might be discovered during Project construction. (D.7-50 through D.7-54). For example, SCE must conduct an inventory and evaluate all cultural resources with the APE prior to construction or any subsurface disturbance. (Measure C-1a, Table D.7-34, p. D.7-128). If the final CD is going to consider cultural impacts, it must also evaluate the mitigation required by the FEIR/EIS, including SCE's proposed mitigation measures.

[25] Mitigation measure B-11 identifies a shorter lambing period of January 1st through March 31st.

c. Visual Resource Impacts Would be Mitigated.

SCE proposed many measures to mitigate potential visual resource impacts. (See FEIR/EIS Section 3.5.3 beginning on p. D.3-45). Additionally, the FEIR/EIS requires a number of additional mitigation measures to address potential visual impacts on the Kofa NWR. (See FEIR/EIS section D.3.6.2 beginning on p. D.3-57). For example, measure V-3a requires "all new and replacement structures are to as closely as possible match the design of the existing structures with which they will be seen." The new structures must also be paired as closely as possible with existing structures, and match the height of the DPV1 structures to the extent possible. (FEIR/EIS, p. D3-125). As explained above, these mitigation measures, given the existing modified nature of the utility corridor through which DPV2 will be located, would reduce the potential visual impacts to less than a significant nature. If the final CD is going to consider visual resource impacts, it must also evaluate the mitigation required by the FEIR/EIS, including SCE's proposed mitigation measures.

d. Recreation Impacts Would be Mitigated.

As with the above two subsections, SCE proposed mitigation measures to address potential impacts to recreation resources. (FEIR/EIS, p. D.5-13). The FEIR/EIS imposed additional mitigation measures upon SCE to address potential impacts to recreation. Mitigation measures specific to the Kofa NWR are addressed beginning on page D.5-21. The FEIR/EIS specifically added a mitigation measure proposed by the Kofa NWR to address the potential loss of recreation areas. (FEIR/EIS, p. D.5-22, Mitigation Measure WR-2a). This measure would include working with the Service to place tower and spur roads in locations that would reduce potential recreation impacts, preparing a construction notification plan, and coordinating with the Service to improve impacted areas, potentially through the purchase of in-holdings within the refuge and the rehabilitation of abandoned mine sites and old roads. Given the presence of the existing utility corridor, including DPV1, the addition of DPV2 would not result in a significant impact to recreation resources on the Kofa NWR. However, to the extent that recreational resources are significantly impacted, the purchase of in-holdings within the Kofa NWR may be an appropriate mitigation measure.

VII. THE DRAFT CD IDENTIFIED LESS THAN SIGNIFICANT IMPACTS THAT CAN BE ADDRESSED IN A RIGHT OF WAY STIPULATION

The Draft CD identified a few potential impacts that would cause less than significant impacts to the Kofa NWR. Nevertheless, the Kofa NWR staff would still like these issues addressed to their satisfaction. The Draft CD believes that the Project could (i) cause the introduction of non-native invasive species into the area, (ii) potentially impact Kofa NWR staff radio communications and telemetry when the communication equipment is used near the power line, and (iii) potentially impact transportation during Project construction. SCE believes that the FEIR/EIS mitigation measures dealing with transportation and biological resources will fully address the potential introduction of non-native invasive species and potential transportation impacts due to construction. However, SCE is also committed to working with the Kofa NWR to address these potential impacts.

a. Transportation.

Construction activities will be concentrated at each new tower site (i.e. foundation construction, tower assembly and erection, and conductor stringing activities). As the DPV2 route generally parallels the existing dirt access road, these activities will take place on the transmission line right-of-way, off the main dirt access road, and will not significantly interfere with traffic on the main dirt access road. SCE recognizes that there may be occasional periods when traffic may be impeded for brief periods to allow for equipment offloading, material deliveries, etc. SCE is willing to coordinate these periods with the Kofa NWR and take other appropriate steps to minimize such impacts.

b. Communication.

SCE understands the need for effective and reliable communication within the Kofa NWR. The DPV2 transmission line may have an effect on two-way radios (digital and analog). The extent of the impact depends on the power output of the portable and mobile radios, the frequency, natural barriers, and the distance to the radio repeater used by Kofa NWR personnel. Other influencing factors include the condition of the equipment and the quality of the cable connectors and antennas. SCE staff is currently working with Kofa NWR staff to better understand the potential scope of any communication problem. Potential solutions may include the installation of a radio repeater, upgrading existing portable radios, or replacing the existing Kofa NWR radios with more powerful equipment.

c. Noxious Weeds.

SCE proposes to implement standard best management practices to reduce the potential introduction of non-native invasive species. (FEIR/EIS, Table D.2-6, p. D.2-96). The FEIR/EIS will require that SCE conduct an inventory of the noxious and invasive weeds, and implement control measures for invasive and noxious weeds. These measures, including washing all construction equipment and vehicles entering into the Project area, unless otherwise directed, would protect the Kofa NWR from the introduction or spread of invasive species. (Mitigation Measures B2a and B2b, FEIR/EIS at p. D.2-112 through 113). The measure also requires the submittal of a Noxious Weed Control Plan 60 days prior to beginning construction within the Kofa NWR. SCE is willing to work with the Kofa NWR to implement other appropriate measures to protect the Kofa NWR from the introduction of non-native invasive species caused by the Project.

VIII. IF A NEPA ANALYSIS WERE USED, THEN THE SERVICE SHOULD HAVE CONSIDERED IMPACTS TO OTHER ALTERNATIVE ROUTES AND PROPERLY EVALUATED CUMULATIVE IMPACTS

a. Alternative Routes Would Cause a Greater Environmental Impact.

As explained above, the Draft CD evaluates impacts to visual, recreation, and archaeological/cultural and other resources that are outside the scope of a compatibility determination. If the Service is going to conduct a broader environmental analysis, then the Service should also compare the impacts of routing the DPV2 Project through the Kofa NWR compared to other alternative routes outside the Kofa NWR. The FEIR/EIS evaluated many potential alternative

routes, including four alternative routes that would have gone north of the Kofa NWR.[26] However, each of these other routes would have gone through bighorn sheep and desert tortoise habitat. Each alternative route would have required the construction of a new access road along the alternative power line route and the construction of new spur roads. This construction would create significantly greater impacts to wildlife and other resources than the minor incremental impacts caused by the Kofa NWR route. The FEIR/EIS, in Appendix 1, Tables 1-3a and 1-3b, summarizes the much greater permanent ground disturbing impacts due to the other alternatives. (FEIR/EIS, pp. Ap.1-39 and 40).

Additionally, the North of Blythe alternative would require that the Project cross the Colorado River Indian Tribe (CRIT) reservation. In 1977, when planning the DPV1 Project, and again in 1988, the CRIT informed SCE that it would not approve a transmission line route through the CRIT reservation. Another route that the FEIR/EIS did not extensively consider was a route that would parallel the Interstate 10 Freeway. However, the Arizona Department of Transportation would have to issue approval for this route. The FEIR/EIS found that the Arizona Department of Transportation would not authorize an overhead transmission line within the freeway corridor.[27] Thus, after evaluating these four alternative routes, the FEIR/EIS concluded that the Kofa NWR was the environmentally preferred route.[28] The Service should reach the same conclusion in the final CD.

b. Cumulative Impacts.

The Draft CD claims that "DPV2 would result in cumulative impacts to recreation and visual resources." (Drat CD at p. 11). It also states that there could be a cumulative significant impact to cultural and biological resources. (Draft CD at p. 12). These findings are incorrect, as the Draft CD analysis did not follow the appropriate process for determining cumulative impacts, even though the process was accurately explained on FEIR/EIS p. F-1 as the "impact on the environment *which results from the incremental impact* of the action when added to other past, present and reasonably foreseeable future actions . . ." (*emphasis added,* citing 40 CFR §1508.7). Essentially, the Draft CD makes the same error in its cumulative impact conclusions as was made in its conclusion that visual and recreational resources would be significantly impacted.

The cumulative impact analysis must evaluate only the **incremental** impact from building the DPV2 power line on the existing visual and recreational resources. The analysis must consider the existing environmental baseline which includes the prior impacts from the construction and

---

[26] The four alternatives were: (i) North of Kofa NWR, (ii) North of Kofa and south of I-10, (iii) North of Kofa and north of I-10, and (iv) North of Blythe. These alternatives are discussed in both Section C of the FEIR/EIS (pp. C-22 through 32) and Appendix 1 (pp. Ap.1-35 through 52), and are shown on figures Ap.1-2a and Ap.1-3.

[27] The FEIR/EIS explained that installing an underground 500 kV power line was not technically or economically feasible and would result in significant environmental impacts. (FEIR/EIS, pp. C-23, C-44). Additionally, the recent legislative revision of the CRIT reservation boundaries makes the use of the I-10 freeway corridor unlikely as the reservation now spans the I-10 corridor. SCE understands that the U.S. Department of Energy is considering designating the I-10 freeway as a utility corridor pursuant to Section 368 of the Energy Policy Act of 2005. However, this is not likely to occur for at least another two years. Moreover, the designation of the corridor does not authorize the use of the CRIT reservation or change the Arizona Department of Transportation requirements. Importantly, designation of such a corridor within two years would not meet SCE's need to have the DPV2 Project completed in 2009 to meet critical energy requirements in southern California, as directed by the California ISO.

[28] As required under NEPA, the FEIR/EIS also evaluated a number of other "non-transmission" alternatives.

operation of the gas pipeline, the various above-ground ancillary pipeline structures (generator buildings, engine house, valve stations, and signage), the Pipeline Road, and the DPV1 transmission line. Instead, the Draft CD asserts that because the existing development created a significant impact on the environment, then any incremental impact must also be significant. That analysis is 180 degrees wrong. Assuming that the Draft CD is correct in its description that past development created significant impacts, then the **incremental** impact to visual and recreational resources from DPV2 would be minor because the resources are already impacted and the new power line would not add appreciably to any adverse impacts that are not already present in the Kofa NWR.[29] That is the exact conclusion reached by the Service in the Compatibility Determination for the Schultz-Hanford Area Transmission Line Project within the Columbia National Wildlife Refuge.

The Draft CD admits that its conclusion with regard to both biological and cultural cumulative impacts is speculative. The Draft CD questions whether the additional right-of-way width would create an obstruction to wildlife. (Draft CD at p. 11) Yet, mere speculation without any supporting evidence is insufficient to find a cumulative impact. Conversely, the bighorn sheep studies cited by SCE show that the DPV1 transmission line construction has not caused any significant impacts. As the DPV2 Project will only permanently disturb an additional 3.4 acres of land, none of which is lambing or critical habitat for wildlife, it follows that the addition of DPV2 will not cause a significant cumulative impact.

Likewise, no cultural resources were impacted by the construction of DPV1 and all the studies indicate that no cultural resources likely would be impacted due to DPV2 construction. Therefore, the cumulative impact section can only lead to a conclusion that no cumulative impacts to cultural resources will occur. In fact, the FEIR/EIS acknowledged this conclusion in its discussion regarding biological impacts on pages F-22 and F-25 and cultural resources on page F-37. Thus, the Draft CD must be changed to accurately characterize any cumulative impacts from DPV2 as negligible.

IX. CONCLUSION

As shown above, the DPV2 Project is compatible with the purposes of the Kofa NWR and the NWR System mission – to conserve and manage wildlife resources. The FEIR/EIS adopted the SCE proposed mitigation measures and imposed a number of additional mitigation requirements upon the Project that ensure the Project will avoid resource impacts to the extent feasible and will ensure no net loss of habitat quantity and quality on the Kofa NWR. With these mitigation measures, the lack of any adverse impacts associated with the existing DPV1 transmission line, and the Draft CD's admission that "information is currently lacking to make" a significant impact determination with regard to both wildlife and cultural resource impacts, the construction and maintenance of DPV2 would not degrade the ecological integrity of the Kofa NWR. All of the data support a finding that the DPV2 Project will not materially interfere or detract from the NWR System mission and the Kofa NWR purposes. Therefore, the Service should issue a CD that finds the DPV2 Project is compatible.

---

[29] The Council on Environmental Quality issued a June 24, 2005 Guidance Document on the Consideration of Past Actions on Cumulative Effects Analysis that explains this issue. http://ceq.eh.doe.gov/nepa/regs/Guidance_on_CE.pdf. See also the Guidance Regarding Cumulative Effects issued by CEQ in January 1997.

SCE appreciates that opportunity to provide these comments to the Draft CD. Should you have any questions about our comments or wish to discuss these issues in detail, please call me at (626) 302-4459. SCE Project representatives and our technical experts are available to meet with you and your staff at your convenience.

Very truly yours,

Nino J. Mascolo

cc: Mr. Dale Hall, Director USFWS
Dr. Benjamin Tuggle, Regional Director USFWS
Mr. Christopher Pease, Regional Chief USFWS
Mr. Todd Jones, USFWS
Ms. Jeannie Wagner-Greven, USFWS
Mr. Justin Tade, Esq, USFWS
Mr. John Kalish, BLM
Ms. Billie Blanchard, CPUC
Ms. Traci Bone, CPUC
Mr. Marco Ahumada, SCE
Mr. Les Starck, SCE
Mr. Tom Burhenn, SCE

NJM:njm:#1322293

Enclosure(s)

ATTACHMENT 1

Arizona Wilderness Act of 1990, Amendments' Legislative Intent; Brooks Memo

REVISED DECONC I AND MCCAIN AMENDMENTS TO H.R. 2570

AS REPORTED BY THE COMMITTEE ON ENERGY AND NATURAL RESOURCES
(CALENDAR NO. 677)

ARIZONA DESERT WILDERNESS ACT OF 1990

OCTOBER 18, 1990

1. On page 27, line 5, strike "Wilderness." through the end of the paragraph on line 13, and insert in lieu thereof, "Wilderness;".

2. On page 30, line 23, strike "Cochise County," and insert in lieu thereof, "Cochise, Greenlee, and Graham Counties,".

3. On page 35, lines 17 through 22, strike subsection (k) in its entirety and insert in lieu thereof:

"(k) BLACK ROCK WASH ROAD ACCESS.—(1) Section 101(a)(22) of the Arizona Wilderness Act of 1984 (98 Stat. 1487) is amended by striking "the governmental agency having jurisdictional authority may authorize limited access to the area, for private and administrative purposes, from U.S. Route 70 along Black Rock Wash to the vicinity of Black Rock;".

(2)(A) In order to permit adequate public and private access to Federal, State, and private lands on the east side of the Santa Teresa Mountains, the Secretary, acting through the Bureau of Indian Affairs, shall administer that portion of Black Rock Wash Road located within the boundaries of the San Carlos Apache Reservation so as to allow reasonable use of the road for private and administrative purposes and may permit limited public use of such road for the purpose of access to the public lands outside of the reservation boundary.

(B) The Secretary, acting through the Bureau of Indian Affairs, is authorized, subject to the provisions of the Act of June 18, 1934, Chapter 576, Section 16 (25 U.S.C. 476; 48 Stat. 987), to enter into cooperative agreements with the Bureau of Land Management, the Forest Service, and Graham County, Arizona, for signing, fencing, and maintenance of the portion of Black Rock Wash Road referred to in paragraph (A). The entering into of cooperative agreements as authorized by this subsection shall not be construed in any way as a determination of the ownership of such portion of Black Rock Wash Road.".

(3) There are authorized to be appropriated such sums as may be necessary to carry out this subsection.

4. On page 35, after line 22, insert the following new subsection (l):

"(l) ALAMO DAM.—Nothing in this title shall be construed to affect the operation for flood control purposes of the Alamo Dam located on the Bill Williams River.".

5. On page 39, after line 9, insert the following new paragraph (5):

"(5) Nothing in this title shall be construed to impair or conflict with the implementation of the authorization contained in section 304(f) of Public Law 90-537, approved September 30, 1968.".

6. On page 43, line 1, strike subsection (l) in its entirety and insert in lieu thereof the following:

"(l) ENFORCEMENT.—Any person who violates any regulation

promulgated by the Secretary to implement the provisions of this title shall be subject to a fine in accordance with applicable provisions of the Sentencing Reform Act of 1984, or imprisonment of not more than 1 year, or both such fine and imprisonment."

7. On page 44, line 7, strike "511,000 acres" and insert in lieu thereof, "510,900 acres".

8. On page 44, line 12, strike "March 13, 1990" and insert in lieu thereof, "August 1, 1990".

9. On page 45, line 19, strike paragraph (1) in its entirety and insert in lieu thereof the following:

"(1)(A) With respect to each wilderness area designated by this title, and subject to the limitations set forth in subparagraph (B), Congress hereby reserves a quantity of water sufficient to fulfill the purposes of this title. The priority date of such reserved rights shall be the date of enactment of this Act.

"(B) With respect to the Havasu and Imperial wilderness areas designated by subsections (a)(1) and (a)(2) of this title, no rights to water of the Colorado River are reserved, either expressly, impliedly, or otherwise."

10. On page 46, line 18, strike subsection (e) in its entirety and insert in lieu thereof the following:

"(e) NO EFFECT ON COLORADO RIVER DAMS.—Nothing in this title shall be construed to affect the operation of Federally owned dams located on the Colorado River in the Lower Basin.".

11. On page 48, after line 10, insert the following new section 302:

"SEC. 302. NO EFFECT ON UPPER BASIN.

"Nothing in titles I, II, or III of this Act shall amend, construe, supersede, or preempt any State law, Federal law, interstate compact, or international treaty pertaining to the Colorado River (including its tributaries) in the Upper Basin, including, but not limited to, the appropriation, use, development, storage, regulation, allocation, conservation, exportation, or quality of those waters.".

12. At the end of the bill, add the following new title IV:

"TITLE IV—TECHNICAL AMENDMENT TO TITLE V OF THE ARIZONA - IDAHO CONSERVATION ACT OF 1988

SEC. 401. Title V of the Arizona - Idaho Conservation Act of 1988 (Public Law 100-696; 102 Stat. 4571) is amended as follows:

(a) Section 501 is amended by inserting after the parenthetical phrase and before the words "which the Secretary deems necessary" the words "or other appropriate lands as selected by the State of Arizona under section 28 of the Act of June 20, 1910 (30 Stat. 557, as amended by the Act of June 5, 1935, 49 Stat. 1477)".

(b) Section 502(b) is amended by adding the following new sentence at the end thereof: "With the consent of the State of Arizona and to the extent that the lands referred to in subsection (a) of this section are acquired by eminent domain, the Secretary may use as compensation the lands described in sections 501, and 507(a)(1) and (a)(2) of this Act, and such other lands as the

Secretary determines necessary to constitute the fair market value of the State of Arizona lands acquired by eminent domain.".

(c) Section 507(b) is redesignated as section 507(c), and the following new subsection (b) is added as follows:

"(b) CONVEYANCE TO THE STATE OF ARIZONA.--The Federal lands described in section 506(a) of this Act may be conveyed to the State of Arizona by the Secretary to the extent such conveyance is necessary to establish fair market value compensation for State lands described in section 502(a) acquired by eminent domain pursuant to section 502(b).".

EXPLANATION OF THE AMENDMENTS

1. This amendment strikes language pertaining to the management of the Black Rock Wash Road on the San Carlos Apache Reservation in eastern Arizona. Language identical to the sentence deleted is included in section 101(k) pursuant to amendment 3.

2. This technical amendment simply corrects the description of the counties within which the Peloncillo Mountains Wilderness is located.

3. This amendment consolidates language pertaining to the management of the Black Rock Wash Road. Paragraph (1) deletes management authority for the road contained in the Arizona Wilderness Act of 1984. Paragraph (2)(A) sets forth new authority, directing the Bureau of Indian Affairs to administer the road so as to allow reasonable use of the road for private and administrative purposes and to permit limited public use of the road. Paragraph (2)(B) authorizes the BIA to enter cooperative agreement with other Federal agencies and Graham County, Arizona to sign, fence, and maintain the road.

4. This amendment clarifies that the operation of the Alamo Dam on the Bill Williams River for flood control purposes is not to be affected by the designation of wilderness areas along the river.

5. This amendment clarifies that the designation of the Gila Box Riparian National Conservation Area shall not impair or conflict with the State of New Mexico's allocation to water from the Gila River pursuant to the Colorado River Basin Project Act of 1968.

6. Amendment 6 modifies the law enforcement authority for the conservation area to parallel similar authority contained in Public Law 100-696, establishing the San Pedro Riparian Conservation Area.

7. Amendment 7 is a technical amendment to correct the acreage for the Kofa Wilderness.

8. Amendment 8 is a conforming amendment updating the map reference for the Kofa Wilderness to correct the acreage modification made by amendment 7 and also to clarify that a power corridor operated by Southern California Edison located adjacent to public lands included in the Kofa Wilderness is excluded from the wilderness boundary.

9. This amendment clarifies that no water is either expressly or impliedly reserved from the Colorado River for the Havasu and Imperial wilderness areas. This amendment does not modify water rights already granted from the river for both the Havasu and Imperial National Wildlife Refuges.

10. Amendment 10 clarifies that the designation of the Havasu and Imperial wilderness areas shall not affect the operation of Federally owned dams located on the Colorado River in the Lower Basin.

11. Amendment 12 adds a new section 302 to title III to clarify that

ATTACHMENT 2

Schultz-Hanford Area Transmission Line Compatibility Determination; Columbia National Wildlife Refuge

Compatibility Detemination

Use: Schultz-Hanford Area Transmission Line Project ana associated minor modification of existing right-of-way
Refuge Name: Columbia National Wildlife Refuge (NWR)
County: Adams, Washington; Grant, Washington

Establishing and Acquisition Authorities:
Public Land Order 243, September 6, 1944
Migratory Bird Conservation Act, as amended [16 USC 715- 715r]
Migratory Bird Hunting and Conservation Stamp Act of 1934 [16 USC 718- 718h; 48 Stat. 451]
Fish and Wildlife Act of 1956, as amended [16 USC 742a- 742j; 70 Stat. 1119])

Refuge Purpose(s):
For withdrawn lands -"... as a refuge and breeding ground for migratory birds and other wildlife ..." Public Land Order 243, dated Sept. 6,1944.

"...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." 16 U.S.C. § 715d (Migratory Bird Conservation Act)

National Wildlife Refuge System Mission:
The mission of the National Wildlife Refuge System is "...to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans" (National Wildlife Refuge System Administration Act of 1966, as amended [16 U.S.C. 668dd-668ee]).

Description of Use(s):
The proposed Bonneville Power Administration (BPA) project would add 150' width to an existing 100' wide and half mile long right-of-way (ROW) and construct a new transmission line in Central Washington to increase transmission system capacity north of Hanford. Construction would include placement of two flat 500-kilovolt single-circuit steel towers on U.S. Fish and Wildlife Service (USFWS) land, adjacent to towers on an existing parallel line (also on USFWS land.) The additional ROW would exclude the construction or placement of any buildings, and is considered a minor expansion because the existing roads and juxtaposed corridor will be used for access, and new towers will be lined up with existing towers. Sandy and rocky substrates in the ROW should restrict impacts mostly to the "footprints" of the two towers.

A description of the entire project under consideration for this determination can be found in the following document and is incorporated by reference: *Schultz-Hanford Area Transmission Line Project, Final Environmental Impact Statement, DOE/EIS-0325, January 2003* (FEIS). This Compatibility Determination is an appendix to the FEIS.

Construction and ROW for the power line would occur on the west side of an isolated parcel of

USPWS land near the confluence of Crab Creek and the Columbia River near Schwana in Grant County, Washington. The location is in Section 2, T15N, R23E (see maps attached.)

Construction is projected for 2004. Annual maintenance visits would likely occur during the spring when noxious weed control might be needed.

The construction portion of this project would include the use of ground vehicles and equipment to erect power line footings and legs. Helicopters would be used to move and place towers that were pre-constructed off-site. An existing operation and maintenance road would be improved to allow vehicle access.

This power line location was selected as the least environment-damaging route among six considered. It is adjacent to another power line which uses the same access roads and right-of-way. Bonneville Power Administration is responsible for providing uninterrupted power to meet demand across the region, and this line would eliminate a bottleneck and increase reliability during high demand periods.

Availability of Resources:
Compensation was received from BP A for the entire planning process to help determine compatibility. Annual inspection and treatment of invasive species in the right-of-way is addressed as a stipulation necessary to ensure compatibility.

Weed control would utilize a refuge truck and A TV spray equipment, using one or two staff days and herbicide. Monitoring would be accomplished during these annual visits. BP A funds would be transferred to the USPWS, Columbia NWR for these weed-related compliance activities, including preparation of a Pesticide Use Proposal required by USPWS if herbicides are needed. Ultimately, after native plant species are re-established, minimal refuge resources would be required and could be completed within existing operating budgets.

Anticipated Impacts of the Use(s):
Cumulative and long-term impacts would be negligible due to measures adopted as stipulations necessary to ensure compatibility. Short-term and long-term impacts are listed below. BP A has completed cultural resources review, and tower sites and access roads are located outside cultural resource boundaries (4.10.3 FEIS.) A description of the entire project under consideration can be found in the FEIS.

- Short-term soil disturbance would occur during construction phase from use of vehicles and equipment where the towers will be installed.
- There would be noise associated with construction, including equipment and helicopter used to place tower on legs and to stretch conductor, that is short-term.
- Vegetation removal at tower sites, and trampling or crushing during construction phase next to tower sites and along spur access roads, would be a short-term impact.
- .Addition of towers and horizontally-oriented parallel conductor lines, high tension ground line, and fiber optic cable that add a potential bird-strike hazard would be a permanent, long-term impact.

Public Review and Comment:
The public review and comment period began September 26, 2002 and ended October 10, 2002. The following methods were used to solicit public review and comment:

1. Posted notice at Columbia NWR headquarters, Royal City PO, and Othello PO.
2. Public notice on September 26, 2002 in the following newspapers: Columbia Basin Herald, Othello Outlook, Royal Review.

There were no comments from the public.

Following the above public comment period, Columbia NWR adopted the BPA's FEIS. The FEIS documents public comments received by BP A and responses they provided. BP A's Record of Decision will be issued no sooner than 30 days following publication notice in the Federal Register for the FEIS. Our Record of Decision will be issued after the BPA's Record of Decision has been signed.

Determination: (check one below)

___ Use is Not Compatible

_X_ Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:
In accordance with 603 FW 2.11 (D) for minor modifications of existing rights-of-way, and to avoid resource impacts and ensure no net loss of habitat quantity and quality, BP A will implement the following: 1) Stipulations listed below, and referenced in Chapters 5.5.1.4 and 5.20.4 and Appendix L of the FEIS dated January 2003, will be reflected unchanged in the BPA Record of Decision and will be reflected in our Record of Decision; 2) road access is closed (if necessary with construction of new gate and fence) to prevent unauthorized vehicle trespass to proposed and existing right-of-way; 3) helicopter installation of towers is used to avoid the need for heavy and wide-tracked ground equipment on sensitive soils and vegetation; 4) tower design is changed from delta to flat configuration, which places all transmission wires lower and on a single horizontal plane; 5) bird diverters are added to the overhead ground-wires and fiber optic cable to help deter bird strikes; 6) road width is reduced to approximately 101 which will protect native vegetation and reduce the area requiring annual weed control; 7) noxious weed control is included as a requirement of the right-of-way expansion and includes the existing right-of-way, which we will monitor; 8) vehicle inspection and weed removal will occur for all BP A employees, contractors, and their agents before entering refuge lands; 9) re-vegetation of construction site will occur using adapted native plant species; 10) a pre-construction meeting will occur between the BPA project inspector and contractor(s) and the Fish and Wildlife Service to ensure that these requirements are understood.

This Compatibility Determination will become effective on the date the U.S. Fish and Wildlife Service's Record of Decision is signed and made available to, the affected public.

Justification:
Changes following review of the Draft EIS eliminated incompatible portions of the original project, and are documented in letters appended to this Determination of Compatibility from BPA Project Manager Lou Driessen to CNWR Project Leader Bob Flores on 7/18/02 and 8/27/2002. These include stipulations 3-6 above. Although there will be minor short-term impacts, the measures implemented to ensure compatibility that include re-vegetation with native species, noxious weed control and access restrictions, should actually improve habitat quality above the current condition. This proposal supports the Refuge purposes, National Wildlife Refuge System mission, and mandate to ensure biological integrity, diversity, and environmental health.

Mandatory Re-Evaluation Date: (provide month and year for "allowed" uses only)

_____ Mandatory 15-year Re-Evaluation Date (for priority public uses)

December 2012 Mandatory 10-year Re-Evaluation Date (for all uses other than priority public uses)

NEPA Compliance for Refuge Use Decision: (check one below)

___ Categorical Exclusion without Environmental Action Statement

___ Categorical Exclusion and Environmental Action Statement

___ Environmental Assessment and Finding of No Significant Impact

X Environmental Impact Statement and Record of Decision

References Cited:

Schultz-Hanford Area Transmission Line Project, Draft Environmental Impact Statement, DOE/EIS-0325, February 2002.

Schultz-Hanford Area Transmission Line Project, Final Environmental Impact Statement, DOE/EIS-0325, January 2003.

Letter of 7/18/02 from Lou Driessen, BP A Project Manager, to Bob Flores, Columbia NWR Project Leader (attached).

Letter of 8/27/02 from Lou Driessen, BPA Project Manager, to Bob Flores,) Columbia NWR Project Leader (attached).

Memo to USFWS Regional Director Anne Badgley from Columbia NWR Project Leader Robert Flores: NEP A compliance for Schultz-Hanford Area Transmission Line Project- Adoption of Final Environmental Impact Statement, December 2002.

Refuge Determination:

Prepared by: Randy Hill (Signature) 12/19/02 (Date)

Refuge Manager/ Project Leader Approval: (Signature) 12/19/02 (Date)

Concurrence:

Acting Refuge Supervisor: (Signature) 12/23/02 (Date)

Acting Regional Chief, National Wildlife Refuge System: (Signature) 12/23/02 (Date)

ATTACHMENT 3

Arizona Game and Fish Department Letter to Fred Salzmann of SCE

THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
2221 WEST GREENWAY ROAD
PHOENIX, AZ 85023-4399
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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)

ATTACHMENT 4

Randy Palmer Testimony Before The Arizona Power Plant And Transmission Line Siting Committee During The Hearings For The DPV2 Project (Case No. 130)

Southern California Edison Volume III

L-00000A-06-0295-00130 8/21/2006

Page 475 to Page 701

CONDENSED TRANSCRIPT AND CONCORDANCE
PREPARED BY:

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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 GENERATING STATION SWITCHYARD IN WESTERN MARICOPA COUNTY AND TERMINATING AT THE DEVERS SUBSTATION IN RIVERSIDE COUNTY, CALIFORNIA.	DOCKET NO. L-00000A-06-0295-00130 Case No. 130

At: Phoenix, Arizona

Date: August 21, 2006

Filed:

REPORTER'S TRANSCRIPT OF PROCEEDINGS

VOLUME III
(Pages 475 through 701)

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A-13	Diagram - Palo Verde Hub Transmission System with Harquahala Junction Substation	503	--

1 BE IT REMEMBERED that the above-entitled and
2 numbered matter came on regularly to be heard before the
3 Power Plant and Transmission Line Siting Committee, at
4 the Embassy Suites Hotel, 1515 North 44th Street,
5 Phoenix, Arizona, commencing at 9:40 a.m. on the 21st
6 day of August, 2006.
7
8 BEFORE: LAURIE A. WOODALL, Committee Chairman
9 DAVID L. EBERHART, Arizona Corporation Commission
10 EDWARD RANGER, Department of Environmental Quality
11 JIM ARWOOD, Department of Commerce
JOY RICH, Appointed Member
12 WAYNE SMITH, Appointed Member
MICHAEL WHALEN, Appointed Member
13 MARGARET TRUJILLO, Appointed Member
MICHAEL PALMER, Appointed Member
14 JEFF McGUIRE, Appointed Member
15
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1 and I've looked AT the ones that you have taken, but
2 given the high profile nature of the two areas, I
3 personally have an inclination to want to tour it. But
4 I'll chat with our fellow Committee Members after you
5 have concluded your presentation. They may determine
6 that there's no need for it.
7 Mr. Acken.
8 MR. ACKEN: Thank you, Chairman Woodall.
9
10 RANDALL PALMER,
11 called as a witness on behalf of the Applicant, having
12 been previously duly sworn by the Certified Court
13 Reporter to speak the whole truth and nothing but the
14 truth, was examined and testified as follows:
15
16 DIRECT EXAMINATION
17
18 Q. (BY MR. ACKEN) Mr. Palmer --
19 A. Before you get started, I'm wondering if this
20 mike is working. Can anybody tell? It shows that it's
21 on. My thought here was if I needed to go up to a slide
22 and explain something that it might be helpful.
23 All right. Sorry about that.
24 Q. Mr. Palmer, would you please state your name
25 for the record.

A. Yes. My name Randall Dean Palmer. For purposes of discussion, however, I like to be addressed as Randy.

Q. Randy, will you address Chairman Woodall's question as to the last time that you were along the route in the Kofa at Copper Bottom Pass?

A. Actually, I was out there just a couple of days ago and looking in the area of Copper Bottom Pass in particular regarding questions that were coming up on the double-circuit structure. So I was there last weekend.

Q. Would you provide the Committee with an overview of your educational and work background?

A. Certainly. My background and education, I have two degrees. I have an advanced degree as a master of landscape architecture in landscape architecture from Harvard University, and I have a bachelor of science in what is an outdoor recreation degree with a focus on landscape architecture.

My experience, interestingly enough, with regards to the topic that I'm talking about today dates far back, actually, to a point in time when I was back in undergraduate school where I worked with a professor who at the time was involved in a number of different visual studies that involved the energy industry and

1 transmission planning and so on.
2 So, quite frankly, as early as 1977, '78, while
3 I was in school, I happened to be fortunate enough to be
4 in an environment where I was exposed to visual resource
5 assessment. And so at quite an early time within the
6 context of my career, I had the opportunity to get
7 involved in these types of projects.
8 Having done that earlier in my career, when I
9 went to school back East and having that interest, I
10 served as a teaching or research assistant while at
11 Harvard for course work specifically in visual resource
12 assessment. So, again, it was something which as a
13 landscape architect I have had a lot of interest in.
14 As I moved forward in my career since
15 graduating from the master's program, I have served as
16 an instructor at both Colorado State University and
17 Colorado University where I taught a variety of courses
18 ranging from site planning and design, a lot of work
19 that often times bordered on resource types of
20 evaluations, multidisciplinary kinds of approaches to
21 planning.
22 In 1984, I actually began working with a
23 company called Dames & Moore. And, interestingly
24 enough, that experience started with doing visual
25 simulations for a project that involved the Camelback

1 corridor. There was a proposal for some development at
2 that point in time for a high-rise in that area, and
3 Dames & Moore was doing visual resource assessment
4 studies for that project as well as simulations.
5 Having joined the firm in 1984, I guess it's
6 kind of where I landed for my career. I worked there up
7 until 1999. My experience at Dames & Moore was
8 initiated -- I guess, rather, started with me working
9 specifically as what you would call a visual and a land
10 use resource specialist. So my job was to conduct
11 studies that were oriented around land use
12 investigations and visual resource investigations,
13 primarily with respect to energy-related projects.
14 I think as some members of the committee know,
15 in 1999, a group of us from Dames & Moore formed a
16 company called the Environmental Planning Group. As a
17 part of Environmental Planning Group, I'm a partner.
18 I'm a principal. I serve as a project manager. And at
19 the same time on certain studies, I will be engaged as
20 an overseer on the visual element or the land use
21 recreational element of a project.
22 With respect to specific project-related
23 experience, I guess I feel as though I've been very
24 fortunate in having had the opportunity to work on a lot
25 of different projects. On the slide that you see here,

1 I have managed and/or coordinated over 20 energy-related
2 studies. These have included EISs, EAs, conditional use
3 permits, environmental reports, PEAs, CECs, and also
4 evaluations on projects regarding NEPA adequacy,
5 determinations of NEPA adequacy.
6 And, again, the focus of this work by and large
7 has been transmission lines, but also I have done work
8 specifically with generation facilities, substations,
9 and so forth.
10 In addition to that, and as a part of my
11 experience growing professionally, while not necessarily
12 coordinating studies, of which I often will interact and
13 interface with resource specialists as noted here, I
14 have also served a visual resource, slash, land use
15 specialist on an additional 15 energy-related projects
16 as shown.
17 I've also had the opportunity to work
18 specifically on some very large projects. As noted
19 here, I've been involved in seven 500 kV transmission
20 lines. I have worked throughout the West. I have
21 extensive experience in Arizona, California, and a
22 majority of the western United States, primarily Rocky
23 Mountain area south, with my most recent experience
24 being really focused in the Desert Southwest.
25 For some Members of the Committee, I think they

1 know me through past work that I have done. I have
2 testified before this Committee on four occasions. One
3 was on the Navajo transmission project, which is a
4 500 kV transmission line that runs from the Four Corners
5 area over to Mead marketplace area. Another project
6 which involved the Gila River Power Plant in which I
7 served as, I guess, a specialist in that case looking at
8 restoration and kind of visually related aspects of the
9 project.
10 I also served as a coordinator for the Toltec
11 project working on the transmission aspect of that in
12 conjunction with Mr. Siegel. And that had both a 345
13 and a 500 kV component to it.
14 And then, finally, I also served as a
15 coordinator, slash, manager with respect to the San Tan
16 Power Plant.
17 So I have had the opportunity to be in front of
18 the Committee, have always enjoyed it, so I have some
19 experience in that regard.
20 Finally, I also have had the pleasure of having
21 the opportunity to work with just about all of the
22 federal land management agencies throughout the Western
23 United States. I would say that the predominance of the
24 work that I've done, however, has been with the BLM. I
25 have also worked with the Forest Service, National Park

1 Service, Bureau of Indian Affairs, Bureau of
2 Reclamation, and so on.
3 Through that experience, I have gained a lot of
4 familiarity with the visual resource management systems
5 that are applied on those federal lands. And, in
6 particular, here we're talking about, I think, the
7 Bureau of Land Management but also the Forest Service.
8 Finally, I have had the opportunity over time
9 to also work in some fairly high visibility or highly
10 sensitive areas regarding resources, things like the
11 Kofa. I have done work up in Alaska in association with
12 Kenai National Wildlife Refuge. Years ago we also did
13 work up in Canada and have spent time looking at
14 facilities in Banff National Park. Worked on a lot of
15 projects that have involved wilderness areas or areas of
16 critical environmental concern and so on.
17 Q. What has been your role in this project?
18 A. My role in this project -- actually, I'll jump
19 down to kind of the second bullet -- was really to serve
20 as what we call a principal investigator for the visual
21 resource studies for the PEA and CEC application.
22 In that role, and this is really an important
23 thing I think to bring out, I work with a team of
24 individuals who are responsible for preparing the visual
25 studies.

1 One of the things about our company is that I
2 think we probably have -- well, I believe that we have
3 more depth in this field than probably any other firm
4 that I know of. The number of landscape architects that
5 have been doing this type of work is fairly impressive.
6 We have a large group of people that we work
7 with on any study like this such that while I may be
8 leading the study, I have a number of different people
9 who are involved in this project who we draw from. That
10 goes all the way from the development of what the
11 assessment methodology is going to be through the
12 preparation of the documentation for the results of the
13 studies.
14 Q. Would you provide an outline of your testimony
15 here today?
16 A. Yes. I would be glad to. The scope of my
17 testimony, I have four bullets lined out. And, in part,
18 understanding Chairman Woodall's request regarding how
19 we approached our studies on the Kofa as well as how
20 that might compare with other studies that have been
21 done, we've structured my presentation here today to try
22 and get at some of that as much as we can.
23 So what I will be doing here is going through,
24 number one, a discussion on the visual studies approach
25 and the reasoning for that approach, as well as what the

1 components are to those studies.
2 The second thing after that that we would like
3 to do, I think, is to then focus a little bit on the
4 Kofa National Wildlife Refuge, because there have been a
5 number of questions with regards to the Kofa.
6 And what I will be doing there is taking you
7 through the inventory that was conducted, then the
8 overview of the conditions. And I think, Chairman
9 Woodall, those are the example photographs that we've
10 prepared.
11 And then, finally, get down and talk a little
12 bit about what the impacts are and talk about those in
13 context with recreational users.
14 Then, finally, and this will probably be a
15 little bit more of an informative discussion, informal
16 discussion, we'll talk a little bit about the comparison
17 with our studies as opposed to other studies that have
18 been prepared, realizing that we may not fully
19 understand all of the nuances of how those studies were
20 conducted. And then, finally, we'll end up with a
21 summary with regards to the presentation.
22 Q. What visual study methodology did you use to
23 assess the impact of the proposal?
24 A. The approach that EPG used for this project was
25 based on the Bureau of Land Management's process. That

1 process is basically described in two separate
2 handbooks, one that sort of gets at inventory and the
3 other more so at analysis.
4 And the reason that we chose this type of an
5 approach, number one, was that within the overall
6 project study area, the BLM is by far the major land
7 controlling agency within the study area.
8 Secondly, the predominance of the landscape
9 settings crossed by the 500 kV line, especially in
10 Arizona, are natural. And the BLM system is a system
11 that responds very well to those kind of conditions.
12 The other thing is that in doing our visual
13 studies -- and you may have noticed in the application
14 that we talk about things like visual image types versus
15 scenic quality. The point of it is if we're in a
16 natural setting, we want to use one consistent approach
17 that treats the landscape as a whole. In other words,
18 you may cross jurisdictional boundaries from BLM to
19 state land to other landscapes; however, in many cases
20 that setting is not -- or that demarcation of
21 jurisdictional difference is not demarked on the land.
22 In other words, I can step on one side, for
23 instance, of the Kofa, and I'll look at the landscape
24 there. And I turn to the other side, and it's all part
25 of a continuum. And that's a very important point

1 within the context of why we chose one central approach
2 for this area.
3 Finally, we felt that it would be very
4 important to maintain consistency with past visual
5 resource study methods that have been used on projects
6 that have been approved by this Committee.
7 The approach that you see here, if I was to
8 give an example, tiers off of work that was done by the
9 Navajo transmission project that later may have been
10 refined somewhat for TS-5, so on and so forth.
11 So we tend to try to build off of approaches
12 that we know have worked in the past and ones that have
13 involved projects that, at the end of the day, have been
14 approved.
15 Q. What factors were included in your assessment?
16 A. In any visual resource assessment, you really
17 break it down into two components. The first is what we
18 call a visual inventory. And the visual study, in
19 almost any study that we've ever done, will always look
20 at two specific things.
21 One is the quality of the landscape that is
22 being crossed, or what is referred to by BLM as scenic
23 quality, and then the second is sensitive viewers. So
24 you're looking at the characteristics of the landscape,
25 the quality of that landscape, and you're addressing

1 that. And at the same time, you're going to be
2 evaluating who are the sensitive viewers that are in the
3 landscape. And in this case, when you get to the impact
4 assessment, understanding what the effects of the
5 proposed transmission line would be to both the viewers
6 and the landscape.
7 So with respect to the visual inventory, what I
8 would like to do now is talk a little bit about our
9 assessment of scenic quality.
10 CHMN. WOODALL: Let's go off the record for a
11 minute.
12 (A brief discussion was held off the record.)
13 CHMN. WOODALL: Back on the record.
14 Proceed, Mr. Palmer.
15 THE WITNESS: What I would like to do now is
16 talk about the visual inventory. And please bear with
17 me. I'm going to try to move through this pretty
18 quickly, but at the same time understand that some of
19 these concepts may be a little foreign.
20 So the visual inventory, as I mentioned,
21 consists of both looking at scenic quality and looking
22 at sensitive viewers as defined by the BLM. Scenic
23 quality is a measure of the visual appeal of an area of
24 land.
25 And, basically, the premise of this is that all

1 public lands have some form of scenic value. But when
2 evaluating scenic quality, it's acknowledged that the
3 greater variety that you have in a landscape, the more
4 scenic it is.
5 So when doing a scenic quality assessment --
6 and for this project what we did is we looked at the
7 seven factors that you see listed on this slide -- you
8 evaluate -- again, we're looking at variety, so you look
9 at the variety of the land form. You look at the
10 variety of the vegetation.
11 Water is usually, in this country, certainly a
12 presence/absence kind of a thing.
13 Color refers to either color in the landscape
14 or what could be deemed as some color that may occur in
15 more of a kind of ephemeral sort of a way.
16 Adjacent scenery, what is it that you're seeing
17 within an area that's kind of around you. Scarcity, and
18 then, finally, cultural modifications.
19 And so each one of these seven factors were
20 looked at with respect to the quality of the landscape
21 in the area, and these are the standard seven factors
22 that you would use for the BLM.
23 Back to the ranking of scenic quality, which is
24 characterized as either Class A, Class B, or Class C
25 scenery. And the easiest way to define that is Class A

1 are going to be those landscapes where you have variety,
2 a greater variety in those elements that we previously
3 described. And under most circumstances, those are
4 going to be areas that have not been modified.
5 So you can bring up the map.
6 Pardon us for a minute.
7 Can you go to the next slide?
8 Again, focusing on the Kofa, given that it's
9 been an area of interest, what you see here is the
10 boundary of the refuge. This is the proposed
11 transmission line in this area, and we'll walk you
12 through.
13 This is summarized on this slide as -- it's
14 widely acknowledged that there are some areas out here
15 that are -- I would call them Class A landscapes in
16 terms of the variety that they have.
17 However, in the context of the corridor that
18 we're talking about that was evaluated for the visual
19 resource studies -- and this is kind of a standard area
20 of consideration -- what we found is that basically most
21 of the landscape in that area was Class C. And those
22 are going to be these areas which are the lower line
23 plains in this area that are shown in tan. And then the
24 foothills of what are either the New Water Mountains or
25 the Kofa Mountains that sit down in here, these would be

1 considered to be Class B.

2 For those of you who are familiar with the

3 area, if you move over into the Dome Rock Mountains

4 within our corridor, you would begin to pick up that

5 greater variety in terms of what we would call Class A

6 landscape.

7 So the other thing that's really important here

8 to note is that while we have Class A or Class B and

9 Class C landscapes as recognized by the BLM system, or

10 any system we've worked with -- and I think you'll see

11 this -- while you have natural landscapes in the area,

12 in this specific area there has been -- I would call it

13 a fairly substantial modification based on the presence

14 of the 500 kV line in conjunction with the pipeline and

15 the ancillary facilities that accompany it. So we've

16 got Class B and Class C landscape in what is a modified

17 setting.

18 Moving forward to visual sensitivity -- and you

19 can take this one off. You can go to the next one.

20 Visual sensitivity, as mentioned on this slide,

21 reflects the degree of concern for scenic quality and

22 the change in views from sensitive viewer locations

23 within the project area. This is by definition through

24 the BLM. When you look at the factors to interpret the

25 level of sensitivity, the things that you will be

1 looking at are the types of users, the amount of use,
2 public interest, adjacent land use and special areas.
3 At the same time, once you have identified what
4 the sensitivity of the viewer is, then, in order to
5 understand the effects to those viewers, you have to
6 understand the relationship of the project to the viewer
7 in terms of distance and things like viewing conditions.
8 CHMN. WOODALL: Excuse me, Mr. Palmer. I
9 understand all of the factors other than public
10 interest. Could you explain what is meant by public
11 interest?
12 THE WITNESS: Yeah. Public interest would be
13 if you have a landscape that is of particular interest
14 to the public above and beyond, that would be one thing
15 that you might factor in. You could have some
16 landscapes, for instance, that while they may not have a
17 lot of use or they may not be a special area, they may
18 have a specific interest to the local community.
19 We've worked on other projects, both planning
20 and -- well, what I would call kind of traditional
21 planning and master planning where you can get local
22 communities who may have an area that they have a
23 particular interest in that unbeknownst -- to the casual
24 observer is not there. So we try to factor those kinds
25 of things into our interpretation of sensitivity.

1 CHMN. WOODALL: Thank you.
2 THE WITNESS: So on the next slide.
3 Through our investigations and based on the
4 criteria that I just presented, we determined viewer
5 sensitivity on the Kofa National Wildlife Refuge to be
6 high. We also determined that the sensitivity to
7 viewers from the wilderness areas associated with this
8 area would also be high.
9 One of the things, however, that is kind of
10 interesting about this area if you go into it is that
11 the use in this area, at least in a formally designated
12 perspective, is somewhat limited. And I'll explain
13 that.
14 This is a handout of a little flyer that you
15 get when you enter the Kofa. This is the pipeline road
16 that you see up through here. And you can see that a
17 vast majority of the Kofa National Wildlife Refuge is
18 located to the south.
19 From what we can tell, the majority of the use
20 of this area is along the pipeline road. And the two
21 formal areas of use that we were able to determine, one
22 is right here in a place called the Kofa Cabin, and
23 we'll be showing you pictures of those. Another is on
24 the western end of the project area, and this is called
25 the Crystal Hill area where they have some dispersed

1 camping.
2 Aside from that -- and you do have wilderness
3 to the north. What you see is that from this area
4 you've got a number of these roads which are in various
5 different conditions that go down to primarily water
6 features or tanks. And it is at those tanks that one
7 would assume you would have the majority of wildlife.
8 So the sensitive viewer locations, as you see
9 here, again, were primarily from what we would call --
10 were primarily associated with pipeline road or from
11 dispersed recreation areas as we did not find evidence
12 of a lot of formal areas along the refuge. Although I
13 would come back and say at both entries to the Kofa you
14 do have some interpretation facilities and so on.
15 Q. And this Kofa handout, that can be found as
16 Slide 14 of Tab 2 to Applicant's A-8.
17 A. Can you go to the next one on that.
18 Okay. We have now identified who the sensitive
19 viewers are. Remember how we talked a little bit about
20 how they perceived things in the landscape? That's the
21 second piece to the puzzle here with sensitivity.
22 And, basically, what you're trying to do is to
23 determine with the introduction of the transmission line
24 into this setting, how is it going to affect the
25 viewers? And probably the most commanding set of

1 criteria that you use are these right here, and that
2 deals with distance zones. And distance zones are
3 typically broken into three different areas, that being
4 zero to a half a mile, which is considered the
5 foreground. And you'll notice when you've done a lot of
6 these studies that it is within that area that you
7 really begin to discern the detail of things.
8 Within the half mile to three miles, we call
9 that out as being middle-ground area. And by
10 definition, this is where objects are typically viewed
11 in relationship to patterns. In other words, you're not
12 picking up the detail as you get into the middle ground.
13 You're seeing things more as patterns.
14 And then, finally, background views, which is
15 beyond three miles, are often viewed as horizon lines.
16 The BLM uses this type of an approach to capture
17 different distance zones.
18 Through the work that we've done over the
19 years, there have been investigations regarding the
20 perception of different distances and different
21 thresholds. A group by the name of Jones & Jones did
22 some of those studies. And for 500 kV lines, we try to
23 use that information to come up with, as best as we can,
24 a scientific measure for where things go between these
25 different distance zones.

1 The other thing, and you'll see it in the
2 slides that we're going to be going through, is at the
3 same time that we're trying to keep count of distances,
4 we're also looking at what viewing conditions are like.
5 And in this area you're going to find the full gamut.
6 There are going to be those where you're going to have
7 views that are open. You'll have other views that may
8 be partially screened by different elements. And one of
9 the more important, perhaps, aspects is where from a
10 viewer's perspective their view to the transmission line
11 may be either skylined or backdropped.
12 So those were the considerations that we took
13 into the inventory. We looked at the scenic quality,
14 and we looked at the viewers and their sensitivity.
15 MEMBER ARWOOD: Madam Chairman, I have a
16 question.
17 CHMN. WOODALL: Mr. Arwood.
18 MEMBER ARWOOD: Mr. Palmer, realizing that the
19 majority of the land is BLM controlled, which is the
20 reason for using the BLM visual study approach, I was
21 curious. Is there a visual study approach for refuge
22 land?
23 THE WITNESS: No. Not to our knowledge, no.
24 MEMBER ARWOOD: No.
25 THE WITNESS: Okay. What I would like to do

1 now is, if you can bear with me, we've got a number of
2 slides that prior to discussing the results of our
3 impact assessment, we thought it would be very helpful
4 for the Committee to just take a look at the landscape
5 as we've seen it. And we can feel free to talk about
6 anything and everything as we kind of take our little
7 journey.
8 Q. (BY MR. ACKEN) Before we go through that, just
9 a couple of foundation questions.
10 The photographs, have hard copies of these been
11 provided?
12 A. Yes, they have.
13 Q. And where can they be found?
14 A. They can be found in -- there's a separate kind
15 of fly sheet. What I would recommend you do that might
16 be helpful is if you pull out this view location map,
17 which is number 17 from your binder, and then turn
18 behind the black divider sheet. And that way, what
19 you'll be able to do is you'll be able to follow along
20 in addition to having it on the screen with respect to
21 where we're at on the refuge.
22 CHMN. WOODALL: Excuse me, Mr. Acken.
23 Mr. Palmer, how did you come up with these
24 particular points? Are you getting to that?
25 THE WITNESS. Yeah. I will get to that.

1 CHMN. WOODALL: The reason I ask is we had a
2 member of the public -- I believe his name was
3 Mr. Miesner -- and he had recommended a viewpoint about
4 every mile randomly selected. Is that what you did?
5 THE WITNESS: Well, we certainly have stuff
6 that may be within the context of every mile, but I
7 think what I attempted to do, or what we attempted to
8 do, was to look at a series of different photographs
9 that showed different kinds of conditions.
10 And, you know, if asked, I think we could
11 probably talk about: Is this the same kind of condition
12 a mile up the road? Plus, you'll see in a lot of these
13 photographs that the distances are such that you're able
14 to capture a pretty good understanding of a bigger area
15 than where you're actually standing.
16 CHMN. WOODALL: Thank you, Mr. Acken.
17 Q. (BY MR. ACKEN) Who took the photographs?
18 A. The photographs were taken -- I think the
19 predominance, if not all of these, by myself and
20 Mr. Mark Schwartz who was the gentleman that was leading
21 the technical side of these studies.
22 Q. And when were the photographs taken?
23 A. The photographs were taken, I think, probably
24 at the end of June and up through the last couple
25 months.

1 Q. Thank you. Please proceed.
2 A. Okay. What we're going to do is we will be
3 starting on I-10. Go ahead to the -- right up in this
4 area. This is where Interstate 10 and the Vicksburg
5 Road lead down into the refuge, and then we're going to
6 be taking the pipeline corridor over to Highway 95.
7 Each one of these viewpoints has been labeled with a
8 location, which is, I would say, fairly accurate in
9 terms of its location based on using GPS to get
10 ourselves centered to where we were at.
11 But we felt that this was important in that in
12 terms of a viewer experience, as you're heading off of
13 the interstate, if you're to come into the Kofa on the
14 eastern side along Vicksburg Road, this isn't that
15 interchange. It's at this point in time that you're
16 approximately eight miles away from the project, plus or
17 minus. So you're not seeing it at this point in time.
18 The project setting, we're in an area that's
19 called the Ranegras Plain. These would be the New Water
20 Mountains here. In the background what you see are the
21 Little Horn Mountains.
22 Next.
23 Number two, we took this in part to show the
24 condition of the road as you're coming in on this side
25 of the refuge. Interestingly enough, here's the signage

1 that is talking about the upcoming hearings.
2 Along this dirt road you have a small
3 distribution line that leads you pretty much up to the
4 entry into the Kofa here.
5 Next.
6 This is the entry of the Kofa from the east
7 along Vicksburg Road. It's at this point in time that
8 that distribution line actually moves off to the east.
9 At this location -- next -- you have got entry signage.
10 Next. You have a small ramada. Next. And then you
11 have information regarding the rules that regulate the
12 Kofa.
13 At this point in time, you're probably
14 anywhere -- depending upon the actual angle to the line,
15 you're somewhere between two-and-a-half to three miles
16 away from the transmission line.
17 CHMN. WOODALL: Excuse me, Mr. Palmer. Are
18 there two Viewpoint 3's, entry looking south?
19 THE WITNESS: Chairman Woodall, at this one,
20 yes. This would be -- can you go back one?
21 This little ramada is just to the west side of
22 the road at the entry. So if I were to walk over onto
23 the road -- next -- this would be the view that I have.
24 So this series of Viewpoint 3 slides basically kind of
25 characterizes the entry to the Kofa.

1 CHMN. WOODALL: Maybe I'm wrong, but my
2 Viewpoint 3 looking south has some pieces of what look
3 like corrugated metal.
4 THE WITNESS: Okay. Go back another one.
5 CHMN. WOODALL: So there is two. Okay. Thank
6 you.
7 THE WITNESS: What I have done, Chairman, is I
8 have stepped -- we have stopped up in this area. So now
9 it's kind of this -- this is the bigger area of the
10 entry to the Kofa.
11 CHMN. WOODALL: Thank you very much.
12 THE WITNESS: Okay. And maybe just to digress
13 for a minute, if you were to come back -- okay. We're
14 saying we're a sensitive viewer here. But if you were
15 to come back and digress and look at the scenic quality
16 of this area, what you're seeing is this is what we
17 would characterize as Class C landscape. Not a lot of
18 variety in this area. It's a big plain. It's dominated
19 by creosote. You've got some variation in vegetation,
20 but not very many. Certainly, the land form, there's
21 little variety, if any.
22 Next.
23 We took this picture to demonstrate kind of
24 this one-half mile threshold that we talked about
25 regarding the foreground. At this point in time we're

1 approximately one-half mile south -- or north of the
2 power line. Right here. We're looking to the south.
3 And this feature that you see here, I believe,
4 is called Coyote Peak. You see the transmission lines
5 structure here. One of the interesting things about the
6 choice in use of the lattice structure that you see in
7 this environment is that -- and we'll talk a little bit
8 later about this regarding contrast. While difficult to
9 see, there's actually a tower right here.
10 Next.
11 You can see how in this kind of a landscape --
12 and that's why backdropping is important. When not
13 skylined, lattice towers in this environment will tend
14 to disappear.
15 Next.
16 So this is a crossing. This is the Vicksburg
17 Road heading south. And what we're going to do is come
18 down here, and then we're going to move along the
19 pipeline corridor.
20 Next.
21 This is Viewpoint 7. We're looking due west
22 now on the pipeline corridor. And what you see, kind of
23 just to get you positioned, these are the foothills of
24 the New Water Mountains and the extreme northern kind of
25 foothills of the Kofa Mountains. This area that you see

1 in here on either side, which is non-vegetated, we have
2 assumed is probably more than likely the disturbance
3 that's been associated with the pipeline itself, which
4 for a vast majority of the transmission line corridor
5 parallels the pipeline road.
6 Q. (BY MR. ACKEN) Mr. Palmer, just to clarify the
7 record, this is -- the bottom of that slide says
8 Viewpoint 5; is that correct?
9 A. Yes.
10 Q. Thank you.
11 A. And we're looking west.
12 What I'm going to do next -- and we won't spend
13 a lot of time with this, but just to give you an idea of
14 the relationship of the road to the tower sites.
15 If I were to turn to my right -- next -- this
16 is a tower that directly flanks me to the right, typical
17 of an access road that would be used for that project
18 and also used for the proposed project.
19 If we go to the next structure down, one of the
20 things that's been interesting in the time that we've
21 spent out there is that you notice that in a lot of
22 cases the desert has reclaimed quite nicely in
23 conjunction, and you'll see this with the tower
24 locations.
25 This was the tower that you were seeing down

1 the road.
2 Next.
3 And this is a picture of looking out from
4 underneath that structure to the west. These slides
5 were meant to demonstrate, you know, at least in this
6 setting, typically what you would find in association
7 with those structures.
8 Next.
9 We had talked a little bit earlier about the
10 use areas in association with the pipeline road. Well,
11 right now at the junction of this trail here, which
12 leads down into a couple of areas, one of them is called
13 Red Rock Dam, Craven Well, and the Cholla Tank. And so
14 for us this was an important place to be able to
15 characterize what you're looking at.
16 And this is a view to the west. Again, you're
17 seeing kind of the foothills of the Kofa Mountains in
18 the background.
19 Next.
20 This view is taken again to the west. And
21 you're looking at kind of the edge of the New Waters
22 foothills there. This illustrates along the pipeline
23 road, and I think I would be fairly safe in saying that
24 the pipeline company has demarcated the location of the
25 pipeline on about a mile basis. So one of the things

1 that you see out there in conjunction with the pipeline
2 are signage-related things to that, which, again, is
3 something which you look at in terms of modification to
4 the setting.
5 The other thing, and we'll zoom in on it, is
6 that there are several locations along the pipeline
7 where you have either valves or engine houses. So this
8 is meant to demonstrate what that can look like in
9 conjunction with other modifications to the setting.
10 Next.
11 This is in an area, and I had mentioned a
12 little bit earlier, where you do have overnight use.
13 We're here right now at location number 8. The Kofa
14 Cabin, which sits right here, is approximately one mile
15 from the road.
16 Next.
17 This is a view back to the east from that
18 turnoff.
19 Next.
20 This is the Kofa Cabin. It's a small
21 structure. They have cots in there. We'll talk later
22 when we've been out there recently. We can give you an
23 idea of at least when we denoted the number of users
24 that were there. We made note of that.
25 But if you -- well, let's just stop for a

1 second. If you were to look at this landscape setting
2 that we're in here, this would be typical of a Class C
3 landscape.
4 Next.
5 And then this is actually the view to the power
6 line from this location. And I think what is important
7 to note here is remember how we talked about you may
8 have a sensitive viewer, but the effect to that viewer
9 is based on distance and viewing conditions.
10 At this location, the transmission line is out
11 in this area. It's difficult to see the structure right
12 in here. That's one. Then you have a structure in this
13 area. And then, finally, there's a structure right out
14 in here. And this would be at a distance of, I would
15 say, between one -- probably right around a mile, plus
16 or minus, that you're looking at.
17 Next.
18 Continuing west from the Kofa Cabin, this is
19 Area 10. Again, you can begin to see that one of the
20 things that's real interesting that you'll notice is
21 when you get away from off access with the towers, what
22 you don't see is a lot of disturbance in terms of
23 vegetation removal, at least in these particular views.
24 Next.
25 The other thing that we noticed is that in

1 certain areas it seems as though -- and we saw this the
2 last time we were out there where they're painting
3 different facilities, these valves and whatnot, that
4 there is some restoration work that's ongoing.
5 Next.
6 This is near an angle point. Again, you have
7 some valves and whatnot associated with the preparation
8 of the pipeline.
9 Next.
10 CHMN. WOODALL: Excuse me, Mr. Palmer. The
11 proposed line would be -- looking at this photograph --
12 THE WITNESS: It would be in here.
13 CHMN. WOODALL: To the left of the existing
14 structures?
15 THE WITNESS: Yes. Absolutely.
16 Q. (BY MR. ACKEN) And that was Viewpoint 11?
17 A. Yes.
18 CHMN. WOODALL: Thank you.
19 THE WITNESS: Yes. This area in here, which is
20 Viewpoint 12, is kind of interesting. This is at a
21 point where we're starting to break out of what we would
22 call that lower variety landscape into a landscape
23 that's gaining some greater variety. Obviously, with
24 changes in terrain, you begin to get a little bit better
25 diversity in vegetation and whatnot. So this would be

1 typical of a Class B landscape.
2 This is looking down into an area called New
3 Waters Pass. But you can see, here is the road; again,
4 the pipeline area that's been disturbed; and then the
5 transmission line.
6 Next.
7 One of the things that we wanted to do at least
8 in terms of looking at what can be the effects to
9 dispersed recreation at this location, which is location
10 13, what we did is we left the road and we walked to the
11 north up into this area to get into what would be the
12 edge of the wilderness area.
13 What you're going to see here is a pan going
14 from the southeast to the southwest that basically looks
15 here and kind of looks to the south.
16 What you can see here is you have a structure
17 here. It's very difficult to pick out, and then you
18 have one right here. You can see where that's cresting
19 a little bit that hill. Then here you can see the
20 conductors in this case.
21 Next.
22 And this was the structure where we left the
23 road, went up, parked, and then took a structure
24 immediately to the south of us in here. And, again, I'm
25 going to guess this to be somewhere 500, 600 to 1,000

1 feet.

2 Then, looking further to the right, this is the

3 next facility. You can see the disturbance associated

4 with the pipeline. This area back in here, which is the

5 real backbone of the Kofa, this would be an area where

6 -- and we certainly have photographs of it, where you

7 have what we would call A-Class scenery. Very

8 prestigious for the region.

9 Next.

10 This is continuing forward here to another area

11 where you have what they call an engine house and a view

12 back up to the line.

13 Next.

14 This is a view which was taken in order to show

15 both typical views to the west, which you're seeing

16 here, and then typical views back to the southeast.

17 Parked the car, stepped out, and took the picture to the

18 transmission line running to the west. Now, in this

19 area the proposed line would be to the south.

20 Next.

21 Same thing here. So I just pivoted at that

22 viewpoint.

23 Next.

24 And taking this picture, the intention was to

25 really begin to show -- because you're almost in this

1 case looking towards the western edge of the Kofa, and
2 it gives you a pretty good understanding of the setting
3 in this area. The transmission line is running actually
4 right off to my right.
5 And if you zoom in here, what you can see is
6 here are the structures. And you can also get a sense
7 of, in this case, being able to get a little bit of an
8 idea of what the access to those structures looks like
9 and so on. This is going to be transitioning kind of
10 from that B to what is a C landscape.
11 The other thing I would point out is in the
12 distance, and you're going to -- we'll be traveling here
13 in a minute. This is a small residence that is out in
14 this area. You also have a telecommunications facility
15 that you see from this view.
16 Next.
17 This is a different view coming down the hill
18 in that area -- next -- which shows the absorption. And
19 then this was meant to illustrate, once you begin to get
20 down lower in elevation, how when you have structures
21 skylined you begin to pick them up as opposed to having
22 it backdropped.
23 This area, quite frankly, has been
24 substantially disturbed as you can see from the presence
25 of the pipeline in this area.

1 Next.
2 And this is a view looking back from where we
3 came. To give you an idea in terms of distances, that
4 tower that we're looking at up on that horizon is
5 probably between 3,000 to 3,500 foot away.
6 Next.
7 This is just proceeding with some typical views
8 going down the road. This feature that you see here
9 that's beginning to come up is an area that's called the
10 Livingston Hills.
11 Next.
12 And, again, just views that show transitioning
13 down.
14 We also had the opportunity in this next slide
15 that we put in, we were out there one day to try to get
16 a sense of how seasonally things might change under
17 different atmospheric conditions. And this is a case
18 where you're looking at the Kofa range in the
19 background, and what you see here is a structure. This
20 structure is -- we had it at about 700 foot, 700 to 750
21 foot off the road. And if I turn to the right, this is
22 what I see.
23 You can see that in a lot of ways, under these
24 kind of conditions with cloudiness, two things happen.
25 One is you really lose where things are backdropped, any

1 kind of detail, but you probably pick up a little bit
2 more in terms of the silhouette on the horizon.
3 Next.
4 This is at Viewpoint 22 right down here. And
5 this is an area that, again, has a two-track or a small
6 road that leads off to the south. It goes to a place
7 called Scotts Well, which is a tank, which is about a
8 mile and a half away. And then it goes further down to
9 a place called Jasper Springs. It also serves as an
10 entry into the residence that I mentioned. This next
11 slide will show that.
12 It's a private inholding in this area. This is
13 the residence. We did not go down all the way to the
14 house because of the no trespassing signs. But if I
15 turned around, this would be a view that you would have
16 not quite at the residence, but to the power line.
17 And I think you can see here that you have a
18 structure here, a structure here. Let me see. Yeah.
19 And then there's one more structure up in this area.
20 Next.
21 Now we're just proceeding down the pipeline
22 road. This is the Livingston Hills here. This is a
23 pan. You can see the transmission line moving across
24 here. We have a structure here. We have a structure
25 here.

1 Next.
2 And then continuing across that structure, and,
3 then, I believe, one more. That's right over in here.
4 Next.
5 This is in the area of Crystal Hill, and what
6 you're looking at is this area right in here. And in
7 this area, they have got some dispersed -- what I call
8 kind of informal camp sites. And then there's a trail
9 that leads from this area to the north.
10 Q. (BY MR. ACKEN) Is this shown as Viewpoint 25
11 and 26?
12 A. Yes.
13 Q. Thank you.
14 A. 25 is going to be a view taken from a point
15 along that trail. I took this to kind of show the
16 conditions of what that hiking trail was like.
17 If you go up to where actually Viewpoint 26 is
18 like, this is a real nice panorama that shows once you
19 get above the facilities what you might expect and what
20 we call a superior position looking down. And this is
21 actually stretching to a point where you're off the Kofa
22 with the Dome Rock Mountains here.
23 This little drainage is actually called French
24 Creek, but you can see you've got the structures here,
25 here, here. You have a structure here.

1 Next.
2 CHMN. WOODALL: This is still Viewpoint 25;
3 correct, Mr. Palmer?
4 THE WITNESS: Correct. Yes, it is.
5 And then, again, where, you know, they're seen,
6 obviously, more so when you're above that immediate
7 horizon line, but once you get back in front of the
8 Livingston Hills -- next -- you begin to lose them.
9 And in this area, I'm just going to point this
10 out. It's very hard to see actually. There's a
11 structure right in here, and there's a structure right
12 kind of down in the saddle area.
13 CHMN. WOODALL: Excuse me, Mr. Palmer. I would
14 propose that you conclude your remarks with respect to
15 Viewpoint 5, and then that we take a break for the court
16 reporter.
17 THE WITNESS: Okay. Very good.
18 What I would like to point out here, because
19 the next slide that you see after the break will be a
20 view that's typical of this area where the camp sites
21 are at. You can see them kind of here, how you have a
22 web of roads in this area.
23 But then, anyway, as you continue on across the
24 base of the Livingston Hills, this is probably the
25 easiest one to pick out. You've got one right there,

1 and then, finally, you have one here, and then also you
2 have one here.
3 Next. Next.
4 And then that is heading farther to the east.
5 The pipeline road continues this direction. So we can
6 take a break and resume after this one.
7 CHMN. WOODALL: Everyone look at your watch.
8 We'll take a break for 10 minutes. Thank you.
9 (A recess was taken from 11:30 a.m. to
10 11:50 a.m.)
11 CHMN. WOODALL: We'll go back on the record at
12 this time.
13 I've just had an off the record discussion with
14 counsel for APS and SRP, Ms. Raffaelli and Ms. Ramaley,
15 regarding the administrative subpoena. And I have
16 directed them to work with Mr. Layton to see if you can
17 modify the verbiage on the form of administrative
18 subpoena to add the areas of inquiry that you previously
19 mentioned, as well as modify the section that I talked
20 about with respect to the independence of the witnesses.
21 And I'm hopeful that counsel can come up with
22 acceptable language, which you will then submit an
23 original for me, Mr. Layton, which I will sign. And
24 then I'm expecting that you will actually have the
25 subpoenas issued. Is that something that you can do?

MR. LAYTON: Yes, Chairman Woodall.

CHMN. WOODALL: So when will you get that administrative subpoena to me? Probably by the end of this week? How about next Monday? How does that work?

MR. LAYTON: Yeah. That's fine. We should be able to do that.

CHMN. WOODALL: Thank you very much.

All right. Mr. Acken.

MR. ACKEN: Thank you, Chairman Woodall.

When we left off before the break, Mr. Palmer was finishing his discussion of the photographs of Viewpoint 25.

So with that, I'll turn it back over to Mr. Palmer to describe the rest of these photographs.

THE WITNESS: Thank you. Just to hold on this one for a moment, as I had mentioned before, what we had done was to climb the hillside to give an overview of kind of this valley area that you're looking at.

Again, just to take a step back, we're talking about, in general, Class C landscape with some Class B landscape in conjunction. And the next views that you're going to see are from down in this area where I mentioned you have this relatively informal camping area.

Next.

1 This is a view directly south towards the
2 Livingston Hills. This kind of shows what those padded
3 areas look like. And if you look immediately to the
4 south, you have a structure here. You can see the
5 conductors, actually, but if you move, then, to looking
6 more towards the west or to the right, once you drop
7 away from that backdrop, then you're able to see the
8 structures in this area, although they're relatively
9 benign.
10 I think we figured that you're looking at
11 these structures in a range of anywhere from a half a
12 mile out to a mile in this regard where they're visible.
13 This would be a place where remember we talked about
14 viewing conditions. You have a variety of things that
15 are happening in here that, as opposed to the pipeline,
16 which provide screening and partial screening to the
17 facilities.
18 Next.
19 Now we're traveling out almost leaving the
20 Kofa. This is on the pipeline road looking back towards
21 the area. The campground area would have been over in
22 here. A structure here, a structure there, and then you
23 can see them proceeding to the east.
24 Next.
25 MEMBER ARWOOD: Madam Chairman, I have a

1 question.

2 CHMN. WOODALL: Mr. Arwood.

3 MEMBER ARWOOD: On those picture where we see

4 the pipeline road, do the existing structures, are they

5 all on one side of the road?

6 THE WITNESS: No. They change from one side to

7 the other. Offhand, I couldn't tell you exactly how

8 many crossings. They're not many. They predominantly

9 parallel one side, then the other. Yeah. They are most

10 often in one of those situations.

11 MEMBER ARWOOD: And predominantly the new

12 structures would be --

13 THE WITNESS: To the south.

14 MEMBER ARWOOD: -- closer to the road

15 predominantly?

16 THE WITNESS: To the south. In the area in

17 here where you have the transmission line to the north,

18 I would say they're going to be closer. And once you

19 break into this area right, actually, in here, I think

20 probably -- in fact, if we went back to Viewpoint 11,

21 yeah. No. We don't need to go back, but from this

22 point on, I'm trying to think. Yeah. I believe the

23 rest of the way there to the south.

24 This is the eastern entrance to the Kofa. This

25 is a view looking back towards the Livingston Hills.

1 And, again, the structures that you see up against the
2 backdrop mountainside are very difficult to pick out.
3 However, probably the closest one that you have is right
4 here. There's another one over in here. You also have
5 one in here where it begins to daylight away from the
6 mountain.
7 If I turn immediately to the south, this is
8 what you see in that area. That structure, I believe,
9 is probably something on the order of 7- to 800 feet
10 away.
11 Next.
12 And then, again, you're just panning across.
13 You're back out on the plain now.
14 One more.
15 This is at the road. We're now off the Kofa.
16 This is the one area where you cross under it in this
17 area. This would be heading towards 95. You have got
18 kind of the New Water Mountains, and then beginning to
19 touch a little bit on the Plosmosa Mountains.
20 Next.
21 And then this is the entrance off of the
22 U.S. 95. This would be looking to the west towards --
23 if you were to follow this all the way over Copper
24 Bottom Pass.
25 Next.

1 You have a 115 kV line crossing in this area
2 that you pass under.
3 Next.
4 And then as you pan in towards the Kofa -- next
5 -- this is the entry road that you just came out.
6 That concludes the photographs that we have
7 taken. What I would like to do now is given that I
8 think we all have a pretty good sense of the conditions
9 out there, is to talk a little bit about the assessment
10 that we used in order to determine impacts.
11 Can you move on? Okay.
12 I'm going to get caught up in just a second.
13 Pardon me.
14 Okay. Visual impact. And this is standard,
15 again, for us. Basically, we define visual impacts
16 based on what we call visual contrast, and that being
17 the effect of the introduction of the project onto
18 either the scenic quality or the visual -- or the
19 sensitive viewers.
20 Visual contrast -- and, again, this is through
21 the BLM -- is a measure of the degree of perceived
22 change that would occur in the landscape, and in this
23 case due to the construction and operation of the
24 proposed transmission line.
25 In evaluating contrast, the BLM breaks it into

1 three separate considerations. One has to deal with
2 land form, one deals with vegetation, and the other
3 deals with structure.
4 Next on the right. Now you can take that one
5 off for the time being.
6 When you take this transmission project and you
7 break it into the elements that would affect contrast
8 based on the protocol in the BLM land form, contrast
9 would be associated with the construction of roads and
10 tower pad sites. That's how you modify land forms if
11 you're building a transmission line.
12 Vegetation contrast would involve the removal
13 of vegetation, what they call vegetative manipulation.
14 And that, again, would be associated with road
15 construction, tower pad sites, and in very limited areas
16 from what we understand, if at all, conductor clearance.
17 I think you have seen the desert out there. We don't
18 have a lot of high-growing vegetation.
19 Then, finally, structure contrast. And the
20 intention here is to get an understanding of how the
21 proposed structure will contrast with other built forms
22 in the landscape. So what we're looking at here is
23 either the existing transmission line or the gas
24 pipeline.
25 So we're now introducing the project into the

1 setting to determine what the contrast of that is, and
2 that's how we determine impact.
3 Next.
4 CHMN. WOODALL: Mr. Palmer, back on the impacts
5 or the contrasts, are those considered to have equal
6 weight always, or would it vary depending upon the
7 landscape?
8 THE WITNESS: I would say that it can vary
9 somewhat on the landscape. You're going to be a little
10 bit more sensitive to areas where the vegetation
11 manipulation may be more heavily. But by and large, we
12 try to look at all of them.
13 I think that what we find is that -- and we'll
14 talk about this -- is the structure contrast is the area
15 where the -- depending upon the viewer orientation, you
16 may have a variation in terms of, in this case, a higher
17 or lower level of contrast. And I'll explain that.
18 CHMN. WOODALL: Are you talking about in terms
19 of weighting them like -- depending on, in a particular
20 case, structure contrast might be a much more important
21 factor than in another?
22 THE WITNESS: It could be more important, yes,
23 absolutely, in terms of what the impact could be. Yes.
24 CHMN. WOODALL: And would you -- first of all,
25 do you do some sort of calculation or computation of

1 weighting these factors or assign a number to them?
2 THE WITNESS: No. We didn't do like a real
3 sophisticated numbering type of a system with the
4 calculations. We have tried that in the past, and I
5 think at the end of the day -- and you'll see the
6 process that we go through. It's based on experience
7 and, I think, looking at it and then making assignments
8 based on definitions that I will share with you.
9 Next.
10 Next on that slide.
11 One of the things that we have to take into
12 consideration when we're looking at the evaluation of
13 impacts that's really important has to deal with
14 mitigation. We've been in front of the Committee many
15 times where we talk about how mitigation can be utilized
16 to reduce visual impact, and in this case it's no
17 different than any other project.
18 What you're looking to do is to match the
19 project up as much as you can with what is out there,
20 because in so doing you're limiting the disturbance and
21 you're also reducing the contrast. So things like
22 matching the structure types, the spans and tower types
23 to the extent feasible, and in certain locations having
24 the ability for selective tower placement. Let's say
25 the agency thinks that in a certain area they would like

1 to selectively move a tower. You can do that within the
2 tolerance of the engineering if that's something that
3 you want to do.
4 Obviously, the use of dulled steel structures
5 and nonspecular conductors, you have seen the pictures.
6 That's a very, very important type of mitigation. And
7 then, finally, the use of the existing access.
8 Go to the next on the right and next on the
9 left.
10 So, Chairman Woodall, you asked the question
11 about how do you determine these levels. What we would
12 like to do now is just walk through a summary, an
13 overall summary of contrast, based on our evaluation
14 given the project with these different elements.
15 With respect to land form contrast, it's been
16 identified that no new, additional major access is going
17 to be required. I think we've seen the condition of the
18 pipeline road. And that in most cases, given the
19 landscape that's out there, especially in the flat
20 areas, we wouldn't anticipate a lot of modifications to
21 the terrain.
22 So the grading and modifications to the land
23 form in the area in general are anticipated to be
24 limited, and, again, they would be associated primarily
25 with access to the proposed new tower pad sites.

1 If you were to look at the design the way that
2 it's intended at this point, you use the existing roads,
3 and then you go around the towers when they are on the
4 far side of the road in order to construct the next
5 tower.
6 So given those sets of assumptions, if you
7 begin to look at what the contrast levels could be, I
8 think -- and if you look -- again, if you look at the
9 photographs that we've taken, we're thinking that you're
10 probably in this -- actually kind of between what would
11 be a weak to moderate where the contrast can be seen,
12 but it doesn't take attention to the point of actually
13 dominating.
14 Next on the right.
15 Vegetation is quite similar. Given the
16 existing access, vegetation clearing, and primarily in
17 areas of desert shrub, the creosote, is going to be, as
18 we understand it now, primarily limited to spur road
19 construction. So, again, you're going to have places
20 where you're going to see it and it may attract
21 attention, but it's not going to dominate the
22 characteristic landscape overall.
23 CHMN. WOODALL: Mr. Arwood.
24 MEMBER ARWOOD: I have a question of
25 Mr. Palmer.

1 The existing spur roads, are you saying that
2 you need to build new spur roads to the new tower pads,
3 or would they use existing spur roads?
4 THE WITNESS: They would use the existing spur
5 roads if -- let me put it to you this way. If the
6 transmission line is to the --
7 MEMBER ARWOOD: The roadside.
8 THE WITNESS: Yeah. Okay. It's to the right
9 side, and I'm going to be on the left side. You
10 probably use the road that goes up to that other tower
11 pad site to put that road in. If you were to the other
12 side, they will use the extent of that road up to a
13 point where they would then go around and place the
14 other facility.
15 Obviously, these things are terrain dependent
16 and it will vary somewhat. I think that at the end of
17 the day you look at how much road do you actually need
18 to get to that pad site, and you would limit that to
19 that traditionally.
20 MEMBER ARWOOD: Thank you.
21 THE WITNESS: Next on the structure.
22 This one is an interesting one in that given
23 the proposal that's in front of us, first of all, we're
24 paralleling the existing line. The new structures are
25 going to match in terms of what is called the form,

1 line, color, and texture, the elements that you look at
2 in the existing towers. The spans and tower heights
3 would match the existing line to the extent feasible.
4 In this case, the overall contrast we would say
5 would be weak. That could climb up to something that
6 would be considered a little bit more moderate based on
7 a viewing condition. And so these are the three
8 elements that we're looking at in conjunction now when
9 we're doing impact assessment.
10 Go to the next slide.
11 If I were to characterize overall now looking
12 kind of from one end to the other of the Kofa, I think
13 we have determined that you are probably going to be in
14 a weak to a moderate to weak condition where the element
15 contrast will be seen but does not attract attention or
16 dominate the view beyond the condition that's out there
17 given that we have an existing line.
18 The proposed 500 line will be designed similar
19 to the existing line and match existing tower spans, and
20 it's anticipated to require limited grading and
21 vegetation removal.
22 Next on the right. And you can turn this one
23 off.
24 So we went through and we talked about the
25 scenic quality and we've talked about contrast. This

1 type of a method that we were presenting here in terms
2 of levels of impact is based on other studies that we've
3 done that's very consistent with those in terms of what
4 we have found the impacts to be on scenic quality.
5 The reason that you do scenic quality impacts
6 is that you want to be able to try to characterize the
7 effect that a project may have on the environment
8 independent of viewers. This gets back to the notion
9 that all landscapes have a quality that regardless of
10 whether or not they're seen, there's value to it.
11 So these are the conditions that we're looking
12 at in terms of contrast. These are the scenic quality
13 rating units from our perspective in our analysis.
14 That's going to put us into this kind of arena in terms
15 of impacts from moderate to low to low.
16 Next.
17 This pretty well summarizes what I just
18 described. I think, without a question, if you look
19 within the region, there's some areas that have some
20 real high scenic quality.
21 But based on the criteria that's applied using
22 the BLM system in terms of A-, B-, and C-class scenery,
23 what you find is that independent of a jurisdictional
24 boundary, that these are landscapes that we would call
25 common to -- not common. I refrain from that. They

1 have little variety as you saw through some of the
2 pictures, up to some where you have more variety, but
3 certainly not what we would call A-class scenery. Some
4 of it is higher B-class scenery, but there's other areas
5 on the Kofa, if you were to go there, for those of you
6 that have been that I think would understand that.
7 So the introduction of the 500 kV line adjacent
8 to the existing line -- and this is really important --
9 in the modified setting would, from our perspective,
10 result in less than significant impacts.
11 Next.
12 CHMN. WOODALL: Mr. Wayne Smith.
13 MEMBER SMITH: Mr. Palmer, if this was the
14 primary routing, the first routing, would your
15 evaluations be much different than they are now with a
16 parallel routing?
17 THE WITNESS: You know, we've talked about
18 that, Mr. Smith, and I would say, yes, they would. The
19 fact of the matter is -- well, first of all, having the
20 pipeline corridor there would be to an advantage in
21 terms of siting. No doubt. But as opposed to having an
22 existing facility out there, that just makes it that
23 much better.
24 Having not conducted an analysis independent of
25 that, I could tell you, though, I think with some manner

1 of certainty, that you would have higher impact if it
2 was in an area where you did not have that existing
3 500 kV transmission line and the access that's been
4 built into it.
5 MEMBER SMITH: Would you say that the original
6 line was put in the proper place as far as your
7 evaluations go?
8 THE WITNESS: You know, quite frankly, I think
9 in a lot of ways it's a good location in that you have a
10 pipeline corridor. When the original line was
11 developed, I believe that the definition of some of the
12 wilderness areas and things may have been a little bit
13 different.
14 But purely from the perspective of having
15 access into this area, I can tell you this. This would
16 be an alternative that you would look at real hard in
17 terms of siting.
18 MEMBER SMITH: Thank you.
19 THE WITNESS: Impact to sensitive viewers.
20 And, Chairman Woodall, we may digress a little bit here
21 to answer some questions that you had regarding
22 recreation.
23 We definitely acknowledge the fact and believe
24 in the fact that in this area you have high sensitive
25 viewers. I preface that by saying that while you have

1 high sensitive viewers in a way with the presence of the
2 existing line, it would be my professional opinion that
3 that's been conditioned somewhat. In other words, you
4 have sensitive viewers on the Kofa. But if you've been
5 in the Kofa in this area over time, it's an area that
6 you understand has been modified. It's just something
7 to take into consideration.
8 In terms of a request regarding information,
9 Mickey and I got in and we tried to get a handle on the
10 amount and volume of use in the area. And the numbers
11 that you see here are indicative of that.
12 And, Mickey, you can jump in if I overstate
13 something or understate something, but the interagency
14 management plan and the environmental assessment in 1996
15 had estimated approximately 500,000 users per year on
16 the Kofa, and 500 users per year for the New Waters
17 Mountains Wilderness Area. And I believe the recent
18 numbers are close to that; correct? Okay.
19 CHMN. WOODALL: I think maybe you misspoke. I
20 think you meant 50,000.
21 THE WITNESS: 50,000. Pardon me.
22 CHMN. WOODALL: I was thinking that's a lot of
23 bird watchers.
24 THE WITNESS: Yeah. What we were able to glean
25 from the information that we got most recently from Fish

1 & Wildlife was that approximately 6,000 cars entered on
2 the eastern side of the corridor. Visitors. Okay. And
3 7,000 on the western. We were not able to obtain
4 information regarding the specifics of why they chose
5 that and what their preferences were for the activities
6 that they were using. It's a count that simply
7 represents that. Whether or not 6,000 came in one side
8 and went out the other, we don't know. But it gives you
9 a relative understanding, I think, of the volume when
10 compared to the rest of the Kofa.
11 CHMN. WOODALL: Mr. Palmer, it says annual
12 visitor estimates are approximately 6,000.
13 Are you assuming that there's one visitor per
14 vehicle or more than that, Mr. Siegel?
15 WITNESS SIEGEL: The information was given to
16 us by the Deputy Refuge Manager, Susanna Henry. And
17 they have not -- you know, this was in response to the
18 interest in the trend data on recreation use, what sort
19 of trends have occurred over time.
20 As it turns out, the Kofa doesn't publish any
21 of that information, but they do have -- they do collect
22 some information on recreation use. They use it for
23 their internal management plan and work.
24 So, first of all, on the 50,000 users per
25 year -- and, again, that's estimates that are based on

1 these vehicle counts -- they actually don't have
2 estimates or any survey of actual persons using the
3 refuge. But they count vehicles at six locations around
4 the boundaries of the Kofa National Wildlife Refuge.
5 MR. ACKEN: Dave, it might be helpful to put up
6 that slide. Thank you.
7 WITNESS SIEGEL: And they have, in terms of
8 trends, 50,000 seems to be fairly consistent. There
9 have been years where it's been as low as around 45,000,
10 and some years in the upper 50,000's. The most recent
11 year, I think in 2005, was just slightly more than
12 50,000, but I don't have the exact number. It seems to
13 be around that.
14 Now, the visitor -- to answer your question,
15 about the estimates. So there's an estimate based on
16 vehicle count. There's six -- actually, the 5,977
17 vehicles tripped the counter at the Vicksburg Road
18 entrance during the calendar year 2005. And there were
19 6,988 counted vehicles on the western end, which is
20 Crystal Hill Road. We were just looking at those photos
21 of those two points.
22 Now, I said vehicles. Once again, I have to
23 correct myself. Those are estimates based on the number
24 of vehicles. There's a ratio applied, and I don't know
25 what that ratio is. But if there were three persons per

1 vehicle, there were 2,000 vehicles. So the estimate
2 would be 6,000 visitors based on the vehicle count.
3 So there were -- you know, they do not -- I
4 haven't been able to find the formula that's used to
5 create those estimates, but you would say roughly, you
6 know, maybe it's 2- or 3,000 vehicles that generates
7 6,000 to 7,000 visitors.
8 CHMN. WOODALL: I'm somewhat confused because
9 in the second bulletpoint you say they estimated 50,000
10 users per year, and then the next bullet point says
11 annual visitor estimate on vehicle counts are 6,000.
12 Surely we don't think that there are like eight
13 people in a vehicle. So can you explain the difference
14 between users and --
15 WITNESS SIEGEL: I'm sorry it is confusing.
16 50,000 is for the entire refuge. And there are six
17 entry points where vehicles are counted surrounding the
18 refuge all the way from north to south.
19 The 6,000 and 7,000 refer only to those two
20 points on the northern end of, basically, the pipeline
21 road that goes through the very northern part of the
22 refuge.
23 CHMN. WOODALL: Thank you. That helps me a
24 lot.
25 WITNESS SIEGEL: I hope so. Thank you.

1 CHMN. WOODALL: Mr. Arwood.
2 MEMBER ARWOOD: Actually, that was my question.
3 Q. (BY MR. ACKEN) Mr. Palmer, just to clarify the
4 estimates of 6,000 on the east and 7,000 on the west,
5 it's quite possible that those have some double
6 counting?
7 WITNESS SIEGEL: And I think we would all agree
8 that we don't know the method of counting. They could
9 be vehicles coming in and out. Those are not all
10 visitors either. There's maintenance vehicles. There's
11 other -- anything that goes up and back over a traffic
12 counter trips it and registers a count.
13 MR. ACKEN: Thank you.
14 WITNESS PALMER: The last bullet that you see
15 here actually indicates information that we gathered
16 when we were out in the field in June when we stopped at
17 the Kofa Cabin. We went inside the cabin, and at least
18 at that point in time they had like a logbook that
19 illustrated the number of people who had utilized that
20 facility, or at least signed in.
21 Next on the right.
22 So similar to what we did for scenic quality,
23 what we do in order to determine the impacts is again to
24 look at contrast. Now, in this case, we're factoring in
25 the viewer. And as I said earlier, our biggest criteria

1 that we use in conjunction with that is the distance to
2 the project. It goes without saying that from the
3 pipeline road you have many or most conditions where at
4 some point in time or another you're probably in this
5 range. Although, one of the interesting things about
6 the dynamic of traveling on that road, and I think you
7 can see it through the photographs that were taken, is
8 that as you move farther away, the contrast obviously is
9 reduced.
10 One of the things that we consider when we're
11 looking at an area where, say, for instance, you're
12 viewing the transmission line and the contrast in this
13 area is weak, if it's weak based on the fact that we're
14 not seeing manipulation changes in vegetation, we're not
15 seeing any new access from a view, yet when we introduce
16 the transmission line the structure is the same, we
17 sometimes will take the liberty to elevate an impact
18 based on a specific condition.
19 And so the range of impact that we would
20 anticipate, given different viewing conditions at these
21 different distances from sensitive viewers, is what you
22 see here.
23 Next.
24 And that led us to this particular conclusion
25 with respect to the visual study. That the project

1 would be seen from the Kofa and wilderness areas from
2 locations ranging from the immediate foreground along
3 the existing pipeline transmission line access road to
4 the middle ground and beyond. And that's going to be
5 primarily your dispersed recreational users, assuming
6 that you have someone in the wilderness area who is
7 viewing more than likely down into the corridor.
8 I think it's important to note, and I think you
9 saw through the slides, that the views, while you may
10 look one direction and have a view that you could say is
11 independent of the actual facilities, by virtue of the
12 viewer experience along that road these views are going
13 to be within the context of the existing transmission
14 line. And, therefore, when you're seeing that landscape
15 from my perspective, it's in a setting that's been
16 modified.
17 And so that in and of itself with the other
18 elements leads to a reduction in overall contrast, and
19 it's going to keep those impacts in a range of what we
20 would call generally low to moderate.
21 Now, having said that, one of the things that
22 we do in any visual study -- why don't you go to the
23 right -- is we prepare visual simulations that we use to
24 try to evaluate different conditions. And this is also
25 typical of what the BLM would expect in terms of looking

1 from key viewpoints.
2 Q. (BY MR. ACKEN) Mr. Palmer, the slides shown on
3 the right, where can that be found?
4 A. The slide on the right can be found in and
5 amongst or at the end of the photographs that we had, I
6 believe. The last part of that tab.
7 Q. End of Tab 2 of Applicant's Exhibit A-8.
8 A. Okay. Can you go back to the -- go back.
9 Right. Okay.
10 So this would be typical of an evaluation
11 performed using this as a viewpoint. This is an area
12 along the pipeline road. The view location is shown on
13 this map. And, actually, if you would like to turn back
14 to the maps that we have provided that we used on the
15 photographic tour, you might just want to pull that out
16 to get a sense of where we're at. It's the viewpoint
17 location map, and it's going to be Page 17.
18 What we did is kind of spread these simulation
19 points around in kind of different conditions. But if
20 you were to use the chart that we have over here in the
21 way of contrast and looking at this view -- again,
22 understanding that the views are dynamic here -- what
23 you would say is that by virtue of the way that the
24 project has been constructed in this view, you don't see
25 changes in land form. You don't see changes, really,

1 modifications in vegetation, and you have got structure
2 matching.
3 However, our contention would be that in an
4 area like this, when you begin to get facilities
5 skylined, that's where you're running into something
6 that is viewer driven, and you're going to take that
7 into consideration when looking at elevating this to a
8 somewhat higher impact to moderate.
9 It's not absolutely scientific, let's say, but
10 it's a process that one goes through in terms of looking
11 at -- well, I take that back.
12 It is in a way scientific in that what you're
13 trying to do is take into account the different kind of
14 viewing conditions that are along an area that is very
15 dynamic in terms of -- as you have seen from the
16 photographs and you'll see in the next simulation.
17 This is the view from the Kofa Cabin. And it's
18 difficult, at best, although you would see the
19 structures in this area, but they're very, very small,
20 the additional structures. And that's a function of
21 viewing this from a greater distance.
22 And so in this kind of a situation where you're
23 out to a mile, you're going to have an impact level
24 that's going to be running lower, and it's going to be
25 based -- really, the factor here is the distance

1 combined with the fact that it is absorbed in the
2 landscape.
3 Next.
4 This is a view looking towards the Livingston
5 Hills. One of the reasons we chose this is you've got a
6 modification in this area that is something that you
7 need to take into consideration. This is one of the
8 valves in here.
9 But, again, if you look at this, we're probably
10 talking about -- certainly, this first set of towers is
11 going to be in the foreground area. You're not seeing a
12 lot of modification in terms of vegetation and land
13 form. You are going to have some skylining, so you're
14 going to be kind of in this zone in terms of impact.
15 Q. (BY MR. ACKEN) Are those valves associated
16 with the pipeline?
17 A. Yes, they are.
18 Q. Thank you.
19 A. Next.
20 We'll come back to this particular view,
21 because, I think at the end of day when we talk about
22 the comparison with other studies that were done, this
23 is reflective of the simulation that was used to make
24 the determination in the EIS/EIR, as far as we can tell,
25 regarding the significance of impacts.

1 From this particular view, you're looking at
2 structures here that are about 1,000 feet away. You've
3 got -- this is the existing structure. This is the
4 existing structure. There's another structure here.
5 There's another structure here.
6 Again, through our evaluation in looking at
7 contrast levels and looking in this range, which is
8 certainly the first structure is going to be within that
9 first distance zone, we're looking at something that's
10 going to range in this area. And, quite frankly, the
11 only thing I think that probably kicks that up to a
12 moderate is in areas where it's skylined as opposed to
13 backdropped, where in here it becomes, you know,
14 somewhat indiscernible.
15 The last view that we have in terms of the
16 simulation, this is the view looking into the Kofa from
17 the entry. And you have a whole series of structures
18 that are crossing through here. However, the distance
19 in particular that you're looking at is going to make
20 those impacts relatively low.
21 Now, having said that, if you turn to the side
22 -- yes -- you would see those structures and they would
23 be in closer, but you're still -- based on the
24 evaluation model that was used, this is pretty much
25 where you're going to be running in that area depending

1 upon how far away.
2 When dealing with a roadway, it's different
3 than a static position because of the variables that you
4 have in terms of the proximity of the line to you.
5 Obviously, the closer the line, the higher the potential
6 for impact. The worst possible situation you're going
7 to have is when they're in close and you're looking at
8 them, but by virtue of the -- they're in close and they
9 may be closer than the existing structure, but I think
10 the premise of our studies is that you have something
11 out there that even in that situation you already have a
12 view that's being dominated by an existing facility
13 that's in close.
14 Next. Go to the next one on the right.
15 So, actually, let's go to the next one. We
16 already went through that. Next on the right.
17 Chairman Woodall, the other question that was
18 posed with respect to our findings was to maybe chat a
19 little bit or talk a little bit about some of the other
20 studies that were done, understanding that the results
21 were somewhat different.
22 What you see on the right is a listing of the
23 studies, as we understand it, that have been performed
24 in this area. The first, the supplemental EIS that was
25 done in 1987, followed by the work that we have recently

1 conducted in 2005 and are submitted in the PEA in 2005
2 and in the CEC application in 2006, and then the
3 recently submitted draft environmental impact report and
4 environmental impact assessment.
5 And in reviewing what was Page 132 of the
6 supplemental EIS, I guess, although we could talk about
7 a lot of the elements that it describes, I think in
8 essence the variation that we have between that document
9 and the call-on significance was that in that evaluation
10 it was determined that the visual contrast that impacts
11 would be characterized as high because of the change in
12 visual contrasts and dominance which would occur.
13 So our contrast evaluation led us to the
14 results that you saw here today. I could not find in
15 that document anything that was, let's say, quantitative
16 to understand how they arrived at that conclusion.
17 With respect to the draft EIR/EIS --
18 CHMN. WOODALL: Excuse me. Mr. Palmer, the
19 first study that you referred to, the 1987 study, was
20 that done by Dames & Moore?
21 THE WITNESS: No. It was not done by Dames &
22 Moore. It was done by a group called Westco.
23 CHMN. WOODALL: Thank you.
24 Q. (BY MR. ACKEN) Mr. Palmer, are you familiar
25 with the methodology that was used in that 1987 study?

1 A. What I know is that they in the document said
2 that they used the BLM system.
3 Q. Okay.
4 A. With regards to the more recently compiled
5 EIR/EIS, I think there's two things. As we went through
6 it -- and it's a voluminous document, but two things
7 struck us that kind of separated out our approach versus
8 theirs.
9 Number one, they used the BLM system on BLM
10 lands. Then when they got to the Kofa, as they did on
11 other, let's say, privately owned lands that would be
12 crossed, they used what is called the visual sensitivity
13 visual change system. Now, by and large, those elements
14 are somewhat the same, but no doubt there's a difference
15 in the approach that was utilized there.
16 Our decision to use the BLM conceptually --
17 well, to use the BLM in areas that represented natural
18 settings, again, was to maintain consistency regardless
19 of whether we were on the BLM or whether we were on the
20 Kofa. Because in some ways, to us, boundary lines are
21 not necessarily indicative of different conditions in
22 terms of landscape. That was number one.
23 The second thing that we gleaned from
24 evaluating their document was that through the use of
25 the VSVC system, the study area for visual analysis was

1 defined by numerous viewpoints from which the proposed
2 project would be seen.
3 Through all of the documentation that we saw,
4 the characterization of significant impacts across the
5 entirety of the Kofa was based on an evaluation of this
6 specific visual simulation for which we just went
7 through and explained our rationale for impact versus
8 theirs. In that assessment, they use certain other
9 criteria, things like view blockage as one of the
10 indicators in terms of impact level. And so the
11 criteria that they used were different than ours.
12 And so the other thing that I think of note was
13 that in looking at that evaluation, you can come to a
14 conclusion on potential significance; however, at the
15 end of the day, like with a lot of visual studies, the
16 determination of significance is based on the
17 evaluator's perception.
18 CHMN. WOODALL: Mr. Palmer, the study that was
19 done, the analysis that was done in the draft EIR/EIS by
20 Aspen and BLM, you said they used the BLM study
21 methodology through the BLM lands, and then they used
22 this second methodology on private lands --
23 THE WITNESS: Yes.
24 CHMN. WOODALL: -- through the Kofa?
25 THE WITNESS: And through the Kofa.

1 CHMN. WOODALL: This second methodology, is it
2 something that is set forth in regulation or statute in
3 California, or does the California Council of
4 Environmental Quality require the use of this analysis?
5 Do you know?
6 THE WITNESS: No. Not to my knowledge. In
7 fact, I would say that in our visual study work we have
8 never come across this type of an approach before.
9 CHMN. WOODALL: So we really don't know why
10 they used this particular methodology?
11 THE WITNESS: Well, one can always make
12 conjectures. I think that if you look at the criteria
13 that the state of California has, they talk about things
14 like view impairment and sensitive light sources and
15 things like that.
16 View blockage, in particular for us, was kind
17 of an interesting concept because, trust me, we look at
18 things that deal with view blockage, but we talk about
19 that primarily from the viewer's perspective in terms of
20 whether something is screened or not.
21 I think transmission lines by their sheer
22 nature, and especially lattice structures, are designed
23 such to eliminate that, which I think is evidenced
24 through what we've seen here today in terms of how they
25 look when they are especially backdropped by something.

1 So that the nomenclature that was used is
2 different. It's not something that we've seen in any
3 recognized system, but that nonetheless was what was
4 utilized.
5 Q. (BY MR. ACKEN) As a follow-up to Chairman
6 Woodall's question, who developed the methodology that
7 was used in the draft EIR/EIS?
8 A. Who developed that?
9 Q. Uh-huh.
10 A. Aspen did, and I believe a gentleman by the
11 name of Michael Clayton.
12 Q. Okay. So this was Aspen's own methodology
13 developed for use in this project?
14 A. Near as we can tell.
15 Q. Thank you.
16 A. So having said that, if you can go to the next
17 slide. I guess I would like to summarize.
18 And this may be overly simplistic, but I think
19 from the standpoint of visual resources, and I think the
20 standpoint from our perspective in having done a lot of
21 these different projects, I guess I jump to the second
22 bullet, which is that the location of the facilities
23 combined with the project design and mitigation
24 effectively reduce impacts to visual resources on the
25 Kofa refuge. And I think a lot of that has to deal with

1 the fact that you're in a setting that has been highly
2 modified by the presence of the existing transmission
3 line as well as the pipeline.
4 So we have sensitive viewers, yes, but we have
5 a corridor that's been modified, and from the standpoint
6 of development of a new transmission line is a place
7 where placing a new transmission line, and all things
8 considered, is a good location.
9 Q. Do you have any additional comments for the
10 Committee concerning the visual impacts in the Kofa?
11 A. I don't know. Maybe it gets back to what
12 Mr. Smith was talking about. When we do visual studies
13 and when we get involved in doing visual studies, if you
14 were to take this back to kind of the feasibility side,
15 Mr. Smith, where you're looking at alternatives to try
16 and site a power line, the kinds of criteria that you
17 would look for in terms of location of the facility
18 would be things like -- first of all, you would say,
19 well, do we have any existing transmission lines out in
20 the landscape? And if you find those existing lines or
21 corridors, you like that.
22 If you find a 500 kV corridor, in this case
23 it's something that you would look at really hard in
24 terms of siting because you have that place. If you
25 couple that with the fact that you have got wonderful

existing access and a setting that has been somewhat modified, you're going to look at that real hard.

So, you know, we're talking about impact assessment right now. But when you think about it philosophically and you look at putting corridors into the landscape, these are the kind of places that you look to place them.

MR. ACKEN: Thank you.

Chairman Woodall, it's approximately 12:30. Would you like us to continue or did you want to take a lunch break at this point?

CHMN. WOODALL: I think this would be a good time to take a lunch break. Let's do an hour. So we'll be back at 1:35.

(A recess was taken from 12:35 p.m. to 1:45 p.m.)

CHMN. WOODALL: We'll go back on the record at this time.

Mr. Acken, had you concluded with your examination of Mr. Palmer?

MR. ACKEN: With respect to the issues associated with Kofa, yes.

What we would like to do now is have both Mr. Siegel and Mr. Palmer available. I have a couple of more follow-up questions, and then they would be

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**VIA OVERNIGHT MAIL
AND FACSIMILE**

Friday, December 22, 2006

J. Paul Cornes, Refuge Manager
Kofa National Wildlife Refuge
356 W. 1st Street
Yuma, AZ 85364

Re: Draft Compatibility Determination By Kofa for the Proposed Southern California Edison Devers-Palo Verde No. 2 500 kV Transmission Line

Dear Mr. Cornes:

I am the Assigned Commissioner on the Devers-Palo Verde No. 2 (DPV 2) transmission project that is currently being considered for approval by the California Public Utilities Commission (CPUC) (Application 05-04-015). The CPUC is the primary public utility transmission siting and permitting agency in California, and I am the Assigned Commissioner on every major transmission siting case currently before the CPUC. I fully anticipate that the Commission will vote to approve the DPV 2 project at our January 25, 2007 business meeting.

I am writing to express my deep concern regarding the November 2006 draft compatibility determination (Draft CD) prepared by the Kofa National Wildlife Refuge (Kofa) staff. Notwithstanding the fact that DPV 2 would parallel the path of an existing 500 kV transmission line through the Kofa (DPV 1), the Draft CD concludes that the proposed DPV 2 project is incompatible with the purposes and mission of the Kofa and is therefore "eliminated from further consideration." CD at 13. These proposed determinations concern and puzzle me for several reasons.

The Route Through The Kofa Has Been Determined To Be The Environmentally Preferred Route. As you are probably aware, the CPUC and the United States Bureau of Land Management (BLM) are co-lead agencies and prepared a joint environmental impact document with regard to the DPV 2 project (EIR/EIS). The U.S. Fish and Wildlife Service (U.S. Fish & Wildlife) provided comments on the draft EIR/EIS and

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also reviewed the administrative draft of the Final EIR/EIS. The Final EIS/EIR reviewed a route for the DPV 2 project that goes through the Kofa and found that the route through the Kofa was the environmentally preferred route when compared against three other routes designed to avoid the Kofa. All of the alternatives reviewed in the Final EIR/EIS would have more impact on the wildlife than the proposed alignment of DPV 2 through the Kofa, which would run directly next to the existing DPV 1 transmission line.[1]

DPV 2 Is a Critical Addition To California and Regional Transmission Infrastructure. DPV 2 is the first of several transmission lines that the CPUC will be permitting in the next few years in order to address nearly two decades of underinvestment in California's transmission infrastructure. While California survived the July 2006 heat storms, the transmission system was strained, and we may not be so fortunate next time. New infrastructure is needed both to address growing demand in new areas of the state, and to bolster the aging infrastructure we currently rely upon. In summary, California's transmission situation is critical and DPV 2 will go a long way to address that situation. DPV 2 will strengthen electrical ties between California and Arizona, relieve congestion on existing lines, provide benefits to both California and Arizona electricity consumers, and expand California's and Arizona's abilities to access other sources of energy. Pursuant to the Energy Policy Act of 2005 (EPAct), the Department of Energy released a study in August, 2006 that identified Southern California as one of only two "Critical Congestion Areas" in the United States (DOE Study). DPV 2 will address that concern.

Kofa Only Recently Indicated That There Was A Problem With Siting DPV 2 In The Same Corridor As DPV 1. It is my understanding that Southern California Edison Company (SCE) has been in contact with Kofa staff since 2003 regarding the proposed DPV 2 project and that Kofa staff never indicated any concern with siting DPV 2 parallel to the existing DPV 1 until the last half of this year. In order words, during the past 2 ½ years, Kofa staff never raised any objections. Certainly, given the fact that Regional Director of U.S. Fish & Wildlife granted a Certificate of Right-of-Way Compatibility for DPV 2 in 1989, SCE had no reason to believe that a similar determination would not be made in 2006. It is my understanding that SCE did not learn until the last 2 months that Kofa staff might claim that a change in law could arguably render DPV 2 incompatible with the purposes of the Kofa. This evident change in position, at the end of the environmental review process, and within months of CPUC approval of the line, is distressing.

Alternative Routes Around Kofa Are Not Environmentally Preferred And Will Unnecessarily Delay The Construction Of DPV 2. Transmission projects require many years of planning, including permit acquisition and environmental review time. Forcing SCE to pursue alternative routes around Kofa will unreasonably delay the construction of DPV 2 by a year, or more, and result in more, not less, environmental damage. Urgently

[1] I understand that BLM staff will file comments addressing the numerous errors in the Draft CD related to the conclusions of the Final EIR/EIS, and so I will not belabor those points here.

needed measures to reduce transmission congestion, such as DPV 2 , should not be delayed.

In conclusion, California cannot wait any additional time to begin construction so that this line can be brought into service. As demonstrated by the DOE Study, this is a matter of Federal interest. I believe that you have the authority, based upon the lack of significant impacts associated with this environmentally preferred route, to find that DPV 2, similar to DPV 1, is compatible with the purpose of the Kofa - the conservation and management of wildlife. Consequently, I respectfully request that you exercise this authority and modify the Draft CD to find DPV 2 compatible with the purpose of the Kofa, and that you then timely issue a right of way permit in reliance on the existing EIR/EIS.

I thank you, in advance, for your attention to this matter.

Sincerely,

Dian M. Grueneich
Commissioner

cc: **Via U.S. Mail:**
Dr. Benjamin Tuggle, Director of Southwest Region, US Fish & Wildlife Service
Todd Jones, US Fish & Wildlife Service
Jeannie Wagner-Greven, Manager of Refuges, US Fish & Wildlife Service
Lindsey Smythe, Kofa Biologist
Kevin Kolevar, Director of Electric Delivery and Energy Reliability, U.S. Department of Energy
Brian Prusnek, Deputy Cabinet Secretary, Office of Governor Schwarzenegger
Yakout Mansour, CEO, California Independent System Operator Corporation
Ron Litzinger, Senior Vice President, Southern California Edison
Les Starck, Director of Federal Regulatory and Legislative Affairs, Southern California Edison
Administrative Law Judge Charlotte TerKeurst
Billie Blanchard, CPUC CEQA Analyst

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Power lines poor partner for Kofa bighorn sheep

Dec. 24, 2006 12:00 AM

Stark mountains rise abruptly out of the desert flats at the Kofa National Wildlife Refuge. The beautiful, forbidding landscape is a haven for one of Arizona's most striking animals, the desert bighorn sheep.

The importance of maintaining this pristine desert area was obvious even in the early decades of Arizona's statehood, when population pressures had barely begun to squeeze wildlife. The refuge, near Quartzite and about 10 miles south of Interstate 10, was officially established in 1939.

Now a California utility wants to build a transmission line across 24 miles of Kofa. The proposal calls for 85 towers, each 150 feet tall.

It's part of a project, labeled Devers-Palo Verde No. 2, to transport power from the Harquahala generating plant, near Palo Verde in Arizona, to the California market.

Southern California Edison already has one 500-kilovolt line through the refuge, constructed a quarter-century ago. This would follow the same right-of-way, and the company contends that it would add little to the existing impact.

But Arizona is a far different place from the days when the original line was approved. The threats to our wildlife have grown, and we're more aware of the impacts of development.

Those are among the reasons that a large part of Kofa, more than three-quarters of its 665,400 acres, was designated as wilderness in 1990.

The U.S. Fish and Wildlife Service, which administers Kofa, has issued a draft decision on whether building another transmission line is compatible with the wildlife refuge.

The conclusion: No.

And there are strong reasons behind it.

The original transmission line introduced an industrial use, permanent and irreversible, into what is supposed to be a natural landscape. The proposed project would basically double the impact, further degrading the character of the refuge.

The cumulative effect on wildlife is unclear, but the potential is worrisome. Migratory birds, which use Kofa as a corridor, are vulnerable to hitting transmission lines, and one study indicates that as many as 20,000 a year could die from the addition of a line. The construction of spur roads to access the towers could cause problems for reptiles like desert tortoises and Gila monsters.

Kofa's bighorn sheep herd has been declining for unknown reasons, dropping from 815 in 2000 to an estimated 390 this year. Any additional disturbance or fragmentation of their habitat could compound the problem.

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Southern California Edison representatives say the company will take steps to offset the impact of the power line, including avoiding construction during the lambing season.

They point out that an environmental impact statement for the project identified the Kofa route as the preferred alternative. Other possible routes in Arizona would destroy larger areas of desert habitat in areas administered by the Bureau of Land Management.

That leads to a more basic question: Should this line be built in Arizona at all?

The state line-siting committee and the Arizona Corporation Commission will make that decision in 2007.

Among the points they'll consider is whether the extra demand from California would drive up electricity prices for Arizona consumers, and whether our own population needs the generating capacity at Harquahala.

The immediate issue, though, is Kofa. The U.S. Fish and Wildlife Service is taking comments on its draft decision through Friday.

The mission of America's system of refuges is to conserve wildlife and plant resources for the benefit of present and future generations. Transmission lines aren't part of the definition.

To read the draft compatibility determination, go to www.fws.gov/southwest/refuges/arizona/kofa.html. Comments may be sent by e-mail to Debbie_Pike@fws.gov or by fax to (928) 783-8611.

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Decision 07-01-040 January 25, 2007

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 05-04-015 (Filed April 11, 2005)

(See Attachment C for List of Appearances.)

OPINION GRANTING A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY

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OPINION GRANTING A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY

I. Summary

This decision grants a certificate of public convenience and necessity (CPCN) to Southern California Edison Company (SCE) to construct the Devers-Palo Verde No. 2 (DPV2) transmission line project. This project includes two major transmission lines. The first will be a second 500 kilovolt (kV) alternating current transmission line between southern Arizona near the Palo Verde nuclear generating plant, and SCE's existing Devers substation located in North Palm Springs in Riverside County, California. This Devers-Harquahala transmission line will be approximately 230 miles long, depending on final routing choices. Approximately 102 miles of this line will be located in Arizona and the remainder in California.

To allow the power to reach SCE's load centers, the Commission also authorizes SCE to construct the 41.6-mile Devers-Valley No. 2 transmission line, an alternative to the West of Devers portion of the DPV2 project proposed by SCE. Devers-Valley No. 2 will be a second 500 kV transmission line between the Devers substation and SCE's Valley substation located in the unincorporated community of Romoland in Riverside County.

The DPV2 project[1] will increase the transfer capability between southern California and Arizona by 1,200 megawatts (MW), providing greater access to

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[1] Because Devers-Valley No. 2 is an integral part of the system upgrades necessary to increase the transmission transfer capability between southern California and Arizona, we use the term "DPV2" to refer to the combined Devers-Harquahala and Devers-Valley No. 2 transmission lines.

sources of low-cost energy in the Southwest. Parties have provided convincing evidence that DPV2 will provide economic and other benefits to California ratepayers.

The Commission authorizes SCE to construct the Devers-Harquahala line from either the existing Harquahala Generating Company switchyard located approximately 49 miles west of Phoenix, Arizona, as proposed by SCE, or a new Harquahala Junction switchyard that would be constructed about five miles east of the Harquahala switchyard at the point where the existing Harquahala-Hassayampa transmission line and SCE's existing Devers-Palo Verde No. 1 (DPV1) transmission lines diverge. Because terminating DPV2 at Harquahala Junction is less costly and is the environmentally preferred alternative, we instruct SCE to pursue good-faith efforts to reach a commercially reasonable agreement and seek the additional authorizations needed for construction of Harquahala Junction. If Harquahala Junction does not receive the needed approvals in Arizona or is otherwise not feasible, SCE may terminate DPV2 at the Harquahala switchyard.

The route for DPV2 between the Harquahala area and the Devers substation will parallel the existing DPV1 route, except that it may diverge from DPV1 to eliminate or reduce impacts in the Alligator Rock Area of Critical Environmental Concern (ACEC)[2] in Riverside County. The Alligator Rock—North of Desert Center alternate route segment would avoid the Alligator Rock ACEC and is environmentally preferable to the proposed route paralleling DPV1

[2] An ACEC is an area within the public lands managed by the United States Department of Interior, Bureau of Land Management (BLM) that BLM designates for protection of historic, cultural, scenic, fish and wildlife, or other identified resources.

through the ACEC. The proposed route segment through the ACEC and most of the North of Desert Center alternative are on federal land controlled by BLM. We authorize SCE to construct the North of Desert Center alternative if BLM authorizes this route. Otherwise, SCE may build DPV2 on a route segment through the Alligator Rock ACEC area that is acceptable to BLM, if the route segment received full consideration in the Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) or if it deviates from one of the reviewed segments solely within BLM land and BLM undertakes supplemental environmental review.

The Devers-Valley No. 2 transmission line will be constructed adjacent to SCE's existing Devers-Valley No. 1 transmission line and primarily within existing SCE easements. SCE initially proposed upgrades to approximately 48 miles of existing 230 kV transmission lines, which SCE called the West of Devers portion of the proposed project. However, we conclude that the West of Devers upgrades are not feasible and that the Devers-Valley No. 2 alternative is a viable and acceptable alternative.

The Commission also authorizes SCE to construct certain upgrades to other electrical transmission and telecommunications facilities related to the Devers-Harquahala and Devers-Valley No. 2 transmission lines.

We adopt a maximum cost[3] for DPV2 of $545,285,000 in 2005 dollars, which is decreased by $24,080,000 if the Devers-Harquahala line is terminated at

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[3] Pub. Util. Code § 1005.5(a) provides that "Whenever the commission issues to an electrical...corporation a certificate authorizing the new construction of any addition to or extension of the corporation's plant estimated to cost greater than fifty million dollars ($50,000,000), the commission shall specify in the certificate a maximum cost determined to be reasonable and prudent for the facility."

Harquahala Junction. The maximum authorized cost is increased by $8,282,000 if the Alligator Rock—North of Desert Center route segment is used.

The Final EIR/EIS for the DPV2 project, prepared jointly by the Commission pursuant to the California Environmental Quality Act (CEQA)[4] and BLM pursuant to the National Environmental Policy Act (NEPA), finds that the authorized project has several significant unmitigable environmental impacts. In order to reduce the environmental impacts to the extent feasible, we adopt the mitigation measures SCE proposes (called "Applicant Proposed Measures") and additional mitigation measures recommended in the Final EIR/EIS with one modification. However, some impacts will remain significant even after the implementation of mitigation. The approved mitigation measures are contained in Attachment A to this decision. The Commission also adopts the mitigation monitoring plan proposed in the Final EIR/EIS. SCE must comply with the adopted mitigation measures and mitigation monitoring plan as a condition of accepting its CPCN. We modify the Final EIR/EIS in two other respects and certify that it has been completed in compliance with CEQA.

Upon balancing the substantial economic, operational, and other benefits of the DPV2 project against the unavoidable environmental risks, we find that the DPV2 project should be approved, with the modifications and conditions contained in this decision. In Section VII, we include a statement of overriding considerations for the authorized DPV2 project, as required by CEQA.

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[4] Public Resources Code § 21000 *et seq.*

II. Background

A. Procedural History

SCE first submitted an application to construct a second transmission line between the Devers substation and the Palo Verde nuclear plant in 1985, and in Decision (D.) 88-12-030 the Commission granted a CPCN approving the DPV2 project as then proposed, conditioned upon submission of transmission service contracts associated with the project and other requirements. In 1997, the Commission granted SCE's request to abandon plans to construct the DPV2 project.

Beginning in 2003, the regional Southwest Transmission Expansion Planning (STEP) group evaluated a number of potential transmission upgrades. Through a consensus process, the group developed a general expansion plan that includes the DPV2 project. The Board of the California Independent System Operator (CAISO) approved the DPV2 project on February 24, 2005. On September 7, 2006, the CAISO Board approved the Harquahala Junction and Devers-Valley No. 2 modifications to the proposed project.

On April 11, 2005, SCE filed Application (A.) 05-04-015, its current application for a CPCN for the DPV2 project, accompanied by its Proponent's Environmental Assessment (PEA). The Commission opened Investigation (I.) 05-06-041 on June 30, 2005, to consider appropriate principles and methodologies for assessment of the economic benefits of proposed transmission projects, including DPV2, that are submitted for Commission approval. A joint prehearing conference was held in A.05-04-015 and I.05-06-041 on July 20, 2005. The assigned Commissioner issued a joint scoping memo for A.05-04-015 and I.05-06-041 on August 26, 2005. The scoping memo categorized this proceeding as ratesetting and stated that hearings were necessary. The scoping memo also

provided that evidence regarding DPV2 would be received in two phases. Phase 1 in A.05-04-015 and I.05-06-041 received evidence regarding the economic methodology used to assess cost-effectiveness and DPV2-specific need issues. Phase 2, in A.05-04-015 only, addressed environmental, routing, updated cost estimates, and other issues related to DPV2.

As provided in a September 27, 2005 ruling by the Administrative Law Judge (ALJ), parties filed comments and reply comments on Phase 1 issues. An ALJ ruling dated October 28, 2005 provided further guidance regarding the scope of Phase 1 testimony and evidentiary hearings.

Three days of evidentiary hearings were held in Phase 1 on January 10-12, 2006. The following parties filed opening briefs in Phase 1: the CAISO, SCE, Pacific Gas and Electric Company (PG&E), San Diego Gas & Electric Company (SDG&E), Division of Ratepayer Advocates (DRA), The Utility Reform Network (TURN), Bay Area Municipal Transmission Group (BAMx),[5] and Global Energy Decisions, Inc. (Global Energy). All of these parties except BAMx also filed reply briefs. Following the receipt of late-filed exhibits and opening and reply briefs, Phase 1 was submitted on March 24, 2006.

Evidentiary hearings were held in Phase 2 on July 10, 2006. SCE and DRA filed opening briefs in Phase 2. SCE filed a reply brief. Following the receipt of late-filed exhibits[6] and opening and reply briefs, Phase 2 was

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[5] BAMx is an unincorporated association of publicly owned utilities located in the Greater Bay Area. Members include the City of Santa Clara, Alameda Power and Telecom, and City of Palo Alto Utilities.

[6] Consistent with an October 31, 2006 e-mail ruling by the ALJ, SCE's motion to submit late-filed Exhibit 43 is granted.

submitted on November 13, 2006. In opening briefs, no party requested final oral argument before the Commission, as allowed by the scoping memo.

A joint State-federal environmental analysis of the proposed DPV2 project has been undertaken pursuant to CEQA and NEPA. The Commission, as the State lead agency under CEQA, and BLM, as the federal lead agency under NEPA, retained outside consultants to conduct the environmental review. The Commission's Energy Division oversaw the consultants' work on behalf of the Commission.

In November 2005 and January 2006, the Commission's Energy Division and BLM staff held eight scoping meetings in California and Arizona to collect public input for the scope and content of the joint EIR/EIS and for alternatives and mitigation measures to consider. In addition, six consultation meetings were held with agencies and local jurisdictions to discuss the proposed project. A Scoping Report for the CEQA process was issued in December 2005 and an addendum to the Scoping Report was issued in February and March 2006. The draft EIR/EIS was issued on May 4, 2006. The Commission's Energy Division and BLM staff held six public workshops on the draft EIR/EIS and the ALJ held three public participation hearings in June and July, 2006. The Final EIR/EIS was published on October 25, 2006.[7]

On November 9, 2006, the Commission issued D.06-11-018 in I.05-06-041. In that decision, we adopted general principles and minimum requirements for economic evaluations of proposed transmission projects that

[7] As provided in an October 31, 2006 ALJ ruling, the three volumes of the draft EIR/EIS have been entered into the record in A.05-04-015 as Exhibits 35, 36, and 37. The three volumes of the Final EIR/EIS are Exhibits 40, 41, and 42.

may be submitted in CPCN proceedings. While we considered the methodologies parties used in their economic evaluations of DPV2 in D.06-11-018, we did not address the economic value of DPV2. In today's decision, we consider all of the relevant factors that affect the cost-effectiveness of DPV2. We assess the parties' economic evaluations of DPV2 on their merits, recognizing that our guidance adopted in D.06-11-018 was not available when the evaluations were prepared.

The DPV2 project would traverse State and federal land in California and Arizona. The Arizona Corporation Commission must issue a Certificate of Environmental Compatibility before SCE can construct the project. In addition, BLM must determine whether to grant a Right of Way Grant on BLM-administered land in California and Arizona. SCE will also be required to obtain permits from several other State, federal, and local jurisdictions, including a Compatibility Determination from the United States Fish and Wildlife Service (USFWS) regarding proposed construction through the Kofa National Wildlife Refuge (Kofa).

B. Scope of Proceeding

In its application, SCE asserts four justifications for the DPV2 project, which can be summarized as follows:

1. That DPV2 would be cost-effective for California electricity customers because it would allow for greater access to low-cost, surplus generation in Arizona.

2. That DPV2 would enhance competition among the generating companies that supply energy to California and would facilitate SCE's resource procurement approach approved in D.04-12-048.

3. That the additional transmission infrastructure provided by DPV2 would support and induce the development of future energy suppliers selling energy into the California energy market and that DPV2 would increase liquidity in the market and, thus, help mitigate market power.

4. That DPV2 would provide resource reliability benefits, flexibility in operating California's transmission grid, and additional import capacity that may be needed during unanticipated conditions.

In the scoping memo, the assigned Commissioner found that the scope of A.05-04-015 includes the following as to the proposed project using SCE's preferred route and configuration, alternative routes and configurations, the No Project alternative considered pursuant to CEQA requirements, and non-wires alternatives:

- Need for the project (Pub. Util. Code § 1001[8]) including, but not limited to, the four justifications submitted in SCE's application.

- Consideration of the following factors contained in § 1002:

  1) Community values;
  2) Recreational and park areas;
  3) Historical and aesthetic values; and
  4) Influence on the environment.

- Consideration, pursuant to General Order (GO) 131-D, of whether the project promotes the safety, health, comfort, and convenience of the public.

[8] All cites to code sections refer to the Public Utilities Code unless specified otherwise.

- Consideration, pursuant to GO 131-D, of measures to reduce the potential exposure to electric and magnetic fields (EMF) generated by the proposed facilities.

- Consideration, pursuant to CEQA, of significant effects of the project on the environment; alternatives to the project; the manner in which significant environmental effects can be mitigated or avoided; and whether economic, social, or other conditions make it infeasible to mitigate significant effects on the environment.

- How SCE would comply with § 625.

- Impacts on the transmission grid and other transmission users.

- Cost-effectiveness and cost allocation.

- Project costs.

- Specification of a "maximum cost determined to be reasonable and prudent" pursuant to § 1005.5(a).

III. Project Benefits

In this section, we address the economic and other benefits that parties attribute to DPV2, and compare those benefits to project costs. We conclude that DPV2 will provide significant economic benefits for CAISO ratepayers, and that it would also provide operational and other benefits. We find that potential alternatives to DPV2 are insufficient and are unable to provide the economic and other benefits of DPV2.

A. Economic Evaluation of DPV2

SCE, the CAISO, and DRA submitted economic evaluations of the proposed DPV2 project. Other parties made recommendations regarding the

cost-effectiveness of DPV2 based on review of the submitted economic evaluations or commented on specific aspects of the methodologies employed in the economic evaluations.

1. Benefit Perspectives

SCE, the CAISO, and DRA evaluated the benefits of the proposed DPV2 transmission project by comparing estimates of total costs that would be incurred without the proposed project and total costs if the proposed project is built.

As described in D.06-11-018, the benefit perspective of CAISO-area ratepayers is of primary importance in the Commission's evaluation of a proposed transmission project, since it reflects the effects on customers of the utilities within our jurisdiction.[9] All three parties reported the net impact of the DPV2 project on CAISO ratepayers. The CAISO also presented benefit results for the entire Western Electricity Coordinating Council (WECC) region (the WECC or Societal perspective). SCE provided limited information regarding potential economic impacts in Arizona and the WECC region.

As noted in D.06-11-018, there are three general categories of costs or benefits arising from operation of a transmission project: (1) the change in total production costs, or energy benefits, (2) changes in other quantifiable economic benefits and costs not derived from production cost analyses, and (3) foreseeable project consequences whose expected economic effects cannot be monetized. We address these three types of costs and benefits with respect to DPV2 in Sections

[9] As noted in D.06-11-018, while CAISO ratepayers include some non-jurisdictional entities, consideration of all CAISO ratepayers is an analytical convenience with minor effects on the economic evaluation.

III.A.3, III.A.4, and III.B, respectively. We evaluate construction and operational costs of DPV2 in Section III.A.5.

The energy benefits due to a transmission project consist of the net changes in consumer costs (consumer surplus), producer net income (producer surplus), and congestion revenues flowing to transmission owners or holders of transmission rights (transmission surplus). Since the Societal WECC-wide perspective represents a largely closed system with few imports or exports, the Societal benefit computed as the DPV2-caused net WECC-wide change in consumer surplus, producer surplus, and congestion revenues closely approximates the overall change in energy production costs due to operation of DPV2.

Energy benefits from the CAISO Ratepayer perspective are the net result of the increase in consumer surplus and changes in the utility-retained generation producer surplus and the Participating Transmission Owner (PTO) congestion revenues in the CAISO area. The producer surplus and congestion revenues received by CAISO-area utilities ultimately benefit CAISO-area consumers, because the utilities' generation and congestion revenues reduce revenues that would otherwise be sought from consumers to cover costs.

In D.06-11-018, the Commission declined to adopt a threshold benefit-cost ratio or payback period that a transmission project proposed for its economic benefits would be required to achieve in order to be granted a CPCN. As we explained in that decision, transmission projects such as DPV2 may have other benefits and costs in addition to those that can be quantified in a benefit-cost ratio. In Sections III.D and VII, we consider and weigh all relevant factors, including environmental impacts, in reaching a decision on SCE's CPCN request.

2. Overview of Parties' Economic Evaluations of DPV2

a) SCE

The results of SCE's economic evaluation of DPV2, as contained in its PEA and Exhibit 6, are summarized in Table 1. To allow comparison of DPV2 costs and benefits, SCE calculated the 2005 present value of DPV2 revenue requirements using SCE's fixed charge rate model and discounting at an assumed 10.5% marginal cost of capital. SCE projects that DPV2 will provide benefits to CAISO ratepayers of almost $460 million in excess of its costs, with a resulting benefit-cost ratio of 1.71.

Table 1

SCE's Economic Evaluation of DPV2
Proponent's Environmental Assessment

(CAISO Ratepayer Perspective)
(Net Present Value, $2005 Million)

Energy benefits	$ 1,063.3
Increased transmission revenues	$ 28.4
Reduction in franchise fees and uncollectibles	$ 13.0
Total benefits	$ 1,104.7
DPV2 costs	$ 645.6
Benefit-cost ratio	1.71

In addition to energy benefits, SCE reports that CAISO-area transmission owner revenues will increase due to the DPV2-caused increase in revenue requirements, which would increase rates for CAISO wheeling service

and Existing Transmission Contracts, and thus would decrease the revenues required from CAISO ratepayers. SCE also includes the effect of DPV2-caused reductions in energy costs on revenues needed for franchise fees and uncollectibles.

An earlier economic evaluation of DPV2 that SCE submitted to the CAISO on March 17, 2005 contained more detail than the economic evaluation submitted in the PEA. As summarized in Table 2, the March 17, 2005 study provided disaggregated CAISO Ratepayer benefits, which indicate the extent to which SCE forecasts that utility-retained generation and PTO congestion revenues would decrease as a result of DPV2's operation.

Table 2

SCE's Evaluation of DPV2 Energy Benefits
March 17, 2005 Report to CAISO

(CAISO Ratepayer Perspective)
(Net Present Value, $2005 Million)

Consumer surplus	$ 1,850
URG producer surplus	($ 685)
PTO congestion revenue	($ 96)
Net energy benefits	$ 1,069

In its March 17, 2005 economic evaluation, SCE modeled DPV2 operation for the years 2009 through 2014, and reported energy results for those years from the WECC-wide or Societal perspective and the perspective of Arizona customers, in addition to the CAISO Ratepayer perspective. With the assumptions underlying SCE's evaluation, the results in Table 3 indicate that

Arizona customers would not benefit from DPV2 during the modeled years. SCE did not report lifecycle benefit-cost ratios from these additional perspectives. We address these impacts further in Section III.D.

Table 3

SCE's Evaluation of DPV2 Yearly Energy Benefits

March 17, 2005 Report to CAISO

($2004 Million)

	WECC (Societal)	CAISO Ratepayers	Arizona
2009 (6 months)	$ 11	$ 45	($ 7)
2010	21	87	(11)
2011	21	92	(11)
2012	21	89	(12)
2013	26	118	(16)
2014	25	111	(17)

SCE forecasted DPV2's impact on energy costs using the Global Energy (formerly Henwood) production cost model using a "transportation" power flow simulation. In a transportation model, generator and load locations are aggregated into zones, and power is simulated to flow along contract paths between the zones, with each path potentially representing multiple transmission lines. Flows between zones are restricted by modeler-specified

limits and do not reflect the effects of loop flow. A transportation model calculates prices on a zone-wide basis.

SCE used a stochastic approach to assess DPV2's energy benefits over a wide range of load forecasts, natural gas prices, and available hydroelectric generation. SCE assigned probability distributions to these key factors, based on documented historical variations, and simulated system operations under 100 different combinations of future conditions based on values chosen from the probability distributions using Monte Carlo (random sampling) techniques. SCE then calculated energy benefits as the probability-weighted expected value of benefits based on results of the 100 system simulations.

SCE calculated electricity prices and resulting consumer and producer surpluses based on projected spot market prices equal to marginal costs in each modeled zone. SCE did not reflect that, in some market conditions, generators may be able to sell power at prices in excess of marginal costs, i.e., that they may successfully mark up their bids above marginal costs and receive higher revenues in an exercise of market power.

b) CAISO

The results of the CAISO's economic evaluation of DPV2 are summarized in Table 4. The CAISO finds DPV2 to be cost-effective, with the CAISO Ratepayer benefit-cost ratio likely to be in the range between 1.25 and 3.34. This range arises because of uncertainty regarding congestion revenues between the CAISO control area, with its planned market redesign based on locational marginal prices (LMP), and Arizona.

Table 4

CAISO Economic Evaluation of DPV2

(Levelized Annual $2008 Million/Year)

	Societal Perspective	Modified Societal	CAISO Ratepayer (LMP Only)	CAISO Ratepayer (LMP + Contract Path)
Levelized Benefits:				
Energy	$ 56	$ 84	$ 57	$ 198
Operational	20	20	20	20
Capacity	12	12	6	6
System Loss	2	2	1	1
Emissions	1	1	1	1
Total Benefits	$ 91	$ 119	$ 84	$ 225
Levelized Costs	$ 67	$ 67	$ 67	$ 67
Benefit-Cost Ratio	1.35	1.77	1.25	3.34

As indicated in Table 4, the CAISO presents economic results for two versions of the Societal perspective and two versions of the CAISO Ratepayer perspective. Unlike SCE and DRA, the CAISO forecasts the extent to which producers may exercise market power to bid up prices above system marginal costs. The two versions of the Societal perspective differ in their treatment of the effects of DPV2 in mitigating the ability of generators to exert

market power. In the CAISO's basic Societal perspective, the reduction in market power-derived producer profits that the CAISO forecasts due to DPV2 is viewed as a negative benefit and offsets much of the projected consumer benefits from reduced energy costs. What the CAISO calls the Modified Societal perspective does not consider that portion of producer surplus arising from the exercise of market power to be a valid benefit and, thus, reflects the related increase in consumer surplus as a benefit. Because of the societal value in reducing producer monopoly profits, we determined in D.06-11-018 that, for evaluations that include strategic bidding above system marginal costs, the Modified Societal perspective, rather than the CAISO's Societal perspective, is the appropriate perspective to use in evaluating the societal benefits of a proposed transmission project.

To evaluate potential energy benefits of DPV2, the CAISO used the PLEXOS Direct Current Optimal Power Flow network model. A network model simulates electrical flows on individual transmission lines based on electrical principles and line characteristics, and models loop flow. Such a model optimizes the dispatch of generators to provide least-cost supply and permits calculation of LMP, consistent with the CAISO market redesign planned for the end of 2007.

The CAISO based its calculations for what it calls the CAISO Ratepayer (LMP Only) test on the modeling assumption that an LMP-based market structure would be applicable throughout the WECC. However, most of WECC employs contract-path scheduling, with no plans to implement an LMP-based market structure. The CAISO acknowledges that, as a result, its CAISO Ratepayer (LMP Only) calculation overestimates CAISO-area utilities' loss of

congestion revenue due to DPV2 and thus underestimates CAISO ratepayer benefits.

Because of the inaccuracy in its modeling of WECC-wide operations, the CAISO also reports an adjusted CAISO Ratepayer (LMP + Contract Path) benefit perspective. This adjusted calculation excludes much of the congestion revenues between southern California and the Southwest indicated by the CAISO's LMP-based modeling. This exclusion results in substantially lower pre-DPV2 congestion revenues for CAISO utilities, and consequently a much lower negative benefit in the form of reduced congestion revenues when DPV2 is added. Recognizing some shortcomings to this adjustment as well, the CAISO believes that "the true answer lies somewhere between the CAISO benefits computed with and without this adjustment."

The CAISO developed low, medium, and high forecasts for load growth, hydro conditions, gas prices, and the degree of market power exhibited in producers' bids. To analyze the effects of uncertainty on the energy benefits of DPV2, the CAISO performed system simulations for 17 representative (out of 81 possible) combinations of the identified variations in these market conditions. It assigned probabilities to each of the 17 scenarios and used the results to calculate probability-weighted benefit-cost ratios. The CAISO also analyzed energy benefits for eight contingency scenarios representing certain outages and other contingency events, for which it did not assign probabilities and whose results it did not include in the calculated benefit-cost ratios.

In addition to energy benefits, the CAISO quantifies and includes in the reported benefit-cost ratios several non-energy benefits of the DPV2 upgrade as indicated in Table 4, principally operational benefits and capacity value. The CAISO assumes that the annual benefits for each of these areas of

non-energy savings would not change over time in real terms and would not depend on market conditions such as demand, gas prices, or hydro conditions.

c) DRA

DRA's economic evaluation of DPV2, prepared with the assistance of its consultants including Woodruff Expert Services (WES), is summarized in Table 5. DRA forecasts that, with two successive sets of adjustments to SCE's base case analysis, DPV2 will provide net energy benefits of $261 million in excess of DPV2's costs, with a CAISO Ratepayer benefit-cost ratio of 1.31.

Table 5

DRA Economic Evaluation of DPV2

(CAISO Ratepayer Perspective)
(Net Present Value, $2005 Million)

	Deterministic Reference Case	WES Reference Case
Energy benefits	$ 595	$ 907
DPV2 costs	$ 646	$ 646
Benefit-cost ratio	0.92	1.31

DRA used the same system model and database used by SCE. DRA reviewed SCE's economic evaluation of DPV2, but did not address the CAISO evaluation in its testimony.[10] DRA critiques several methods and assumptions used by SCE, describing some that underestimated and others that overestimated the value of DPV2. To address some of these concerns, DRA prepared a two-step analysis. First, DRA prepared what it called a Deterministic Reference Case, which used SCE's base forecasts for loads, gas prices, and hydro conditions but changed certain modeling conventions. As the second step, DRA updated SCE's gas price forecast to the higher forecast current at the time of DRA's assessment. DRA calls this deterministic simulation the WES Reference Case.

DRA considered uncertainty by evaluating eight sensitivity and contingency cases involving extreme outage events or alternative assumptions regarding gas prices and supply conditions. To assess the impact of forecast risk on the estimated value of DPV2, DRA used what it called an Uncertainty Margin method to conclude that the level of forecast risk can be relatively high without jeopardizing the conclusion that DPV2 is likely to provide net benefits.

DRA also undertook what it calls a tipping point analysis to identify which parameters, assumptions, or relationships drive the conclusions of its economic evaluation of DPV2. It identified four variables as tipping points: modeling conventions, the natural gas price differential between Arizona and California, the on-line status of the Palo Verde nuclear units, and the wholesale

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[10] On January 3, 2006, SCE and DRA submitted a joint recommendation in which, among other things, they recommended that the Commission find that DPV2 is needed based on its cost-effectiveness, and SCE withdrew its Phase 1 rebuttal testimony.

cost of natural gas. DRA calculates that, in order for DPV2 to be cost-effective, the wholesale Topock (Arizona) gas price must exceed $5 per million British thermal units (mmBtu), the gas price differential between Arizona and California must exceed $0.50 per mmBtu, and Palo Verde must operate. Alternatively, DRA finds that DPV2 would be cost-effective if gas prices exceed $6.40 per mmBtu, even if there is no California-Arizona price differential.

DRA cautions that the WES Reference Case, while providing DRA's best estimate of DPV2's value, is limited by several identified uncertainties that could be better quantified, but only with significant additional effort. DRA is also concerned that some important uncertainties regarding modeling methods and assumptions may not have been identified, and cautions further that paradigm shifts in the energy market could render the DPV2 project uneconomic.

d) Other Parties

TURN presented testimony in Phase 1 that primarily addressed economic methodology issues that we have resolved in D.06-11-018. In its opening brief in Phase 1, TURN states that it agrees with SCE, the CAISO, and DRA that the proposed DPV2 project is likely to be a cost-effective investment for CAISO ratepayers. TURN finds comfort in the fact that DPV2 economics underwent substantial review by different parties using different methods and all concluded that DPV2 would be beneficial.

PG&E, SDG&E, Global Energy, and BAMx made recommendations in Phase 1 regarding the methodology to be used for economic evaluations of transmission projects. However, none of these parties took a position on the cost-effectiveness of DPV2.

3. DPV2 Energy Benefits

In this section, we address several areas of concern regarding the parties' economic evaluations of DPV2. We also describe the CAISO's and DRA's examination of several unlikely but potentially significant contingency scenarios.

a) System Modeling

As we discussed in D.06-11-018, while the CAISO's view is that only network models provide an acceptable level of accuracy, both the network and transportation approaches as employed in evaluating DPV2 have strengths and weaknesses.

A network model such as the CAISO used in its DPV2 evaluation may provide more accurate forecasts of physical flows and locational prices in an LMP market and may identify the resulting congestion and its economic implications with more accuracy compared to a transportation model. However, because most of WECC outside of California uses contract path scheduling, the CAISO makes an "LMP + Contract Path" adjustment to its modeling results to approximate the market paradigm between the Southwest and southern California. While this adjustment has some similarities to SCE's and DRA's contract path approach, the CAISO still forecasts generator dispatch and power flows based on its network simulation. The "LMP + Contract Path" adjustment is, as the CAISO acknowledges, a simple approximation.

The CAISO's "LMP + Contract Path" measure of DPV2 energy benefits to CAISO ratepayers is over three times as large as that derived in the "LMP Only" calculation, as indicated in Table 4 above. As the CAISO suggests, the actual benefits may fall somewhere in this range. Thus, the potentially greater accuracy of the CAISO's detailed modeling of power flows appears to be

overshadowed in the benefit-cost assessment by the degree of imprecision in the CAISO's calculation and allocation of congestion costs between Arizona and southern California.

In comparison to a network model, a simpler transportation model such as SCE and DRA used is computationally faster and allows a more complex analysis of uncertainty. A transportation model generally can permit more sophisticated modeling of generator operation. Despite CAISO concerns, SCE and other parties assert that, with care, a transportation model may be calibrated and validated regarding the effects of power flow complexities such as loop flow on system dispatch, prices, and congestion costs.

SCE describes that it established transfer limits on modeled interzonal transmission paths between Arizona and southern California to approximate how real world power flows on these paths would be limited. SCE used a Southern California Import Transmission nomogram, which quantifies the aggregate allowable electricity flows on the paths into southern California, depending on the amount of generating capacity operating in southern California and the status of the Palo Verde nuclear units. SCE described that, in addition to transportation modeling, it used separate power flow analyses to demonstrate the physical feasibility of DPV2 operation.

It is not possible to determine, based on the record before us, the extent to which modeling differences affected the parties' results. None of the parties benchmarked their modeling efforts to historical experience. Further, the CAISO and SCE/DRA evaluations used different input databases and simulated different market scenarios. The CAISO used a database developed by the Seams Steering Group—Western Interconnection (SSG-WI) with modifications to reflect SCE's system more accurately, whereas SCE and DRA used a database

developed by SCE based on its recent procurement plans. While the CAISO and DRA reported inputs and results for each of the scenarios they simulated, SCE presented only expected value results obtained from its probability-weighted aggregation of the 100 simulations it undertook.

The most useful comparison available in the record that illuminates the effects of modeling differences is for the year 2013, which all parties modeled. SCE's stochastic results, DRA's Deterministic Reference Case, and the CAISO's "medium conditions and no bid markup" base case are roughly comparable. The resulting 2013 energy benefits from the CAISO Ratepayer perspective are summarized in Table 6. The fact that the energy benefits found by DRA fall almost exactly at the midpoint of the CAISO's "LMP Only" and "LMP + Contract Path" range of benefits supports the CAISO's view that market results will lie somewhere between its two estimates. Because SCE's stochastic process captures the higher value of DPV2 under extreme market conditions, we would expect the energy benefits reported by SCE to be significantly larger than the energy benefits that DRA found using base case conditions. The results summarized in Table 6 are consistent with this expectation.

Table 6

DPV2 Energy Benefits in 2013

(CAISO Ratepayer Perspective)
($2013 Million)

SCE stochastic results	$ 146

CAISO base conditions:	
LMP Only	$ 40
LMP + Contract Path	$ 137
DRA Deterministic Reference Case	$ 88

As TURN suggested, this limited illumination of differences in the parties' production cost modeling efforts confirms that there is value in having both network and transportation models employed in evaluating DPV2. The fact that the relationships among the energy benefits found by the parties are logical provides some assurance both that the CAISO's "LMP Only" and "LMP + Contract Path" estimates bracket actual energy benefits and that the more simplistic transmission modeling underlying the SCE and DRA analyses may be reasonably reliable. We have greater confidence in the results of the parties' evaluations because SCE, CAISO, and DRA modeling efforts produce consistent estimates of energy benefits.

b) Natural Gas Price Forecasts

Both the overall level of natural gas prices and the California-Arizona differential in delivered gas prices affect the level of DPV2 energy benefits. Additionally, the relative efficiencies of power plants in California and elsewhere will influence the extent to which out-of-state gas generation may displace California generation. The gas price level matters because, if gas-fired generators in Arizona have an efficiency (heat rate) advantage over those in California, the higher fuel efficiency will yield greater economic savings when fuel prices are high. Also, the greater the California-Arizona differential in delivered gas prices, the larger the energy savings will be.

Natural gas price forecasts for 2013 utilized or reported in this proceeding are summarized in Table 7.

Table 7

Natural Gas Price Forecasts

($/mmBtu in 2013)

Source	Vintage	Arizona (Topock)	Southern California	California-Arizona Differential
CAISO DPV2 evaluation	Aug. 2004	$ 5.71	$ 6.08	$ 0.37
SCE DPV2 evaluation (Global Insight)	Oct. 2004	$ 5.27	$ 5.66	$ 0.39
SCE Global Insight gas price update	Oct. 2005	$ 6.26	$ 6.72	$ 0.46
DRA DPV2 evaluation (WES Reference Case)	Nov. 2005	$ 7.23	$ 7.62	$ 0.39
DRA gas price update	Jan. 2006	$ 9.53	—	—

In the system simulations undertaken by the CAISO, variations in gas prices had a greater effect on DPV2 energy benefits than any other market condition considered. The CAISO used a base-case natural gas price forecast published by the California Energy Commission (CEC), and developed "very low" and "very high" forecasts representing the lower 5% and upper 95% confidence levels. The effect of these gas price variations on DPV2 energy benefits is shown in Table 8, for base-case load forecasts and hydro conditions. As expected, the effect of gas prices on DPV2 benefits is not symmetrical, with

high gas prices having a greater effect on DPV2 benefits than would low gas prices.

Table 8

CAISO Evaluations of DPV2 Energy Benefits
with Varying Levels of Natural Gas Prices
(Base-case Load Forecasts and Hydro Conditions, No Market Power)

($ Million Nominal)

	Societal	CAISO Ratepayer (LMP Only)	CAISO Ratepayer (LMP + Contract Path)
2008 benefits:			
Low gas prices	$ 6.76	($ 2.41)	$ 17.07
Base gas prices	42.83	19.81	70.83
High gas prices	85.81	48.79	141.49
2013 benefits:			
Low gas prices	$ 20.68	($ 2.89)	$ 50.81
Base gas prices	55.50	40.05	137.07
High gas prices	102.45	91.68	240.63

SCE used natural gas price forecasts developed by Global Insight. Compared to the CEC forecasts used by the CAISO, the Global Insight forecasts contain slightly lower gas prices and a higher California-Arizona price difference. Because lower gas prices would tend to make DPV2 look less economic while a larger California-Arizona price difference would tend to make DPV2 look more economic, the extent to which gas price assumptions contribute to the differences in SCE and CAISO results is unclear.

SCE developed a gas price probability distribution function based on historical gas price fluctuations to model uncertainty in future gas

prices. DRA takes issue with the variations in gas prices that SCE modeled, because SCE included the California energy crisis period in the historical gas price data used to estimate future volatility. DRA submits that the events during that period, including market manipulation, suggest that the period's data are not representative of reasonable future market outcomes. DRA undertook a statistical analysis in which it excluded gas price data from the energy crisis period, and found almost 40% lower volatilities in Topock winter gas prices and about 50% higher correlations in winter prices among the gas pricing basins, compared to the relationships SCE assumed in its modeling. DRA did not quantify the impact on DPV2 economic results.

In its WES Reference Case, DRA used a November 2005 forecast of gas prices at Topock for 2009 and 2010. As can be seen from Table 7, DRA's gas price forecasts are higher than those used by the CAISO and SCE, and the Arizona-California price differential used by DRA is higher than that used by the CAISO and the same as the one used by SCE. Because of these differences, DRA's gas price forecasts would tend to make DPV2 look more economic than would the forecasts used by the CAISO and SCE.

SCE provided an October 2005 update to the Global Insight natural gas price forecast, which is included in Table 7. The natural gas prices in this update are higher than those used by the CAISO and SCE, but less than the prices used by DRA in their economic evaluations. The Arizona-California price differential in this forecast is $0.46 per mmBtu, higher than the differentials used in any of the economic evaluations. DRA provided a late-filed update to its assumed gas price for 2013, using January 16, 2006 Topock futures prices for 2009 and 2010. While no party updated its economic evaluation of DPV2 using these updated gas price forecasts, it is clear that these higher gas prices would increase

the value of DPV2 substantially as long as the Southwest has surplus generation with attractive fuel efficiencies.

c) Mitigation of Market Power

All parties agree that the increased transfer capability added by DPV2 would reduce generators' ability to wield market power through strategic bids above system marginal costs, with resulting ratepayer benefits. Parties disagree regarding the extent to which forecasts of these market power mitigation benefits should be relied upon in determining the likely economic benefits of DPV2.

SCE and DRA did not model strategic bidding or estimate the ability of DPV2 to mitigate generators' market power. These parties express skepticism about the ability to quantify market power mitigation benefits with any degree of reliability. Global Energy states that it would be desirable to analyze the benefits of reducing market power if cost-based studies without strategic bid markups show insufficient project benefits, but submits that the CAISO's approach must be refined and undergo further testing before it can be accepted.

The CAISO simulated generators' exercise of market power via strategic bid markups, using an empirical approach in which it correlated historical market prices above marginal costs with two measures of market concentration. In Table 9, selected results illustrate DPV2 benefits that the CAISO forecasts due to mitigation of market power. To facilitate comparison, this table presents only CAISO scenarios that include base-case forecasts of load, gas prices, and hydro conditions, so that the differences reflect solely the CAISO's modeling of market power. A comparison of the No Market Pricing, i.e., marginal cost-based pricing, and Medium Market Pricing results indicates

annual societal and CAISO ratepayer benefits ranging between $15 million and $56 million due to the modeled reduction in producers' market power.

Table 9

CAISO Evaluations of DPV2 Annual Energy Benefits
with Varying Levels of Market Pricing

(Base-case Load, Gas Price, and Hydro Conditions)
($ Million Nominal)

	Modified Societal	CAISO Ratepayer (LMP Only)	CAISO Ratepayer (LMP + Contract Path)
2008 benefits:			
No market pricing	$ 42.89	$ 19.81	$ 70.83
Medium market pricing	58.85	37.87	98.74
High market pricing	71.12	54.82	124.50
2013 benefits:			
No market pricing	$ 55.54	$ 40.05	$ 137.07
Medium market pricing	77.43	54.88	193.50
High market pricing	93.86	65.22	237.23

As we would expect, the CAISO reports that the highest DPV2 benefits due to market power mitigation would occur if there are high loads, high gas prices, and dry hydro conditions. The CAISO forecasts that DPV2 would provide large market power mitigation benefits under this combination of extreme conditions, with annual energy benefits generally ranging between $54 million and $321 million more with medium market pricing than if no market power is assumed.

We agree that a transmission project such as DPV2 can provide important benefits due to the resulting reductions in market concentration and generator market power. As we recognized in D.06-11-018, the CAISO has made substantial advances in its efforts to forecast strategic bidding and the ability of a transmission upgrade to reduce generators' market power. However, we questioned the manner in which the CAISO used historical data to predict future generator bidding behavior. Among our concerns, the anticipated CAISO LMP-based market, along with strengthened market power mitigation and monitoring, and resource adequacy and capacity requirements, will differ substantially from the historical circumstances that underlie the CAISO's bidding algorithms. We also questioned the reasonableness of the CAISO's use of statistically derived market-wide price-cost markups to approximate individual generators' bid-cost markups. Another concern we expressed in D.06-11-018 is that the CAISO did not verify adequately the predictive ability of its market power model.

Our concerns regarding reliance on the CAISO's estimations of benefits due to DPV2's mitigation of market power are compounded by the difficulties in modeling congestion revenues between the CAISO control area and Arizona. As can be seen in Table 9, the CAISO forecasts much higher market power mitigation benefits in the CAISO Ratepayer (LMP + Contract Path) calculation than in the CAISO Ratepayer (LMP Only) calculation. The compounding effects of the uncertainties regarding the CAISO's estimates of both congestion revenues and market power mitigation increase our reluctance to rely on the estimates of market power mitigation benefits submitted by the CAISO for DPV2. Nevertheless, the CAISO results illustrate the value of DPV2 in reducing producers' ability to elevate prices due to market power.

d) Treatment of Generation Units Owned or Controlled by CAISO-Area Utilities

As modeling simplifications, SCE and the CAISO assume in their economic evaluations of DPV2 that all energy will be bought and sold at spot market prices, and that no new generation will be owned or controlled by CAISO utilities. DRA bases its economic evaluation of DPV2 on modifications to SCE's base case and, thus, also incorporates these assumptions. However, DRA is concerned that both of these simplifications tend to overestimate DPV2 benefits.

The assumption that all energy is bought and sold at spot market prices credits DPV2 with price reductions for all energy sold, to the extent that DPV2 reduces spot market prices. DRA points out that, in reality, much of the utilities' energy needs are met by cost-of-service generation and by power contracts whose costs to ratepayers may be either partially or entirely insensitive to spot market prices.

We agree with SCE that calculating DPV2 benefits as if existing utility-owned generation is sold at spot market prices does not bias the calculated CAISO Ratepayer energy benefits. While the assumption of spot market prices for all utility-owned generation is incorrect, in the calculation of CAISO Ratepayer benefits the resulting (and also erroneous) increase in the utilities' producer surplus is passed on to ratepayers. Thus, the erroneous increases in consumer and producer surpluses due to utility-owned generation offset each other, with no net effect on the calculated CAISO Ratepayer benefit.

DRA is correct that, to the extent that CAISO-area load is served by new utility-owned generation, or through existing or new spot price-hedging contracts with merchant generators or non-CAISO area utilities, the assumption that DPV2 will decrease spot market prices for such power would overestimate energy benefits to CAISO ratepayers. This is because, unlike existing utility-

retained generation, the resulting erroneously assumed increase in producer surplus is not included in the calculation of CAISO Ratepayer benefits and thus does not offset the erroneous increase in consumer surplus. The CAISO's inclusion of market power mitigation benefits for DPV2 amplifies these overestimations of DPV2 benefits in the CAISO's evaluation.

We recognize the inherent difficulties and imprecision in forecasting the nature of future energy sources and the pricing terms by which energy will be sold to CAISO-area utilities. Without knowing the extent to which these modeling simplifications overestimate DPV2 benefits, we consider this uncertainty along with other factors in assessing the likely economic benefits of DPV2.

e) Extrapolation of Energy Benefits After the Study Period

In calculating the value of DPV2 energy benefits, SCE, the CAISO, and DRA extrapolated benefits for the last year simulated and then discounted the future benefits to produce either a present value (SCE and DRA) or a levelized annual value (the CAISO). SCE and DRA modeled WECC system operation and DPV2 energy benefits from June 1, 2009, the anticipated in-service date, through December 2015, and then calculated energy benefits beyond 2015 assuming that annual benefits remain constant in real inflation-adjusted dollars.

Although DPV2 is projected to commence operations in mid-2009, the CAISO conducted its analysis of DPV2 for 2008 and 2013 because the SSG-WI database used in the CAISO's assessment had been developed for the years 2008 and 2013. The CAISO assumes a 1% real (adjusted for inflation) escalation rate for energy benefits after 2013, for the remainder of the assumed economic life.

We are not convinced that DPV2 energy benefits are likely to escalate at 1% in real terms each year after 2013, as assumed by the CAISO. The CAISO justifies this assumption based on expected above-inflation escalation of commodity prices and an anticipated replacement of coal by gas as the marginal electricity source that determines market prices. However, DRA and SCE forecast that, with operation of DPV2, the surplus energy from the Southwest that will displace higher-cost California generation will already be almost exclusively gas-fired, not coal-fired, during the studied 2009 - 2015 period. Additionally, continuation of DPV2 energy benefits beyond the study period is based in significant part on expectations that current locational differences in gas prices and gas-fired generator efficiencies are likely to continue, and that there will continue to be generation surplus in the Southwest and particularly in Arizona. On balance, we find that SCE's and DRA's view that annual DPV2 energy benefits are likely to remain constant in real terms is the more realistic assumption.

As indicated in a sensitivity calculation performed by the CAISO, use of an assumption that annual DPV2 benefits will remain constant in real terms after 2013, rather than escalate faster than inflation, would decrease the levelized energy benefits and benefit-cost ratios that the CAISO calculated for DPV2 by about 9%.

f) Contingency Analyses

The CAISO and DRA evaluated the economic impacts of several potential market conditions whose likelihood of occurrence may be too low and uncertain to warrant inclusion in benefit-cost ratios. Although individually unlikely, these contingency events could have a significant effect on the cost-effectiveness of DPV2 if they do occur. Such contingency analyses are useful in

that they shed light on the extent to which DPV2 may provide insurance value for high-impact, low-probability events. They also examine downside risks that unexpected market developments may render DPV2 uneconomic.

For DPV2, the CAISO analyzed eight contingency scenarios representing major transmission or generation outages or additions. In these contingency cases, the CAISO used base-case (medium) demand, gas price, hydro, and market (bid markup) conditions. The impacts of these contingencies on calculated 2013 energy benefits are summarized in Table 10.

Table 10

CAISO Evaluation of DPV2 Energy Benefits in 2013
Under Specified Contingency Conditions

(Base-case Load, Gas Price, and Hydro Conditions)
($2013 Million)

	Societal Perspective	Modified Societal	CAISO Ratepayer (LMP Only)	CAISO Ratepayer (LMP + Contract Path)
Base-case conditions	$ 58.83	$ 77.43	$ 54.88	$ 193.50
Add 1,200 MW of gas-fired combined cycle at Palo Verde	85.01	114.52	127.58	291.87
Add 2,400 MW of gas-fired combined cycle at Palo Verde	91.39	122.45	184.03	338.52
Mountainview plant out of service	58.85	92.95	77.95	267.30
Mohave coal plant in service	73.68	96.21	104.22	242.96
San Onofre nuclear plant out of service	85.82	134.10	145.74	380.68

Pacific DC intertie out of service	63.80	84.73	51.92	214.81
10% lower transfer capability for Paths 49 and 66	61.53	80.65	99.59	123.99
Retirement of 3 units in SCE control area	56.51	74.11	43.75	191.39

Because the two versions of CAISO Ratepayer benefits reported by the CAISO only bracket expected benefits with some inaccuracy, the reported Societal and Modified Societal benefits are more instructive in our consideration of the CAISO's contingency scenarios. The Societal benefit provides an indication of WECC-wide energy savings with no market power mitigation attributed to DPV2, whereas the difference between the CAISO's Societal and Modified Societal results indicates market power reduction benefits that the CAISO attributes to DPV2.

The first two of CAISO's contingency scenarios consider the construction of new combined cycle plants in Arizona whose power could be transported over DPV2. It is expected that new gas-fired plants could be constructed with significant cost savings in Arizona. With assumed California-Arizona gas cost differences, these contingency scenarios indicate that access to this relatively inexpensive generation would provide significant energy benefits, with the first 1,200 MW plant increasing DPV2's Societal benefits by about 45%. It is informative, however, that DPV2 would provide only marginal additional energy benefits if 2,400 MW rather than 1,200 MW of new gas capacity is constructed in Arizona.

In three contingency scenarios, the CAISO considers generation reductions in SCE's service area, with the identified plants being out of service

for the entire year. The additional benefits of DPV2 if the Mountainview plant is out of service appear to lie in its ability to thwart generators' exertion of additional market power, since the Societal benefits that exclude market power remain almost unchanged from the CAISO's base-case results. DPV2 would be more valuable during a complete outage of the San Onofre units.

In two scenarios, the CAISO considers transmission limitations. The value of DPV2 as insurance against an outage of the Pacific DC intertie or a reduction in the transfer capability of Path 49 (east of the Colorado River) and Path 66 (the California-Oregon intertie) appears limited.

DRA evaluates eight sensitivity and contingency cases, based on the Deterministic Reference Case that is a modification of SCE's base case. DRA reports the impacts of these contingencies on energy benefits for CAISO ratepayers for each year between 2009 and 2015. The average annual impacts of each of these contingencies are summarized in Table 11.

Table 11

DRA Evaluation of DPV2 Energy Benefits
Under Specified Contingency Conditions

(CAISO Ratepayer Perspective)
(2009 – 2015 Average, $2004 Million)

Deterministic Reference Case	$ 56.4
Palo Verde out of service	37.2
No Arizona-California gas price differential	48.7
Stirling solar installation	93.8
Postponement of California retirements	58.0

Alternative Arizona expansion	57.1
San Onofre out of service	90.8

DRA's Palo Verde outage scenario assumes that all three Palo Verde nuclear units are out of service for the entire study period. DRA reports that this would reduce DPV2 energy benefits to CAISO ratepayers by about one-third, compared to the otherwise identical Deterministic Reference Case, as power flows out of California to the overall benefit of Arizona ratepayers. DRA's "no gas price differential" scenario assumes that there is no gas price differential between Arizona and southern California. This would reduce CAISO ratepayer benefits by about 14%.

In the Stirling Solar scenario, DRA assumes that a 1,000 MW Stirling solar dish installation interconnects at the potential Midpoint substation near Blythe. DRA reports that this would increase DPV2 energy benefits by about 66%, largely because the solar installation would provide most of its output during daytime peak hours when the value of power will be high and surplus generation in Arizona is likely to be low.

DRA's California Retirement Postponement case assumes that 3,108 MW of California generation that is slated for retirement between 2006 and 2015 is not retired during the study period but instead remains in service. DRA finds that this would produce a very slight increase in DPV2 energy benefits.

In the Alternative Arizona Expansion case, DRA replaces 800 MW of generic coal plant addition that SCE assumes will be added in Arizona in 2013 and 2014 to maintain needed reserve margins. DRA replaces this capacity with 850 MW of gas-fired peaking and cycling capacity, to assess whether new peaking and intermediate capacity in Arizona would be more beneficial than addition of baseload generation. This produces a very slight

increase in projected DPV2 benefits. Finally, like the CAISO, DRA evaluates a scenario in which both San Onofre units would be out of service for the study period. DRA's analysis indicates that DPV2 energy benefits to CAISO ratepayers would increase by 61% with the San Onofre outage.

The CAISO and DRA contingency analyses complement the evaluations of more likely market conditions, and enhance our ability to assess the value of DPV2. More exploration of conditions that could adversely affect DPV2's cost effectiveness would have been helpful. However, the studied contingency events confirm that the energy benefits of DPV2 may be enhanced considerably if the availability of surplus energy in the Southwest is increased or, to a lesser extent, if supply is removed from California.

4. DPV2 Non-energy Benefits

SCE and the CAISO attribute certain non-energy benefits to DPV2 that they include in the reported benefit-cost ratios. SCE reports (see Table 1 in Section III.A.2.a) that inclusion of DPV2 in transmission revenue requirements will increase SCE's transmission revenues from wheeling and Existing Transmission Contracts by $28.1 million on a net present value basis. SCE also reflects that the energy savings realized due to DPV2 will reduce ratepayer charges for franchise fees and uncollectibles, a forecasted net present value savings of $13.0 million.

The CAISO's economic evaluation includes significant non-energy benefits, which are shown in Table 4 in Section III.A.2.b. The largest non-energy benefit reported by the CAISO arises due to system operational savings. The CAISO projects that DPV2 will avoid the need to start and run at minimum load substantial amounts of high-cost generating capacity in southern California that would be needed otherwise to protect against outage contingencies for major

transmission lines or nuclear units. The CAISO explains that the resulting $20 million levelized annual benefit arises largely from avoidance of Minimum Load Compensation Payments to the uneconomic generators.

The CAISO also reports capacity benefits totaling $6 million per year for CAISO ratepayers and $12 million per year from the Societal perspective. These benefits reflect the CAISO's assessment of the value of the 1,200 MW of firm import capability added by DPV2. The CAISO assumes that capacity prices are capped at the cost of new peaking units. Based on its assessment that capital and fixed operating costs for a peaking unit are significantly less in Arizona than in California,[11] the CAISO assumes that the cost benefit of constructing peaking capacity in Arizona would be split equally between the buyers and sellers of capacity. The CAISO decreases the maximum savings benefit by an additional one-third to provide "a more conservative estimate" of the capacity cost savings attributable to DPV2, and obtains a total $12 million annual benefit.

The CAISO finds that operation of DPV2 will yield a net reduction in transmission losses, producing $1 million of levelized annual benefits to California ratepayers ($2 million on a Societal basis). The CAISO also reports a reduction in nitrogen oxide (NOx) emissions costs, based on lower emissions by new combined cycle plants in Arizona compared to emissions of older plants in California. The CAISO calculates $1 million of levelized benefits, based on the

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[11] For simple cycle combustion turbines, the CAISO estimates that capital and fixed operating costs would be about 30% higher in California than in Arizona. This conclusion is based on assumptions that California has 43% higher labor costs, 67% higher land costs, and, accounting for most of the differential, air emission and water control technology costs that are more than triple the costs in Arizona.

emissions reductions and the assumption that the value of NOx credits will be higher in California than in Arizona.

We have concerns regarding the capacity value that the CAISO attributes to DPV2. While there currently is excess summer peak capacity in the Southwest, forecasted growth in that region is such that most, if not all, of the excess capacity would be needed to meet summertime needs in the Southwest by the time DPV2 is operational. In its updated evaluation of DPV2, SCE forecasts that no existing Arizona capacity would be available to provide firm capacity to California when DPV2 comes online. The WECC forecasts a regional reserve margin for the Southwest of 21% in 2008, declining to 19% in 2013. Thus, it appears likely that DPV2 would be able to deliver 1,200 MW of firm summer peak capacity to California only if additional capacity is built in Arizona for that purpose.

If additional capacity were to be built in Arizona to provide firm capacity to California, it is unclear whether peakers or combined cycle plants would be more economical. The DRA and SCE evaluations indicate that, while Arizona's existing capacity may be needed to meet local summer peaks by the time DPV2 comes online, Arizona is projected to maintain significant excess gas-fired capacity in winter that can be used to provide economical energy to California. The Southwest is expected to continue to have surplus low-cost generation in winter because winter peaks there are low compared to summer peaks. Because of this, both SCE's and DRA's analyses indicate that the bulk of DPV2's energy benefits would accrue in winter months, particularly in on-peak hours of winter months. Thus, a potential builder of new generation in Arizona would need to consider this competition for seasonal energy production in deciding whether to build new generation for export to California.

We recognize that difficulties in siting new generation in California, combined with cost differentials that may exist, may motivate generators to construct outside of California to meet California capacity needs. However, for the above reasons, we believe that it is speculative to assume that new power plants will be constructed in Arizona such that the full 1,200 MW transfer capability of DPV2 will be used to deliver firm summer peak capacity to southern California.

In summary, the CAISO's forecasts of the value of the non-energy benefits of DPV2 may be reasonable. However, we are not convinced that the full capacity benefit the CAISO attributes to DPV2 will be realized.

5. DPV2 Costs

a) Costs of Proposed Route and Authorized Route Alternatives

SCE provided cost estimates for its proposed route for the DPV2 project and for several alternative routes considered during the proceeding. No other party contested or presented evidence regarding SCE's cost estimates. As a result, we accept SCE's cost estimates for the DPV2 route alternatives authorized in this decision.

SCE's cost estimate for its proposed route for DPV2 is $577,663,000 in 2005 dollars, including pension and benefits, and administrative and general overheads. This cost estimate must be adjusted to reflect the authorized project route and route segments.

We find in Section IV that the West of Devers 230 kV upgrades included in SCE's proposed project are not feasible, and we authorize SCE to construct the Devers-Valley No. 2 500 kV line instead. Use of Devers-Valley No. 2 instead of the 230 kV upgrades reduces SCE's DPV2 cost estimate to

$545,285,000. We authorize SCE to terminate the Devers-Harquahala 500 kV line at either the Harquahala power plant, as reflected in SCE's proposed project, or at a new Harquahala Junction that would shorten the route by five miles. SCE estimates that construction of Harquahala Junction would reduce costs by $24,080,000. In the vicinity of the Alligator Rock ACEC, we authorize SCE to construct DPV2 either adjacent to DPV1, as in SCE's proposed route, or using the Alligator Rock—North of Desert Center alternative. SCE estimates that the Alligator Rock—North of Desert Center route segment would add $8,952,000 to the cost of DPV2, including Allowance for Funds Used During Construction (AFUDC). While not provided by SCE, we estimate based on the amount of AFUDC in other SCE cost estimates that a comparable cost estimate for the Alligator Rock—North of Desert Center segment excluding AFUDC would be approximately $8,284,000.

b) Specification of Maximum Reasonable Cost

While the Federal Energy Regulatory Commission (FERC) ultimately will decide how much of the costs for this project SCE may recoup in transmission rates, we have jurisdiction pursuant to § 1005.5(a) and the responsibility to specify in the CPCN a "maximum cost determined to be reasonable and prudent" for the DPV2 project.

We adopt a maximum cost for DPV2 pursuant to § 1005.5(a) of $545,285,000 in 2005 dollars, including pension and benefits, and administrative and general overheads. This maximum authorized cost is decreased by $24,080,000 if the Devers-Harquahala line is terminated at Harquahala Junction. The maximum authorized cost is increased by $8,284,000 if the Alligator Rock—North of Desert Center route segment is used. These costs are in 2005 dollars. As SCE requests, in assessing compliance with these cost caps, SCE may deflate

actual expenditures to their equivalent value in 2005 dollars using the Handy-Whitman Index of Public Utility Construction Costs.

SCE's cost estimates are based on preliminary design work. SCE requests that the Commission authorize it to seek additional cost recovery based on changes in cost estimates due to the adopted mitigation measures and mitigation monitoring program, final design criteria, and other factors.

We believe that SCE included sufficient allowance for contingency costs – almost 15% – to accommodate final design changes, as well as the adopted EMF mitigation, environmental mitigation, and mitigation monitoring program. The contingency budget may also be sufficient to accommodate possible routing changes in the Kofa and Alligator Rock areas, as discussed in Section IV.A. If, upon completion of the final, detailed engineering design-based construction estimates for the authorized project, SCE concludes that the costs will be materially (i.e., 1% or more) lower than the maximum cost we adopt, SCE should submit its updated cost estimate with an explanation of why we should not revise the maximum cost downward to reflect the new estimate. If SCE's final estimate exceeds the maximum cost we have adopted, SCE should seek an increase in the approved maximum cost pursuant to § 1005.5(b), at which time we will assess whether the cost increases affect the cost-effectiveness and need for the DPV2 project.

c) Effect of Route Alternatives on Cost-effectiveness of DPV2

SCE, the CAISO, and DRA based their economic evaluations of DPV2 on the project route proposed by SCE in its application. At the ALJ's request, SCE submitted late-filed exhibits indicating how construction cost changes associated with route alternatives would affect the parties' economic

evaluations of DPV2.[12] Because construction of the Devers-Valley No. 2 500 kV alternative would be less expensive than SCE's proposed 230 kV upgrades west of the Devers substation, this route alternative would increase the benefit-cost ratios for DPV2 by about 3.3%. Similarly, termination of DPV2 at Harquahala Junction in Arizona would be less expensive than the SCE-proposed termination at the Harquahala power plant, and would increase benefit-cost ratios by about 5.0%. SCE did not provide benefit-cost results for the Alligator Rock – North of Desert Center route alternative, but we estimate that this more-expensive alternative would reduce benefit-cost ratios by about 1.5%.

6. Discount Rates

Consistent with our determination in D.06-11-018, it would be appropriate to use SCE's most recently adopted weighted cost of capital as the discount rate in evaluating the benefits of DPV2. In D.05-12-043, the Commission adopted an 8.77% rate of return for SCE for 2006. In D.06-08-026, we granted SCE's request to waive a test year 2007 cost of capital application, so that the authorized 8.77% rate of return is also applicable during 2007.

SCE and DRA discounted future DPV2 benefits and costs to 2005 using a 10.5% nominal discount rate, stated to be SCE's most recently established incremental cost of capital. The CAISO discounted future DPV2 benefits and costs at a real discount rate of 7.16%, stated to equal SCE's weighted cost of capital. Assuming the long-term annual inflation rate of 2.28% used in SCE's assessment, this would equate to a nominal discount rate of 9.44%.

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[12] We address DPV2 project costs in Section III.A.5 and DPV2 route alternatives in Section IV of this decision.

Based on the yearly DPV2 energy benefit and cost results that SCE reported in Exhibit 6, use of an 8.77% discount rate rather than a 10.5% discount rate would increase the CAISO Ratepayer perspective benefit-cost ratio that SCE calculated from 1.71 to 1.88, an increase of about 10%. The record does not contain comparable yearly results for the DRA and CAISO evaluations of DPV2. However, with use of an 8.77% discount rate, we would expect a similar percentage difference in the benefit-cost ratios found by DRA. It appears that the impact of an 8.77% discount rate on the benefit-cost ratios found by the CAISO would be less than 5%, since the discount rate it used was closer to the currently authorized rate of return.

7. Load Forecasts and Baseline Resource Plans

As we noted in D.06-11-018, the applicant's resource plan and assumptions about transmission and generation resources in other portions of the study area are important components of the economic evaluation of a proposed transmission project.

In its economic evaluation of DPV2, SCE used the system database it maintains for the Commission's long term procurement proceeding, but updated its forecasts for loads, natural gas prices, and available hydro generation. SCE included increased energy efficiency, demand response, and renewable resources sufficient to meet the State's renewables goals. SCE determined that generation should be retired based on published retirement dates, if a plant reaches a life of 55 years, or if retirement is planned due to air quality restrictions. DRA used SCE's resource plan and load forecast assumptions in its own economic evaluation of DPV2.

The CAISO modeled the transmission and generation system using the SSG-WI database, which the CAISO modified in consultation with SCE to

improve its representation of the SCE system. The CAISO describes that it added generation resources to the SSG-WI database to reflect renewables goals in each state, and added new gas-fired generation, primarily combined cycle plants, in each of the WECC areas as needed to maintain at least a 15% planning reserve margin. The CAISO also states that it added a few new thermal units that were economically attractive after renewable and capacity adequacy standards were met.

No party takes issue with the load forecasts and resource plans used in the economic evaluations of DPV2. DRA calls attention to one difference between the baseline resource plans developed by SCE and the CAISO: the CAISO included series capacitor upgrades sponsored by the Salt River Project, referred to as the East of River (EOR) 9,000+ project. SCE's (and therefore DRA's) assessment did not include these upgrades. The effect of this exclusion is that the SCE and DRA assessments reflect a lower baseline transfer capability, potentially translating into higher energy benefits attributed to the 1,200 MW increase in transfer capability due to DPV2. However, DRA did not make a recommendation regarding whether SCE should have included the EOR 9,000+ upgrade in its baseline resource plan. In their economic evaluations of DPV2, no party assumed that construction of DPV2 would affect the resource plans in other respects.

B. Nonquantified DPV2 Benefits

Some potential economic benefits of DPV2 are difficult to quantify. Each of the three economic evaluations of DPV2 discusses certain potential benefits in qualitative terms. Most of the potential benefits discussed qualitatively by one party were addressed quantitatively by another party in its evaluation of expected energy benefits (mitigation of market power), non-energy

benefits (operational and capacity values, value of reduced emissions and transmission line losses), or contingency value (effects of new generation east of Devers, emergency generation or transmission outages, and gas price fluctuations).

In addition, parties credit DPV2 qualitatively with potential benefits to the extent it allows earlier retirements of aging power plants, encourages fuel diversity, allows reserve sharing, and/or increases voltage support for Southern California. The parties' discussion of these potential additional benefits of DPV2 is useful in extending our attention beyond the limits of the quantitative analysis. We consider these factors in our consideration of DPV2's economic value, even though their potential benefits have not been measured.

C. Alternatives to DPV2 and the No Project Alternative

Our evaluation of whether SCE should be granted a CPCN to construct the DPV2 project would not be complete without consideration of alternative resources that could be added or other actions that could be taken in lieu of the proposed project. Additionally, in accordance with CEQA requirements, the Final EIR/EIS evaluates the No Project alternative. In essence, the No Project alternative examines impacts if the proposed project, or a variation thereof, is not approved and built.

1. Alternatives to DPV2

In D.04-12-048, the Commission directed SCE and the other investor-owned utilities to follow the loading order in the Energy Action Plan (EAP). The

updated EAP II[13] requires that the investor-owned utilities integrate all cost-effective energy efficiency into their resource plans. EAP II also requires inclusion of reasonable amounts of demand response and the procurement of renewable generation to the fullest extent possible. The Renewable Portfolio Standard (RPS) program as originally established required 20% of electricity sales to come from renewable sources by 2017, but that 20% goal has been accelerated from 2017 to 2010.

In D.04-12-048, the Commission found SCE's long term procurement plan to be reasonable, subject to revision to include energy efficiency targets as adopted in D.04-09-060 and demand response programs proposed for implementation in Rulemaking 02-06-011. In its economic evaluation of DPV2, SCE includes the resources that are in its long term procurement plan, with increased energy efficiency, demand response, and renewable resources sufficient to meet the State's RPS goals. We agree with SCE and the CAISO that additional development of energy efficiency, demand response, and renewable generation beyond the targets already set is not a feasible or cost-effective alternative to DPV2, as discussed more fully below.

In this proceeding, DRA and the CAISO assess possible development of combined cycle generation in southern California as an alternative to DPV2. The Final EIR/EIS suggests that new combined cycle plants could be built near the Devers, Etiwanda, and/or Valley substations.

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[13] EAP II, a policy statement issued jointly by the Commission and the CEC, established a set of priorities for the energy policy for the State. See http://www.cpuc.ca.gov/PUBLISHED/REPORT/50480.htm.

DRA compares the addition of five 250 MW gas-fired combined cycle generators in California to construction and use of DPV2 to tap surplus generation from existing gas power plants in Arizona. DRA reports that ratepayers could finance construction of the California plants under 10-year power purchase agreements for approximately the same present value cost as the cost of building DPV2. DRA calculates that, with the new California gas generation, CAISO ratepayer benefits would be only 61% of the ratepayer benefits produced by accessing surplus Arizona energy via DPV2. DRA concludes that the alternative of investing additional capital in new California generation appears to be less preferable than building DPV2.

The CAISO compares the cost of building a new combined cycle plant in California with the cost of building a comparable new plant in Arizona to provide power to California using DPV2. The CAISO estimates that construction and operating costs for a combined cycle plant built in Arizona would be about 10% less than costs for a California plant. It finds that baseload power from such a plant in Arizona, delivered to California via DPV2, would be about 4% more expensive than power from a new gas plant in California, due to allocation of a share of DPV2 costs. The CAISO cautions, however, that its California combined cycle cost estimate does not include transmission or gas interconnection costs, which it could be substantial.

The CAISO submits that California needs to add 5,000 MW or more in the next five years due to load growth and generation retirement. In its opinion, both additional generation in southern California and inter-regional transmission upgrades including DPV2 should be pursued. SCE concurs with the CAISO that both generation and transmission options are needed, and submits that non-transmission alternatives could not meet all of the project

objectives and/or could not be counted on to develop fast enough or in enough magnitude to avoid need for the DPV2 project.

We agree with SCE and the CAISO that there is need to pursue a range of resources, including inter-regional transmission, in-state generation, and other alternatives. In D.06-07-029, the Commission found that, in order to maintain adequate capacity and reserves throughout the state, 3,700 MW of new generation must come on line beginning in 2009. The required new resources are in addition to the expected investment in energy efficiency and renewable generation, and are in addition to planned transmission upgrades. As the CAISO points out, new or refurbished generating units are likely to be needed in southern California for reliability and operational purposes, but siting opportunities may be limited. At the same time, an expanded transmission system would increase access to competitively priced energy, provide more flexibility in operating the grid, and increase grid reliability. We conclude that, even with the emphasis on energy efficiency, demand response, renewable resources, and distributed generation, investments in both transmission and conventional power plants also will be needed.

As SCE and the CAISO describe, several potential transmission projects that could increase transmission transfer capability between California and the Southwest were evaluated. The STEP process screened alternative transmission upgrades and undertook technical and economic studies to develop a consensus expansion plan, which includes both DPV2 and upgrades to series capacitors for DPV1 and the Southwest Power Link. Based on SCE's and the CAISO's showings, we find that the range of potential transmission alternatives has been considered carefully and that DPV2 is the preferred new transmission alternative to provide access to lower-cost energy in the Southwest.

2. The No Project Alternative

Under the No Project alternative considered in the Final EIR/EIS, DPV2's 1,200 MW of transfer capability would not be added, and the existing transmission grid and power generating facilities would continue to operate. To serve the expected continued growth in electricity consumption and peak demand within California, additional electricity would need to be generated within California or imported into California by existing transmission facilities. In the No Project alternative, there could be supply-side actions, including accelerated development of conventional, renewable, and distributed generation, or other major transmission projects. Additional energy conservation or load management could also be pursued.

The Final EIR/EIS states that the continued operation of existing gas-fired turbine generators and construction of new generation and transmission lines would have long-term environmental impacts including substantial air emissions and ongoing noise near the generators, and visual impacts depending on the locations of new transmission lines and generators. The Final EIR/EIS does not find that the No Project alternative would be environmentally preferable to the Environmentally Superior configuration of the DPV2 project.

As we discuss above, because of both the magnitude of resource additions that are needed and the operational, system reliability, and other benefits that transmission upgrades such as DPV2 would provide, the No Project scenario is not a desirable alternative to the DPV2 project.

D. Discussion

The Commission must take into account a wide range of factors consistent with §§ 1001, 1002, 1005.5, GO 131-D, and other statutory and regulatory requirements in evaluating whether to authorize DPV2. As we

explain in this section, there is adequate record support that SCE should be granted a CPCN for the DPV2 project.

As we describe above, SCE, the CAISO, and DRA performed separate economic evaluations of the DPV2 project, using different methodologies, assumptions, and scenarios. All three parties reach similar conclusions that DPV2 would be cost-effective for CAISO ratepayers, with DPV2 likely to provide significant economic benefits in excess of its costs over a wide range of market conditions. SCE reports a likely benefit-cost ratio of 1.71 from the CAISO Ratepayer perspective (Table 1). The CAISO finds that the benefit-cost ratio from the CAISO Ratepayer perspective will be between 1.25 and 3.34, and that the benefit-cost ratio from a Societal perspective is either 1.35 or 1.77, depending on whether forecasted market power mitigation benefits are included (Table 4). DRA's evaluation in its WES Reference Case finds a CAISO Ratepayer benefit-cost ratio of 1.31 (Table 5).

In addition to quantified economic benefits, the parties cite several other benefits as further support for their recommendations that the Commission authorize SCE to construct DPV2. In assessing need for the project, we must weigh the significant economic and other benefits that are expected to accrue against the undesirable environmental effects that DPV2 may cause.

In concluding that DPV2 should be authorized, the parties focus on the economic benefits that would accrue because of the 1,200 MW increase in the transfer capability between California and Arizona. Access to Southwest generation is limited currently by congestion over the transmission interfaces between southern California and the Southwest. The increased access that DPV2 would provide to less expensive generation in Arizona and elsewhere in the

Southwest would allow higher-cost generation in California to be replaced and would reduce the cost of energy to CAISO ratepayers.

In Section III.A.3.a, we describe differences among the parties' production cost modeling of the energy benefits of DPV2. As we found in D.06-11-018, both the network model used by the CAISO and the transportation model used by SCE and DRA in this proceeding have strengths and weaknesses. While a network model such as used by the CAISO has the potential for greater accuracy in LMP-based markets, such a model has difficulties in modeling dispatch and congestion costs on inter-regional transmission projects like DPV2. This limitation reduces the precision of the CAISO's estimates of DPV2 energy benefits. As reflected in Table 4 above, the CAISO was only able to bracket expected CAISO ratepayer benefits with a wide range of uncertainty. At the same time, concerns have been raised regarding SCE's validation of the more simplified transportation modeling used in SCE's and DRA's evaluations of DPV2. In light of these concerns, we conclude that there is value in the use of both network and transportation models in evaluating DPV2. As TURN suggests, we have greater confidence in the results of the parties' evaluations since SCE, the CAISO, and DRA modeling efforts produce comparable and consistent results.

In Section III.A, we have identified several aspects of the economic evaluations that, individually, may tend to bias DPV2 benefit estimates either positively or negatively. There are several ways in which parties may have underestimated the likely value of DPV2.

First, natural gas prices have increased, particularly from the levels used in the SCE and CAISO economic evaluations. DRA found that DPV2 would be cost-effective if Arizona gas prices reach $5.00 per mmBtu in 2010 with a

California-Arizona gas price differential in excess of $0.50 per mmBtu, or if gas prices reach at least $6.40 even with no California-Arizona price differential.

Second, SCE and DRA did not reflect that some producers may be able to markup bids above marginal costs in an exercise of market power. We agree that, by increasing the amount and diversity of suppliers with access to the California market, DPV2 will enhance competition and reduce the potential for generators to exert market power. While we are not convinced that the CAISO's market power estimations are reliable, it is clear that DPV2 would provide some amount of market power mitigation, with benefits to CAISO ratepayers.

In its WES Reference Case, DRA evaluated DPV2 benefits using only base-case market conditions. Due to asymmetry in how energy costs are influenced by variations in system conditions, consideration of the effects of volatility in factors such as loads, gas prices, and hydro conditions likely would yield a higher expected value of DPV2 energy benefits, compared to an evaluation of benefits looking only at expected market conditions. As an example, high gas prices have a greater effect on DPV2 benefits than would low gas prices, as illustrated in Table 8.

Additionally, the CAISO and DRA benefit calculations do not recognize that wheeling customers and entities with Existing Transmission Contracts would contribute to DPV2 cost recovery, or that revenue requirements for franchise fees and uncollectibles would decline due to energy cost reductions attributed to DPV2. Similarly, SCE and DRA evaluations do not include economic benefits arising due to operational benefits, emissions savings, or reduced transmission losses, as found by the CAISO.

Another source of potential underestimation of DPV2 benefits is that the discount rates that SCE, the CAISO, and DRA used are all higher than SCE's

cost of capital. Consistent with D.06-11-018, use of a discount rate equal to 8.77%, the cost of capital authorized most recently for SCE in D.05-12-043, would increase benefit-cost ratios as reported by SCE and DRA by about 10%. An 8.77% discount rate likely would increase DPV2 benefit-cost ratios reported by the CAISO somewhat less than 5%.

Other choices in the parties' economic evaluations may tend to overestimate the value of DPV2. As discussed in Section III.A.3.d, the SCE, CAISO, and DRA evaluations assume that all energy is bought and sold at spot market prices, and that no new generation will be owned or controlled by CAISO utilities. These simplifying assumptions overestimate the value of DPV2 in decreasing spot market prices, to the extent that CAISO-area load will be served by new utility-owned generation, or by new or existing spot price-hedging contracts with merchant generators or non-CAISO area utilities.

As another concern, we are not convinced by the CAISO's assumption that annual DPV2 benefits will increase by 1% in real terms (adjusted for inflation) each year after 2013. As we describe in Section III.A.6, the more realistic assumption that annual DPV2 energy benefits will remain constant in real terms after 2013 would decrease the CAISO's benefit-cost ratios for DPV2 by about 9%.

Nor are we persuaded that the capacity benefits that the CAISO attributes to DPV will be realized, for reasons we discuss in Section III.A.6. With the expectation that generation capacity that meets the Southwest's summertime peak needs will continue to allow significant amounts of economical surplus energy to be available to California during non-peak periods, it is not clear that DPV2 will provide sufficient incentives to cause additional generation to be built east of Devers to provide firm capacity to California.

Finally, we note that the cost of DPV2 may change depending on routing choices and other factors, which would have a direct impact on the project's cost-effectiveness. As described in Section III.A.5, construction of the authorized Devers-Valley No. 2 route alternative is expected to increase benefit-cost ratios for DPV2 by about 3.3%. Termination of the DPV2 project at Harquahala Junction could increase benefit-cost ratios by about 5.0%, whereas use of the Alligator Rock—North of Desert Center route alternative could reduce benefit-cost ratios by about 1.5%.

Based on the parties' economic evaluations of DPV2 submitted in this proceeding, we conclude that DPV2 would provide significant economic benefits for CAISO ratepayers. It is our judgment that the described concerns about individual aspects of the parties' economic evaluations, taken together, strengthen rather than weaken this conclusion.

The benefit-cost ratios reported by SCE, CAISO, and DRA do not include certain potential benefits of DPV2 that do not lend themselves to economic quantification. DPV2 would expand the interstate regional transmission network and increase its reliability. With DPV2, the CAISO would have more flexibility in operating California's transmission grid and more options to respond to transmission and generation outages. Additionally, as indicated by several contingency scenarios reported in this proceeding, DPV2 would provide insurance value as an economic hedge against low-probability, high-impact events that could affect the availability and price of energy to southern California, including unexpected transmission and generation outages or increases in natural gas prices.

DRA voices a concern that the parties' economic evaluations do not reflect the possibility that there may be an unanticipated long-term trend away

from recent system conditions, which DRA calls a paradigm shift. We agree that there is a risk that DPV2 would prove uneconomic due to unanticipated shifts in market conditions. However, DPV2 would also provide insurance value against other unexpected events that could greatly increase costs to CAISO ratepayers.

The record contains limited information regarding potential economic impacts of DPV2 in Arizona and other areas outside of California. SCE's 2004 economic evaluation shows negative energy benefits for Arizona (Table 3), such that Arizona electricity costs could increase slightly with DPV2's operation. However, SCE's evaluation assumes that no additional generation is built in Arizona to take advantage of the 1,200 MW of transfer capability added by DPV2. Nor does SCE's evaluation recognize that, with DPV2, the increased ability to pool resources could provide benefits to Arizona as well as to California. The increased transfer capability could be used to provide emergency support to Arizona as well as to California during unanticipated conditions such as the loss of a major generating facility or of another high-voltage transmission line, or during natural disasters. DRA's contingency scenario assessing a Palo Verde outage indicates the benefits of DPV2 to Arizona in that event.

In Section III.C, we determine that energy efficiency, demand response, and renewable generation do not hold sufficient near-term promise to provide a feasible or cost-effective alternative to DPV2. Nor would they offer the operational and other system benefits expected due to DPV2. New transmission and generation options, in addition to demand side resources, should be pursued to meet the need for new energy supply in southern California. We agree with SCE and the CAISO that DPV2 is the preferred new transmission project to increase transfer capability between southern California and Arizona.

As we describe in Section IV below, even with the mitigation measures made a condition of the CPCN, the DPV2 project would have significant unmitigable effects on visual resources, wilderness and recreation resources, cultural and paleontological resources, agriculture, noise levels, and air quality. Weighing the economic and other benefits that we expect DPV2 to provide and the identified environmental effects, we conclude that the substantial benefits expected due to DPV2 outweigh the environmental impacts of the project. We conclude that the DPV2 project is needed and in the public interest, and that we should grant SCE a CPCN to construct the DPV2 project, subject to the routing modifications and mitigation measures adopted in this decision.

IV. DPV2 Route Alternatives

In its application and PEA, SCE identified several alternative routes for portions of the DPV2 project. During the EIR/EIS scoping process, the Commission and BLM environmental team identified additional alternatives, including minor routing adjustments, entirely different transmission line routes, alternative energy technologies, and non-wires alternatives. Alternatives were then screened according to CEQA and NEPA guidelines to determine the alternatives to carry forward for analysis in the EIR/EIS. The environmental team rejected 26 alternatives that did not meet CEQA and NEPA criteria for analysis. The Final EIR/EIS provides a detailed analysis of seven alternatives to portions of the Devers-Harquahala segment of the proposed project, and one alternative to the upgrades proposed west of the Devers substation.

Based on comparison of the environmental impacts of the proposed project and alternatives, the Final EIR/EIS identifies the environmentally superior alternatives and the BLM Agency Preferred alternatives as follows:

- The eastern portion of the DPV2 project would begin at the new Harquahala Junction switchyard;

- The proposed project route from the Harquahala Junction switchyard to east of Alligator Rock;

- The Alligator Rock-North of Desert Center alternative to west of Alligator Rock;

- The proposed project route from west of Alligator Rock to Devers substation;

- The Midpoint substation proposed by SCE and the Midpoint substation identified as part of the Desert Southwest project are equally environmentally superior/preferable; and

- The proposed West of Devers upgrades unless determined to be infeasible, in which case the Devers-Valley No. 2 alternative would be constructed.

The Final EIR/EIS evaluated the environmental impacts of the proposed project and alternatives, classifying the impacts as Class I (significant and unavoidable or unmitigable), Class II (significant but mitigable to less than significant), Class III (adverse but less than significant), and Class IV (beneficial). The Final EIR/EIS found that the DPV2 project would have significant unmitigable impacts on visual resources, wilderness and recreation resources, cultural and paleontological resources, agriculture, noise levels, and air quality. In describing potential environmental impacts of the DPV2 project, we focus on the significant unmitigable (Class I) impacts, since we expect that the adopted mitigation measures will eliminate other potentially adverse environmental impacts of DPV2 or allow them to be reduced to less-than-significant levels.

In the following subsections, we address route segments and related alternatives, including the Desert Southwest transmission project as a potential alternative to the portion of the Devers-Harquahala line between a new Midpoint substation and the Devers substation. We then describe broader environmental impacts that arise due to multiple route segments or the DPV2 project as a whole.

A. Devers-Harquahala 500 kV Line

1. Description of Proposed Route

As proposed in SCE's application, the 230-mile Devers-Harquahala 500 kV transmission line would be constructed between the switchyard at the Harquahala generating station near the Palo Verde nuclear generating plant in Arizona and SCE's Devers substation in North Palm Springs, California. For most of the route, this new line would parallel SCE's existing 500 kV DPV1 transmission line. Approximately 102 miles of the line would be located in Arizona and the remainder in California. The Arizona portion of the Devers-Harquahala line would be located in a relatively undeveloped area of the western Sonoran Desert. A large portion of the proposed route in California is located within the Colorado Desert, which is the western extension of the Sonoran Desert. The region consists of mostly native desert habitats.

The Harquahala generating station is approximately 17 miles northwest of the Palo Verde generating station and approximately 49 miles west of Phoenix, Arizona. Departing from the Harquahala switchyard, the proposed DPV2 line would proceed easterly for approximately five miles to SCE's existing DPV1 route. The route would then turn north to parallel DPV1 through the southern end of the Big Horn Mountains, across the Harquahala Plain through the northern end of the Eagletail Mountains, through the Ranegras Plain, and across the northern portion of Kofa. The route would then traverse the La Posa

Plain and the northeastern corner of the Yuma Proving Grounds, then proceed through the central portion of the Dome Rock Mountains and cross the Colorado River and the Arizona-California state line.

There is one location where the DPV2 circuit would be placed on existing DPV1 towers rather than on new towers parallel to the DPV1 line. In Copper Bottom Pass in the Dome Rock Mountains, SCE proposes to place the DPV2 circuit on 13 existing 500 kV double circuit structures built as part of DPV1. SCE explains that double circuit construction was used in the narrow Copper Bottom Pass since there is not room for two single circuit lines. The double circuit towers are already strung with two circuits, with one circuit used for DPV1 and the second currently unused circuit proposed to be used for DPV2.

In California, the DPV2 route would continue to parallel DPV1, generally along I-10, between the town of Blythe at the California-Arizona border to the Devers substation, all in Riverside County. The route would proceed westerly from Blythe into the Palo Verde Valley. SCE describes a new Midpoint substation approximately 10 miles southwest of Blythe as an optional component that may be constructed jointly with the Desert Southwest transmission project proposed by Imperial Irrigation District (IID). The route would cross the Chuckwalla Valley Dune Thicket ACEC and, near Desert Center, the Alligator Rock ACEC. It would skirt the southern edge of Joshua Tree National Park and continue to parallel DPV1 to the Devers substation.

SCE proposes to construct a new optical repeater facility three miles west of Blythe, California within the DPV2 right of way. SCE also proposes to construct two series capacitor banks adjacent to existing DPV1 series capacitor banks, one in Arizona approximately 55 miles west of the Harquahala switchyard and one in California approximately 64 miles east of Devers. SCE

proposes to install Special Protection Scheme relays at the Devers substation in California and the Palo Verde, Hassayampa, and Harquahala substations in Arizona. Other modifications would also be needed within the Harquahala and Devers substations. SCE also proposes to construct telecommunications systems related to the proposed project, including a new telecommunications facility on Harquahala Mountain adjacent to an existing facility of similar design.

2. Route Alternatives Near Palo Verde Generating Station

As proposed in SCE's application, the Devers-Harquahala line would begin at the switchyard of the Harquahala generating station, and would depart the Harquahala switchyard to the east paralleling the existing Harquahala-Hassayampa 500 kV line. Three route alternatives analyzed in the Final EIR/EIS involve different ways to terminate the DPV2 project in this area.

The Harquahala Junction alternative would entail construction of a new switching station east of the Harquahala generating station, at the point where the existing Harquahala-Hassayampa and DPV1 transmission lines diverge (a location called "Harquahala Junction"), which would become the eastern termination point of the DPV2 project. This alternative would avoid the need to construct the five-mile segment of the proposed project from the Harquahala switchyard to the new Harquahala Junction. SCE estimates that the Harquahala Junction alternative would cost $14.6 million less than termination of DPV2 at the Harquahala switchyard, due primarily to avoidance of five miles of transmission line construction.

The Harquahala-West alternative would begin at the Harquahala generating station switchyard. Rather than departing the Harquahala switchyard to the east, this alternative would depart the switchyard to the west

and traverse west for approximately 12 miles to the El Paso natural gas pipeline corridor. The transmission line would proceed northwesterly along the pipeline corridor for approximately nine miles to the intersection with the DPV1 transmission line. This route would be 14 miles shorter than the proposed route.

In the Palo Verde alternative, the DPV2 line would terminate at the Palo Verde nuclear generating station switchyard instead of the Harquahala generating station switchyard. This alternative would avoid the need to construct the 5-mile segment between the Harquahala generating station switchyard and the Harquahala Junction, but would add construction of 14.7 miles of new transmission line parallel to DPV1 from Harquahala Junction to the Palo Verde switchyard.

The Final EIR/EIS concludes that the Harquahala Junction Switchyard alternative is environmentally preferred because it would require the least distance of transmission line construction outside of existing corridors and it would eliminate effects to agricultural lands.

SCE has an option agreement with the Harquahala Generating Company that would allow it to acquire the Harquahala switchyard and the existing Harquahala-Hassayampa 500 kV transmission line. SCE reports that it has been discussing an arrangement with Arizona Public Service and the Harquahala Generating Company whereby the three companies would share the Harquahala-Hassayampa 500 kV transmission line. This joint arrangement would allow Arizona Public Service to connect its planned TS-5 transmission line at the Harquahala Junction.

SCE should terminate DPV2 at a new Harquahala Junction or the Harquahala switchyard, subject to approval by the Arizona Corporation Commission and any other needed authorizations. Because this alternative is

less costly than the proposed project and is also the environmentally preferred alternative, SCE should pursue good-faith efforts to reach a commercially reasonable agreement and seek the additional authorizations needed for construction of Harquahala Junction. If Harquahala Junction does not receive the needed approvals in Arizona or is otherwise not feasible, SCE may terminate DPV2 at the Harquahala switchyard.

3. Kofa National Wildlife Refuge

The proposed DPV2 route would traverse Kofa for approximately 24 miles, paralleling the DPV1 line approximately 2 miles south of Kofa's northern boundary. The Final EIR/EIS finds that, within Kofa, the proposed project would result in significant unmitigable (Class I) visual impacts and significant impacts on Kofa's recreational value.

In the EIR/EIS process, a preliminary environmental review was undertaken for three alternative route segments that potentially could reduce impacts in Kofa. As a result of greater impacts to recreation and to visual and biological resources, all three alternatives that would avoid Kofa were eliminated from full consideration in the EIR/EIS process. The Final EIR/EIS found that the route through Kofa is the most environmentally preferred.

We take official notice that the USFWS has issued a preliminary Determination of Incompatibility regarding the construction of DPV2 through Kofa as proposed by SCE. If the USFWS rejects the proposed route for DPV2 paralleling DPV1 through Kofa, that route will become legally infeasible. We authorize SCE to construct a route in the Kofa area that is acceptable to the USFWS and other permitting agencies, subject to a showing that the routing modification is not detrimental to the cost effectiveness of DPV2. Consistent with § 1005.5(b), SCE may seek an increase in the maximum cost for the DPV2

project that we find reasonable in Section III.A.5 of this decision, if an alternative route in the Kofa area is expected to cause DPV2 costs to exceed the adopted maximum cost.

4. Alligator Rock Area

BLM has designated the Alligator Rock ACEC for protection of its archeological features. The Final EIR/EIS identifies three potential reroutes in the Alligator Rock area that may reduce impacts to cultural and biological resources in the Alligator Rock ACEC.

a) Proposed Project Route

The proposed route for DPV2 would traverse the Alligator Rock ACEC for approximately 6.8 miles, paralleling the existing DPV1 transmission line. The Final EIR/EIS finds that this proposed route segment would have significant unmitigable impacts on visual and recreational resources in the Alligator Rock ACEC, in addition to more general significant impacts on air quality and cultural resources, which are discussed in Section IV.C. While the new transmission structures would be similar to those of the adjacent DPV1, the new structures would cause additional skylining[14] and view blockage of the Chuckwalla Mountains in the background. The new line would also increase the structural complexity and industrial character visible from several access roads within the Alligator Rock ACEC. With the amount of industrial development intensified, DPV2 would further degrade the landscape and character of the Alligator Rock ACEC, leading to a significant diminishment of its recreational value.

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[14] Skylining occurs when a transmission tower is seen with only the sky behind it, making it highly visible.

b) Alligator Rock—North of Desert Center Alternative

The Alligator Rock—North of Desert Center alternative route segment would avoid traversing the Alligator Rock ACEC. This 11.8-mile alternative would diverge from the proposed DPV2 route approximately five miles east of Desert Center. It would head northwest, cross I-10, and proceed north of Desert Center. The segment would then turn southwest and would parallel I-10 for 3.6 miles before crossing I-10 again and rejoining the proposed route. It would be primarily on BLM land, and on private land for three miles near its western end.

While this alternative route segment would have significant impacts on air quality and cultural resources (as would the proposed project and all alternatives), it would eliminate the proposed route's significant impact to wilderness and recreation, and it would reduce potential effects on highly valuable cultural resources because it would avoid the Alligator Rock ACEC. This alternative would create a different significant visual impact resulting from introduction of a new 500 kV transmission line into a rural landscape lacking similar structures of industrial character, with view blockage of sky and portions of the Chuckwalla Mountains and Alligator Rock in some locations.

c) Alligator Rock—Blythe Energy Transmission Route Alternative

This 4.6-mile alternative route segment would diverge from the proposed project route approximately 3.5 miles east of Desert Center. While within the Alligator Rock ACEC, this alternative would follow its northern edge near I-10. This alternative would follow the Blythe Energy transmission line route proposed by Blythe Energy LLC and would be close to an existing El Paso natural gas pipeline access road.

As with the proposed project and all alternatives, this alternative would have significant impacts on air quality and cultural resources, although the impacts on cultural resources potentially would have less value than those in the heart of the ACEC. The alternative would create different significant visual impacts and would alter the natural landscape of an undeveloped portion of the ACEC to an industrial use, changing the character of the Alligator Rock ACEC and significantly diminishing its recreational value.

d) Alligator Rock—South of I-10 Frontage Alternative

This 9.77-mile alternative route segment would follow the route proposed for the Desert Southwest transmission project (see Section IV.A.6 below). It would diverge from the proposed DPV2 route approximately 3.5 miles east of Desert Center and would follow the Alligator Rock—Blythe Energy route alternative to the point where that alternative turns southwest, just east of Alligator Rock. After passing between the northern end of Alligator Rock and I-10, this alternative route would continue in a westerly direction immediately south of I-10 before rejoining the proposed DPV2 route. For approximately two miles, it would be constructed within a new right of way inside the northeastern boundary of the ACEC.

This alternative would have significant impacts on air quality and cultural resources, as would the proposed project and other alternatives, although the affected cultural resources potentially could have less value than those in the center of the ACEC. This alternative would create different significant visual impacts and, while affecting a smaller area within the ACEC, would significantly diminish its recreational value.

e) Discussion

The Final EIR/EIS concludes that the Alligator Rock—North of Desert Center route segment is environmentally preferred because it would minimize biological, cultural, and wilderness area impacts, even though it would be closer to populated areas and would require two crossings of I-10.

SCE favors placing DPV2 adjacent to DPV1 through the Alligator Rock ACEC. SCE states that it has good information on the site features associated with Alligator Rock and believes that all significant features can be avoided with careful construction monitoring. SCE states that no comparable information exists for the North of Desert Center alternative, and that SCE has not surveyed the North of Desert Center route and has not acquired right of way for the route. SCE notes that, in any event, BLM must grant a permit for the DPV2 route in the Alligator Rock area, since all alternatives lie wholly or partially on BLM lands.

Because the Alligator Rock—North of Desert Center alternative, which crosses both BLM and private land, is the environmentally preferred alternative, SCE should construct the North of Desert Center alternative if BLM authorizes this route in its Record of Decision. It is reasonable to grant SCE the flexibility, if BLM does not authorize the Alligator Rock—North of Desert Center route segment, to build DPV2 on a route segment through the Alligator Rock ACEC that is authorized by BLM, if the segment received full consideration in the Final EIR/EIS, or if it deviates from one of the reviewed route segments solely within BLM land and BLM undertakes the environmental review needed under NEPA.

5. Desert Southwest Transmission Project and Midpoint Substation

The Desert Southwest transmission project proposed by IID would include a 118-mile 500 kV transmission line generally paralleling DPV1 and DPV2 between Blythe and SCE's Devers substation.

a) Desert Southwest Project as Proposed by IID

The Desert Southwest project would originate at a new Keim substation near the Blythe Energy Project power plant. Either a double-circuit 500 kV line or two parallel 500 kV lines would be constructed from the Keim substation to a new Midpoint substation to be located where the line(s) intersect the existing DPV1 line. The Desert Southwest route from the Midpoint substation to Devers generally would be parallel to and immediately north of SCE's right of way for DPV1 and DPV2. It would diverge from the DPV1 corridor only in the vicinity of the Alligator Rock ACEC, as described above in the Alligator Rock—South of I-10 alternative.

IID and BLM prepared a joint EIR/EIS regarding the Desert Southwest project. On September 15, 2006, BLM issued a Record of Decision allowing IID a right of way to use public lands to construct the Desert Southwest project, with the portion between the Blythe area and the Devers substation as a separate stand-alone transmission line adjacent to the DPV2 right of way. In its Record of Decision regarding the Desert Southwest project, BLM approved the Desert Southwest route that IID proposed in the vicinity of Alligator Rock, described in Section IV.A.4.d above. The Desert Southwest EIR/EIS did not consider an alternative north of I-10 in the vicinity of Alligator Rock comparable to the North of Desert Center alternative that the Final EIR/EIS for DPV2 found environmentally superior.

The Final EIR/EIS evaluates the Desert Southwest transmission project as a potential alternative to the portion of DPV2 between a new Midpoint substation and Devers. In this scenario, the Midpoint-to-Devers portion of the Desert Southwest project would carry up to 1,200 MW of load from the Blythe Energy Project and Arizona. The Final EIR/EIS also considers separately the cumulative environmental impacts if both DPV2 and the Desert Southwest project are built as separate 500 kV transmission lines.

Overall, the environmental impacts of the Desert Southwest project as an alternative to DPV2 would be very similar to those of the comparable portion of the proposed DPV2 project with the Alligator Rock–South of I-10 alternative. The Final EIR/EIS concludes that the proposed DPV2 project is environmentally preferred over the Desert Southwest project because it would require less ground disturbance and construction of fewer substations.

b) Possible Integration of DPV2 and Desert Southwest Transmission Projects

SCE and IID are in discussions to integrate the DPV2 and Desert Southwest transmission projects, so that only one 500 kV line would be constructed between a new Midpoint substation and Devers. SCE states that, if SCE and IID reach agreement, the cost to SCE would not exceed the cost of a stand-alone project and DPV2's cost-effectiveness would not be affected adversely. The transfer capability of DPV2 would be expanded from 1,200 MW to 2,340 MW, probably through upgrading series capacitors on the line. SCE would still turn over 1,200 MW of transfer capability to the CAISO, as SCE has proposed in A.05-04-015, and the remainder of the transfer capability would be managed by IID.

SCE describes that, if a joint DPV2-Desert Southwest project arrangement is reached with IID, the joint project arrangement would be a FERC-jurisdictional contract. SCE states that it would file a Permit to Construct application for the new Midpoint substation, as required by GO 131-D. SCE believes that the analysis in the joint EIR/EIS for the Desert Southwest project prepared by BLM and IID satisfies California's environmental requirements for the new substation, so that there would be no need to conduct any additional environmental review.

Neither SCE's PEA nor the Final EIR/EIS for DPV2 addressed environmental impacts that would occur if DPV2 were integrated with the Desert Southwest project with system upgrades that would increase the transfer capability of DPV2 above 1,200 MW. We view possible integration of DPV2 and the Desert Southwest project as speculative at this time, and find that the Final EIR/EIS addressed the Desert Southwest project adequately. However, we note that an increase in the transfer capability of DPV2 may have impacts such as increases in corona noise and EMF that were not addressed in the Final EIR/EIS. We do not authorize SCE to construct the Midpoint substation at this time. If SCE and IID reach agreement regarding integration of DPV2 and the Desert Southwest transmission project, SCE must address environmental and other impacts of the proposed upgrade to DPV2 in any filing requesting Commission authorization to construct the Midpoint substation.

B. Transmission Upgrades West of Devers Substation

1. Proposed Project

The "West of Devers" portion of the proposed DPV2 project would include upgrades to approximately 48 miles of 230 kV transmission lines west of

the Devers substation. SCE would replace two existing 230 kV lines with a new double-circuit 230 kV line and would reconductor a third 230 kV line between the Devers substation and the San Bernardino Junction at the western end of San Timoteo Canyon. SCE would also reconductor a 230 kV transmission line between San Bernardino Junction and the Vista substation, and a 230 kV transmission line between San Bernardino Junction and the San Bernardino substation. SCE also proposes to install Special Protection Scheme relays at the Devers substation, the Padua substation in San Bernardino County, and the Vista substation in Riverside County.

The Final EIR/EIS concludes that the proposed 230 kV upgrades would have significant unmitigable impacts on cultural resources and air quality, which we discuss in Section IV.C as general impacts of the DPV2 project. At the same time, the proposed replacement of two existing 230 kV lines with a single double-circuit 230 kV line would improve views at viewpoints including Cedar Hollow Road in the City of Beaumont, Stargazer Street and Rose Avenue in the City of Beaumont, and the Oak Valley Golf Course in the City of Beaumont. Noise levels along the 230 kV lines would decrease because of the increased capacities of the new conductors and the reconfiguration of towers.

Some of the existing 230 kV transmission lines west of Devers that SCE proposes to upgrade cross over lands of the Morongo Band of Mission Indians (Morango Tribe) pursuant to existing right-of-way agreements that expire beginning in 2010. SCE reports that the Morango Tribe has informed SCE that continued use of the existing 230 kV transmission corridor after the current right-of-way agreements expire is not acceptable, but that the Morango Tribe is willing to negotiate regarding a new right-of-way corridor some distance from

the existing 230 kV transmission lines. SCE expects that this new transmission corridor would cross less of the reservation and more privately-owned land.

Because of the Morango Tribe's opposition to the 230 kV upgrades over its land, SCE concludes that such upgrades are not feasible. SCE now recommends that the Commission authorize construction of the Devers-Valley No. 2 alternative.

2. Devers-Valley No. 2 Alternative

The Final EIR/EIS evaluates the Devers-Valley No. 2 alternative, a new 41.6-mile 500 kV line that would be constructed immediately adjacent to SCE's existing Devers-Valley No. 1's 500 kV transmission line, and primarily within existing easements. The route is adjacent to residential areas in the City of Banning and also in unincorporated portions of Riverside County including the Cabazon Estates area and the communities of Juniper Flat and Romoland. The route would traverse 4.7 miles of the Santa Rosa and San Jacinto Mountains National Monument (administered by BLM), approximately 1.9 miles of the San Bernardino National Forest, and the Potrero ACEC. It would cross the Pacific Crest National Scenic Trail, and the towers would be visible from the San Jacinto Wilderness Area.

Before the Devers-Valley No. 2 transmission line could be constructed, the Forest Service in the United States Department of Agriculture would have to determine whether it would be consistent with management direction in the governing Forest Plan. Based on Forest Service and BLM determinations, this alternative could require amendments to the San Bernardino National Forest Land Management Plan, the National Monument Proposed Management Plan, and an existing memorandum of understanding among BLM, the Forest Service, and the Pacific Crest Trail Association.

The Final EIR/EIS finds that the Devers-Valley No. 2 alternative would have significant unmitigable visual impacts because of the increased structural contrast, skylining, and view blockage along the corridor, and also from nearby areas including State Route 243, Mapes Road, and the community of Beaumont. The new transmission towers would increase significantly the amount of industrial development and diminish significantly the character and recreational value of the traversed and adjacent recreational resources. The Final EIR/EIS concludes that impacts to the Santa Rosa and San Jacinto National Monument, the Pacific Coast Trail, the San Bernardino National Forest, the San Jacinto Wilderness Area, and the Potrero ACEC would be significant and unmitigable.

3. Discussion

The Final EIR/EIS states that the West of Devers 230 kV upgrades are environmentally preferred over the Devers-Valley No. 2 alternative but that the Devers-Valley No. 2 alternative would be feasible to construct. The Final EIR/EIS concludes that, if the proposed West of Devers upgrades are found to be infeasible, the Devers-Valley No. 2 alternative would meet project objectives and would allow the entire DPV2 project to be constructed.

Because the Morango Tribe has informed SCE that the proposed upgrades to SCE's existing 230 kV transmission lines west of Devers are not acceptable, we agree with SCE that the West of Devers portion of SCE's proposed DPV2 project is not feasible. While it appears that the Morango Tribe may be amenable to an alternative transmission corridor across its land, such an alternative route has not been identified at this time. We do not know how long negotiations could take or, if SCE were to reach agreement with the Morango

Tribe, whether the agreed-upon transmission corridor over tribal land would be found acceptable after subsequent environmental review.

It is reasonable to authorize construction of the Devers-Valley No. 2 alternative. This would allow completion of the economically advantageous DPV2 project within the schedule proposed by SCE. With anticipated continued load growth in southern California, additional transmission upgrades west of Devers may be needed in the future. With authorization of the Devers-Valley No. 2 route, SCE and the Morango Tribe may continue to negotiate a new right-of-way agreement independent of DPV2.

C. General Environmental Impacts

1. Impacts on Cultural and Paleontological Resources

The Final EIR/EIS identifies several known archaeological sites eligible for listing on the National Register of Historic Places (National Register) that could be affected by DPV2 construction and operation, with additional potentially eligible cultural resource sites located within or adjacent to the transmission corridor. The Final EIR/EIS notes that some areas of direct impact, such as roads and temporary laydown areas, have not been specified or surveyed and that adverse effects to individual sites cannot be identified precisely until final tower locations are determined, detailed engineering plans for all project roads and facilities are completed, and final eligibility of cultural resources for the National Register has been assessed. Also, there is potential to encounter undiscovered cultural and paleontological resources, as well as buried Native American human remains. The Final EIR/EIS proposes several mitigation measures that would allow many direct impacts to be avoided through minor

design modifications. The Final EIR/EIS concludes, however, that significant impacts may be unavoidable during project construction or operation.

2. Corona Noise Impacts

The Final EIR/EIS reports that addition of a second 500 kV line in the DPV1 and Devers-Valley No. 1 corridors would increase permanent noise levels and that the increased noise would create a significant and unmitigable impact at times along portions of the right of way. Specifically, the Final EIR/EIS finds that corona noise levels during wet weather and heavy line loads would violate Riverside County noise policies for residential and other noise-sensitive land uses within 25 feet of the 500 kV right of way.[15] SCE disputes this finding and asserts that it should not be required to mitigate DPV2's noise impacts.

Riverside County Noise Element Policy N.1.1 specifies that residential and other noise-sensitive land uses should be protected from high levels of noise by restricting or relocating noise sources, and Policy N.1.3 establishes a 65 CNEL[16] level as the appropriate trigger level for mitigation. The Final EIR/EIS describes that corona noise levels during wet weather and heavy line loads along the proposed Devers-Harquahala segment would increase to

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[15] As described in Section IV.B.1, the 230 kV upgrades in SCE's West of Devers proposal would decrease noise levels along the 230 kV rights of way.

[16] The CNEL, or community noise equivalent level, measures the aggregated sound level occurring over a 24-hour period in decibels (dBA), with a 5 dBA penalty added to evening sounds (between 7:00 p.m. and 10:00 p.m.) and a 10 dBA penalty added to night-time sounds (between 10:00 p.m. and 7:00 a.m.).

about 65.7 Ldn[17] at the edge of the right of way. It concludes that the Riverside County noise policy would be violated during those times for residential uses within 25 feet of the right of way. While noise studies were not provided for the Devers-Valley alternate route, the Final EIR/EIS concludes that the Riverside County noise policy would likely be violated similarly during wet weather and heavy load conditions along the Devers-Valley corridor.

The Final EIR/EIS identifies that the proposed Devers-Harquahala 500 kV line would be located approximately 100 feet from two or three residences in the Palo Verde Valley west of Blythe in California and also would be adjacent to residences in the communities of Thousand Palms and North Palm Springs. The Devers-Valley 500 kV route is adjacent to residential areas in the City of Banning and in unincorporated portions of Riverside County including the Cabazon Estates area, the community of Juniper Flats, areas south of Banning, and areas near the community of Romoland. The Final EIR/EIS did not identify any structures within 25 feet of the right of way, but the identified noise impacts are presumed to occur in the outdoor areas of the residential properties.

SCE contests the finding in the Final EIR/EIS that the DPV2 corona noise level would conflict with the Riverside County noise ordinance. SCE states that the method relied upon in the draft EIR/EIS is based on the L5 noise level (the volume of sound exceeded 5% of the time). SCE reports that, for recent utility projects, Riverside County has applied the CNEL process based on the L50 noise level (the volume of sound exceeded 50% of the time) rather than the L5

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[17] The Ldn, or day-night sound level, is a metric similar to CNEL, but it is less stringent because it omits the 5 dBA penalty that the CNEL measurement applies to evening sounds.

noise level. SCE submits that use of the DPV2 project's L50 noise level of 54.7 dBA results in a CNEL noise level of 61.4 dBA, below the 65 dBA threshold in the Riverside County noise ordinance. While SCE has raised questions regarding the manner in which Riverside County interprets its noise ordinance, we are not convinced that the finding in the Final EIR/EIS regarding the significant impact of whether corona noise associated with DPV2 should be rejected.

The Final EIR/EIS states that there are few options for mitigating corona noise as it is a function of conductor design and configuration. The Final EIR/EIS describes that SCE would be expected to properly handle the conductor during construction to avoid damage that could undermine the load-carrying capability of the line and exacerbate the corona effect. The Final EIR/EIS does not recommend that SCE be required to purchase or relocate residences, or undertake any other actions to mitigate corona noise impacts.

SCE asserts that the Final EIR/EIS misrepresents that SCE plans to use APM L-7, an applicant-proposed mitigation measure, to mitigate corona noise. APM L-7, included in SCE's PEA, states as follows:

> 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.

SCE explains that it suggested APM L-7 as a land-use mitigation measure only because DPV2 may cross over 4 residential parcels, such that SCE may have to purchase the properties or exercise its powers of eminent domain. SCE did not mean that it would relocate homeowners to mitigate corona noise.

SCE asserts that the Commission should not require SCE to relocate homeowners due to corona noise and, further, that such homeowners may not want to be relocated.

We are persuaded that APM L-7 is relevant to noise impacts only to the extent that, because SCE plans to purchase or relocate dwelling units that DPV2 would cross over otherwise, the identified noise problem would no longer exist for those dwelling units. We see no need to clarify APM L-7 in this regard, as SCE suggests.

3. Air Quality Impacts

Assessment of air quality impacts requires that emissions for the entire DPV2 project be evaluated within each of the affected jurisdictions and/or air basins. As a result, the Final EIR/EIS presents its air quality assessment by jurisdiction rather than by project segment.

The Final EIR/EIS describes expected dust and exhaust emissions during DPV2's construction and operation. With mitigation measures, dust and exhaust emissions during construction would remain below the significance thresholds in areas within the jurisdiction of the Maricopa County Air Quality Department, the Air Quality Division of the Arizona Department of Environmental Quality, and the Mojave Desert Air Quality Management District.

While most of the proposed DPV2 route through the South Coast Air Quality Management District (SCAQMD) in southern California is in remote areas, the western part of the route is in more highly developed areas. In this urban context, SCAQMD experiences more severe baseline air quality nonattainment than the other jurisdictions affected by the proposed DPV2 project. The Final EIR/EIS reports that, even with the recommended mitigation measures, construction emissions would exceed the SCAQMD daily regional

significance criteria and, thus, would cause significant and unavoidable (Class I) impacts in the SCAQMD. The Final EIR/EIS makes comparable findings regarding construction impacts of the Alligator Rock, Devers-Valley, and Desert Southwest alternatives, which would be located wholly (Alligator Rock and Devers-Valley alternatives) or partially (Desert Southwest) within the SCAQMD jurisdiction.

The Final EIR/EIS describes that power generated during DPV2 operation would cause emissions from power plants. The CAISO forecasts that, with DPV2, NOx emissions from power plants in Arizona would increase by 200 tons per year and that NOx emissions in California would decrease by 590 tons per year, for a net decrease of 390 tons per year. Similar changes in emissions of other criteria pollutants related to power generation would also occur. The CAISO's assessment is based on 2008 conditions at existing power plants that the CAISO determined to be underutilized in the absence of DPV2. The precise location and quantity of the emissions would change over time depending on the ultimate sources of power flowing into DPV2.

The Final EIR/EIS describes that the identified increase in power plant emissions in Arizona represents an increase of 0.05% of Arizona statewide 2001 NOx emissions and would be within permitted emission levels that have been licensed previously by local air management agencies. The Final EIR/EIS concludes that the increase in power plant emissions in Arizona would be an adverse but less than significant impact of DPV2. The forecasted decrease in California power plant emissions would be a beneficial impact of the proposed project.

V. EMF Issues

The Commission first established EMF policies in D.93-11-013. In our recent review of EMF issues, the Commission stated in D.06-01-042 that, "at this time we are unable to determine whether there is a significant scientifically verifiable relationship between EMF exposure and negative health consequences." We affirmed in D.06-01-042 that the Commission's EMF policy is one of prudent avoidance, with application of low-cost/no-cost mitigation measures to reduce EMF exposure for new and upgraded utility transmission and substation projects. The Commission has adopted a benchmark of 4% of total project cost for low-cost EMF mitigation measures, with flexibility to allow expenditures above the 4% benchmark if justified by a project's unique circumstances. In D.06-01-042, the Commission stated that, as a guideline, low-cost EMF mitigation measures should reduce EMF levels by at least 15% at edge of the utility right of way.

The Final EIR/EIS provides information regarding EMF associated with DPV2. It does not consider magnetic fields[18] in the context of CEQA or NEPA and the determination of environmental impacts because there is no agreement among scientists that EMF creates a potential health risk and because there are no defined or adopted CEQA or NEPA standards for defining health risk from EMF.

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[18] Because electric fields are shielded effectively by materials such as trees and walls, the emphasis in the Commission's consideration of EMF is on exposure to magnetic fields.

A. EMF Along Routes Under Consideration

Along the edge of the right of way for the existing DPV1 line, magnetic fields currently range from 8.3 milliGauss (mG) in Riverside County near Thousand Palms to 72.9 mG in Copper Bottom Pass in the Dome Rock Mountains in Arizona. With the addition of DPV2 along the Devers-Harquahala segment, field levels are expected to be reduced between 0.8 and 37.9 mG on the side of the right of way where the existing DPV1 line is located. On the side of the right of way where the new line would be installed, magnetic field levels would increase up to 30.0 mG.

Alternative route segments evaluated for the Devers-Harquahala line are all 500 kV and, if the alternative is adjacent to an existing 500 kV circuit, they would involve field levels similar to those for the proposed Devers-Harquahala route. For alternatives that would require a 500 kV line in a new corridor, magnetic field levels would range between 11.2 and 46.5 mG at the edge of the right of way.

For the 230 kV transmission lines proposed to be upgraded west of the Devers substation, existing magnetic fields at the edge of the right of way range from 4.1 mG in Grand Terrance to 38.5 mG in the Loma Linda area. If the 230 kV upgrades were constructed, field levels would be reduced at the edge of the right of way between 1.0 and 18.1 mG below the existing levels.

The Devers-Valley No. 2 500 kV alternative would be constructed adjacent to the existing Devers-Valley No. 1 500 kV line. Baseline magnetic fields range between 14 and 63 mG at the edge of the right of way. With installation of the second transmission line, magnetic fields would increase between 22 and 28 mG on the side where the new line would be installed and fields would decrease between 16 and 19 mG on the side where the existing line is located.

B. EMF Management Plan for DPV2

SCE states that it has incorporated low-cost and no-cost measures to reduce magnetic fields along the proposed DPV2 route. For the 500 kV Harquahala-Devers line, SCE proposes to optimally phase the DPV2 line with DPV1, as a no-cost EMF mitigation measure. With optimal phasing, adding the DPV2 line to the DPV1 corridor will increase magnetic fields on the side of the right of way adjacent to the new line and decrease magnetic fields on the other side of the right of way as described above. However, the proposed optimal phasing would reduce the fields compared to what they would be if DPV2 were constructed without this EMF reduction measure.

For the 230 kV upgrades proposed west of the Devers substation, SCE proposes to optimally phase the 230 kV lines, as a no-cost EMF mitigation measure, and to optimally phase adjacent 55 kV lines between San Bernardino substation and San Bernardino Junction as a low-cost measure estimated to cost $270,000. As described above, these no-cost and low-cost measures would reduce the magnetic fields on both sides of the 230 kV right of way.

The ALJ requested that SCE develop information regarding the feasibility of low-cost mitigation of magnetic fields associated with the 500 kV Devers-Harquahala line and the 500 kV Devers-Valley No. 2 alternative to the 230 kV West of Devers upgrades. In particular, SCE was asked to determine how much taller the 500 kV towers would need to be in order to reduce magnetic fields by 15% at the edge of the right of way closer to the new transmission line, which is the side where DPV2 would increase the magnetic fields. The request was limited to those locations where there are residences within 200 feet of that edge of the right of way.

In response to the ALJ request and based on information compiled for the environmental review, Energy Division identified 60 residences within 200 feet of the right of way on the side closer to the new 500 kV transmission lines, with 5 residences located along the Devers-Harquahala segment and the remaining 55 residences located along the Devers-Valley segment. SCE reported that achievement of a 15% reduction in the magnetic field at the edge of the right of way near these residences would require a 20-foot increase in the height of about 33 towers, at an estimated incremental cost of $1.4 million. Since tower designs have height limitations, SCE cautions that, if any proposed tower height is already taller than about 170 feet, the additional 20-foot height increase may require a different tower design, with potentially significant cost increases.

SCE recommends that the Commission not require this low-cost EMF mitigation, but instead allow the tower and conductor heights to match the adjacent 500 kV transmission lines. SCE submits that constructing new towers taller than the existing towers would increase visual impacts and would conflict with recommended mitigation measures aimed at reducing the visual contrast of the towers, in particular, requirements that new towers match the heights of existing towers to the extent possible. SCE argues further that taller towers would increase the potential for collisions of birds with the power lines, and would conflict with recommended mitigation measures that would require that new towers and lines not be located significantly above existing towers and lines as a collision-reduction technique. As additional support for its position, SCE reports that, while 20-foot higher towers would reduce the magnetic field level by 15% at the edge of the right of way, magnetic field level changes beyond 50 feet from the edge of the right of way would be insignificant.

C. Discussion

As discussed in Section IV.B, we authorize SCE to construct the Devers-Valley No. 2 500 kV transmission line instead of the 230 kV transmission upgrades west of the Devers substation. With that modification to the DPV2 project, SCE should amend its EMF management plan as needed to apply its no-cost 500 kV EMF management techniques to the Devers-Valley corridor in addition to the Devers-Harquahala corridor.

Consistent with D.06-01-042 and D.93-11-013, we require that SCE undertake low-cost EMF mitigation. SCE should increase tower and conductor heights by 20 feet along those portions of the transmission corridor where there are residences near the side of the right of way closer to the new 500 kV transmission lines. SCE has established that this design modification would reduce magnetic fields by 15% at the edge of the right of way, which is consistent with the Commission's guidance in D.06-01-042 for low-cost EMF mitigation. This design modification should be undertaken wherever there are residential properties within 50 feet of the side of the right of way closer to the new 500 kV transmission lines. As SCE has pointed out, the change in magnetic field strength due to the new transmission lines would decrease significantly beyond 50 feet from the right of way.

We do not believe that the potential conflict of this low-cost EMF mitigation measure with environmental mitigation efforts would be significant. Few of the areas where EMF mitigation will occur are completely flat, and the towers and conductors would be difficult to line up due to even small elevation changes between existing and new towers. With tower heights of 150 feet, a 20-foot height increase for DPV2 towers and conductors is unlikely to be noticeable to most observers.

We require that SCE apply this low-cost EMF mitigation measure where there are existing residential properties and also where development of new residences is underway at the time that SCE undertakes final DPV2 project design. Consistent with guidance in D.06-01-042, we do not require that SCE attempt to determine possible future uses of undeveloped land. If applicable, SCE would not be required to raise tower heights near residential properties that will be acquired and converted from residential use in order to allow construction of DPV2, for example, as contemplated by APM L-7 (see Section IV.C.2 above).

With limitation to areas where residential properties are within 50 feet of the edge of the right of way closer to the new 500 kV transmission lines, the cost of the adopted EMF mitigation measure may be less than SCE's $1.4 million estimate, which encompassed residential properties within 200 feet of the right of way. Even at $1.4 million, the cost will be much less than the Commission's 4% benchmark for low-cost EMF mitigation. As described in Section III.A.5, SCE may seek an increase in the approved maximum cost of DPV2 if the adopted low-cost EMF mitigation measure causes the cost cap to be exceeded.

VI. Environmental Analysis

A. Mitigation Measures

The conclusions in the Final EIR/EIS regarding environmental impacts of the proposed project and its alternatives assume that the impact-reduction measures proposed in the PEA, called Applicant Proposed Measures or APMs, and the additional mitigation measures recommended in the Final EIR/EIS will be implemented. In Section IV.C.2, we address SCE's concerns with interpretation of APM L-7. In this section, we address two additional concerns about mitigation measures. We adopt the mitigation measures proposed in the

Final EIR/EIS, with one modification to mitigation measure B-16a discussed below. The applicable Applicant Proposed Measures and Final EIR/EIS mitigation measures for DPV2 are included in Attachment A. Implementation of the Applicant Proposed Measures and the applicable mitigation measures is a condition of our approval of this project.

1. Raven Control

In its Phase 2 brief, SCE takes issue with one of the Final EIR/EIS mitigation measures, specifically, mitigation measure B-16a regarding raven control.[19] In addition to SCE's APM B-20 requiring that transmission lines be designed to reduce the likelihood of nesting by common ravens and removal of any common raven nests found on the structures,[20] the Final EIR/EIS recommends mitigation measure B-16a, as follows:

B-16a **Prepare and implement a raven control plan.** SCE shall prepare a common raven control plan that identifies the purpose of conducting raven control, provides training in how to identify raven nests and how to determine whether a nest belongs to a raven or a different raptor species, describes the seasonal limitations on disturbing nesting raptors species (excluding ravens), describes the procedure for obtaining a permit from the USFWS's Division of Migratory Birds, and describes procedures for documenting the activities on an annual basis. SCE shall gain approval of the plan from the USFWS's Division of Migratory Birds. SCE shall provide this raven control plan to all transmission line companies that conduct operations within the ROW [right of way].

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[19] Common ravens are known to nest in transmission towers and prey upon nearby wildlife species, including juvenile tortoises and other wildlife species that may be listed as threatened or endangered, or considered sensitive.

[20] As SCE points out in comments on the proposed decision, APM B-20 would apply only in the Coachella Valley region.

SCE requests that mitigation measure B-16a be modified as follows:

B-16a **Contribute to an agency sponsored raven reduction plan for the California desert.** SCE will work with the Bureau of Land Management and the USFWS to reduce raven populations in the desert by contributing to an agency-sponsored raven reduction program for the California Desert. The amount of contribution shall be commensurate with the expected contribution of raven nesting resulting from the DPV2 transmission line.

SCE expresses concern that mitigation measure B-16a as presented in the Final EIR/EIS would be infeasible, with unlimited scope and expenditure. SCE states that the Commission should not impose mitigation measures to be applied to existing transmission lines, or to other transmission owners. It contends that there likely would be no reduction in raven nesting activity by removing raven nests from towers on DPV2 when there is no raven control on the adjacent towers. SCE also questions the feasibility of raven control, citing its experience that ravens often will rebuild a nest as soon as it is taken down. SCE suggests that it could make a monetary contribution to an agency-sponsored raven reduction program, requesting that, at a minimum, the Commission revise mitigation measure B16-a "to place some reasonable limitations on what SCE could be required to do for this program."

Mitigation measure B-16a as recommended in the Final EIR/EIS would require that SCE develop a raven control plan for its own use and provide a copy to other transmission companies. We are perplexed by SCE's contention that this mitigation measure may not provide any benefits, in light of its own proposed measure for raven control and nest removal in APM B-20. The efficacy of SCE's proposed revision to mitigation measure B-16a is questionable. BLM and the USFWS have not indicated that they have, or are interested in creating, an agency-sponsored raven reduction program for the California desert. We

agree that raven control should be implemented as proposed in the Final EIR/EIS.

In its comments on the proposed decision, SCE points out that common ravens are not raptors. We adopt mitigation measure B-16a, with a minor modification to clarify this point, as follows:

B-16a **Prepare and implement a raven control plan.** SCE shall prepare a common raven control plan that identifies the purpose of conducting raven control, provides training in how to identify raven nests and how to determine whether a nest belongs to a raven or a raptor species, describes the seasonal limitations on disturbing nesting raptors species (excluding ravens), describes the procedure for obtaining a permit from the USFWS's Division of Migratory Birds, and describes procedures for documenting the activities on an annual basis. SCE shall gain approval of the plan from the USFWS's Division of Migratory Birds. SCE shall provide this raven control plan to all transmission line companies that conduct operations within the ROW.

2. Agua Caliente Allottee Land

SCE's Devers-Palo Verde right of way crosses an approximately 0.1-mile stretch of land held by members of the Agua Caliente Band of Cahuilla Indians (Agua Caliente). During the DPV2 environmental review, Agua Caliente submitted a letter to the Commission and BLM asserting jurisdiction over the land and requesting that a mitigation measure be imposed requiring that SCE obtain a conditional use permit prior to construction of DPV2.

SCE asserts that it is not required to obtain a conditional use permit for this land. SCE states that it is consulting and coordinating with the Agua Caliente Planning Department regarding the right of way, but that it objects to the proposed terms of a conditional use permit, which would last no more than 25 years and may be revoked.

As explained in the Final EIR/EIS, the Commission has preemptive jurisdiction over the construction, maintenance, and operation of SCE facilities in California. However, GO 131-D requires that, in locating electric facilities such as DPV2, SCE consult with local agencies regarding land use matters. Section XIV of GO 131-D provides that, where the utility and a local jurisdiction are unable to reach agreement on a utility project, the utility may bring the conflict before the Commission for resolution. Mitigation measure L-1c in the Final EIR/EIS mirrors the provisions of GO 131-D.

The Agua Caliente opposed SCE's use of this allottee land when it constructed DPV1. The Commission authorized SCE to obtain a right of way through the land, and SCE successfully litigated an eminent domain complaint in federal district court pursuant to 25 U.S.C. § 357 to condemn the allottee land needed for DPV1.[21]

We find that mitigation measure L-1c addresses the Agua Caliente concerns adequately. SCE should negotiate in good faith to reach a mutually acceptable agreement with the allotee and should coordinate with the Agua Caliente. If the parties are unable to reach an agreement, SCE should follow the procedures in GO 131-D and mitigation measure L-1c to obtain further Commission review of the dispute. We modify Section 1.1.4 in the Executive Summary of the Final EIR/EIS, as requested by SCE in its comments on the proposed decision, to describe GO 131-D requirements accurately.

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[21] Southern California Edison Co. v. Rice, 685 F.2d 354, 1982 U.S. App. LEXIS 16318 (9th Cir. Cal. 1982) petition for cert. denied, Rice v. Southern California Edison, 460 U.S. 1051, 103 S. Ct. 1497, 75 L. Ed. 2d 929, 1983 U.S. LEXIS 4300, 51 U.S.L.W. 3703 (1983).

B. Mitigation Monitoring

The Final EIR/EIS includes a proposed Mitigation Monitoring, Compliance, and Reporting Program (MMCRP or Mitigation Monitoring Program) for the mitigation measures it recommends for the DPV2 project. It recommends a framework for implementation of the Mitigation Monitoring Program by this Commission as the CEQA lead agency and BLM as the NEPA lead agency. We adopt the Mitigation Monitoring Program, which is contained in Section X of Attachment B to this decision.

Consistent with Public Resources Code § 21081.6 and CEQA Guidelines § 15097, the Commission must adopt a Mitigation Monitoring Program when it approves a project that is subject to preparation of an EIR and where the EIR identifies significant adverse environmental effects. As the NEPA lead agency, BLM is responsible for ensuring that mitigation measures are implemented on its land. In the memorandum of understanding between BLM and the Commission governing the joint environmental review of DPV2, BLM and the Commission have agreed that the Commission will be responsible for implementing all adopted mitigation and monitoring provisions on both State and federal lands. BLM has agreed to provide the Commission access to federal lands as needed to conduct the adopted mitigation and monitoring activities.

C. Adequacy and Certification of the Final EIR/EIS

The Final EIR/EIS must contain specific information according to the CEQA guidelines, §§ 15120 through 15132. The various elements of the Final EIR/EIS satisfy these CEQA requirements. The Final EIR/EIS consists of the draft EIR/EIS, with revisions in response to comments and other information

received. Volume 3 of the Final EIR/EIS contains the comments received on the draft EIR/EIS and individual responses to these comments.[22]

The Commission must conclude that the Final EIR/EIS is in compliance with CEQA before approving SCE's request for a CPCN. The basic purpose is to ensure that the environmental document is a comprehensive, accurate, and unbiased tool to be used by the lead agency and other decisionmakers in addressing the merits of the project. The document should embody "an interdisciplinary approach that will ensure the integrated use of the natural and social sciences and the consideration of qualitative as well as quantitative factors."[23] It must be prepared in a clear format and in plain language.[24] It must be analytical rather than encyclopedic, and emphasize alternatives over unnecessary description of the project.[25] Most importantly, it must be "organized and written in such a manner that [it] will be meaningful and useful to decisionmakers and the public."[26]

In Section VI.A above, we find that mitigation measure B-16a and Section 1.1.4 in the Executive Summary of the Final EIR/EIS should be modified. We also find that Section H.1.3 in the Mitigation Monitoring and Reporting section of the Final EIR/EIS should be deleted. With these changes, we believe that the Final EIR/EIS is in compliance with CEQA. It is a comprehensive,

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[22] CEQA Guidelines, § 15132.

[23] *Id.*, § 15142.

[24] *Id.*, §§ 15006(q) and (r), 15120, 15140.

[25] *Id.*, §§ 15006, 15141; Pub. Res. Code § 21003(c).

[26] Pub. Res. Code § 21003(b).

detailed, and complete document that discusses clearly the advantages and disadvantages of the environmentally superior routes, SCE's proposed route, and various alternatives. We find that, as modified, the Final EIR/EIS is a competent and comprehensive informational tool, as CEQA requires it to be. The quality of the information in the Final EIR/EIS is such that we are confident of its accuracy. We have considered the information in the Final EIR/EIS in approving the DPV2 project as described in this decision. The Commission should certify the Final EIR/EIS as modified by this order.

VII. Authorized DPV2 Project and Statement of Overriding Considerations

A. Authorized DPV2 Project

Based on the considerations above, we authorize SCE to construct the proposed DPV2 project with the following routing conditions:

> SCE should terminate DPV2 at a new Harquahala Junction, if a commercially reasonable agreement can be reached and subject to approval by the Arizona Corporation Commission and any other needed authorizations. Otherwise, SCE may terminate DPV2 at the Harquahala switchyard.
>
> SCE may construct a route in the Kofa area that is acceptable to the USFWS and other permitting agencies.
>
> SCE should construct the North of Desert Center alternative in the Alligator Rock ACEC area if BLM authorizes this route. Otherwise, SCE may build DPV2 on a route segment through the Alligator Rock ACEC area acceptable to BLM, if the segment received full consideration in the Final EIR/EIS or deviates from one of the reviewed route segments solely within BLM land.

> SCE should construct the Devers-Valley No. 2 500 kV alternative rather than the 230 kV upgrades that SCE proposed west of the Devers substation.

Attachment B presents the findings required by CEQA Guidelines Section 15091, describing each significant and potentially significant impact identified in the Final EIR/EIS, the relevant mitigation measures, and the findings of the Commission with respect to each impact.

The Final EIR/EIS has identified unavoidable significant impacts that will result from construction and operation of the authorized DPV2 project. Section 15093(b) of the CEQA Guidelines provides that, when the decision of the public agency allows the occurrence of significant impacts which are identified in the EIR but are not at least substantially mitigated, the agency must state in writing the reasons to support its action based on the completed EIR and/or other information in the record. CEQA Guidelines Section 15093(b) requires that the decision-maker adopt a Statement of Overriding Considerations at the time of approval of the project if it finds that significant adverse environmental effects have been identified in the EIR that cannot be substantially mitigated to an insignificant level or be eliminated.

The following impacts are not mitigated to a less than significant level for the proposed project: visual impacts in Kofa (Arizona), Harquahala Mountain Telecommunication Facility (Arizona), and the Alligator Rock ACEC); wilderness/recreation effects at the same three locations and also at the Chuckwalla Dune Thicket ACEC; the conversion of agricultural land to non-agricultural use (13.6 acres in Arizona); potential adverse changes to known historic resources, to buried prehistoric and historical archaeological sites, or to human remains; corona noise that would exceed Riverside County standards; and air emissions that would exceed thresholds in the SCAQMD.

Implementation of alternatives could eliminate some of these identified impacts. Use of the North of Desert Center alternative to avoid new impacts to the Alligator Rock ACEC would eliminate visual, wilderness/recreation, and cultural resources impacts to the ACEC, but would create additional visual impacts resulting from the addition of the transmission line in a new corridor north of the ACEC. Implementation of the Harquahala Junction Switchyard alternative would eliminate the significant impact from conversion of agricultural lands in Arizona. While a wide range of alternatives was evaluated in an attempt to avoid impacts to Kofa, no feasible alternatives were identified that would reduce impacts in comparison with the impacts of the proposed project.

In the project segment west of the Devers substation, the proposed West of Devers upgrades would not create any significant unmitigable impacts. Since the Morongo Tribe has informed SCE that its proposed West of Devers upgrades are not acceptable, this portion of the project is not feasible, and we authorize construction of the Devers-Valley No. 2 alternative. This alternative would have the following significant and unmitigable impacts: visual impacts in several locations; inconsistency with BLM's Visual Resources Methodology management objectives in the Potrero ACEC and with the San Bernardino National Forest's Scenic Integrity Objectives; wilderness/recreation impacts at Santa Rosa and San Jacinto Mountains National Monument, Pacific Crest Trail, San Jacinto Wilderness Area, and Potrero ACEC; potential adverse changes to known historic resources, to buried prehistoric and historical archaeological sites, or to human remains.; corona noise; and air emissions.

None of the other alternatives alleviate the significant impacts and are feasible in light of the project objectives, as described in Final EIR/EIS

Appendix 1 (Alternatives Screening Report). Accordingly, the Commission adopts the following Statement of Overriding Considerations.

B. Statement of Overriding Considerations

The Commission recognizes that significant and unavoidable impacts will result from implementation of the DPV2 project. Having (i) adopted all feasible mitigation measures, (ii) adopted certain alternatives that reduce the impacts of the proposed project, (iii) rejected as infeasible alternatives to the project discussed above, (iv) recognized all significant, unavoidable impacts, and (v) balanced the benefits of the project against the project's significant and unavoidable impacts, the Commission hereby finds that the benefits outweigh and override the significant unavoidable impacts for the reasons stated below.

The Commission adopts and makes this statement of overriding considerations concerning the DPV2 project's unavoidable significant impacts to explain why the project's benefits outweigh its unavoidable impacts.

The discussion above and in Sections III and IV describes each alternative that was considered in the Final EIR/EIS and explains why each one has been included in the authorized project or rejected.

This project will provide substantial benefits, in that it will provide significant economic benefits for CAISO ratepayers, increase the reliability of the interstate transmission network, increase operational flexibility, and provide insurance value as an economic hedge against low-probability, high-impact events. We set forth the reasons for finding these substantial benefits, with citations to the record, in Section III above. The Commission finds that the DPV2 project's unavoidable impacts are acceptable in light of these substantial benefits, which constitute an overriding consideration warranting approval of the project, despite each and every unavoidable impact.

VIII. Compliance with Public Utilities Code Section 625

Pub. Util. Code § 625 provides that a public utility that offers competitive services may not condemn any property for the purpose of competing with another entity unless the Commission finds that such an action would serve the public interest based on a hearing for which the owner of the property to be condemned has been noticed and the public has an opportunity to participate (§ 625(a)(1)(A)). However, an exception is made for condemnation actions that are necessary solely for an electric or gas company to meet a Commission-ordered obligation to serve. In that circumstance, the electric or gas company is required to provide notice on the Commission Calendar if and when it pursues installation of facilities for the purpose of providing competitive services (§ 625(a)(1)(B)).

SCE proposed the DPV2 project to meet SCE's obligation to serve its electric customers, and we authorize it for that purpose. The DPV2 project includes new fiber optic cable to provide internal communications links for line protection, but SCE states that it has no current intention to use this fiber optic cable for competitive purposes or to lease it.

In D.01-10-029, the Commission addressed the applicability of § 625 where the utility is implementing a project to meet its obligation to serve, but aspects of the project may have a competitive purpose later. We described that § 625 provides two different levels of notice and oversight and that, "The lesser standard requires that when condemning properties to carry out a commission-ordered obligation, § 625(a)(1)(B) is applicable, which only requires notice be provided to the Commission Calendar." With similar circumstances, we conclude as in D.01-10-029 that the lesser standard, notice, applies for the DPV2 project.

IX. SCE Motion Regarding DRA Consultant Costs

On August 30, 2006, SCE filed a motion regarding reimbursement of DRA consultant expenses. SCE asks the Commission to do the following:

1. Find that SCE should reimburse DRA up to $375,000 for consultant expenses incurred for this proceeding, consistent with § 631;

2. Authorize SCE to capitalize the reimbursed consultant costs as project costs, and adjust the adopted cost cap by the final amount;

3. Allow SCE to provide the final amount in a filing it would make after the issuance of the CPCN in this proceeding;

4. Account for DRA consultant costs related to the DPV2 project separately from those consultant costs related to I.05-06-041; and,

5. If the Commission deems it appropriate to have DRA reimbursed for its consultant costs related to I.05-06-041, order that such consultant costs be allocated to PG&E and SDG&E as well as SCE.

DRA filed a response to SCE's motion. Regarding SCE's first request, DRA does not believe a Commission finding is required, since SCE does not dispute that it must reimburse DRA's consultant costs related to this case. DRA does not object to SCE's proposal that reimbursed costs be included in the cost cap and capitalized.

DRA takes issue with SCE's assertion that some of DRA's consultant work related solely to I.05-06-041 and therefore is not reimbursable pursuant to § 631. DRA states that its consultants were engaged to provide expert testimony on the need for DPV2 and that all prepared testimony fell within that scope. DRA states

that, since the Phase 1 hearings were held jointly in A.05-04-015 and I.05-06-041, the hearing time could be considered a joint activity. It maintains, however, that DRA's consultants attended the hearings only to address the need for DPV2. DRA concludes that its consultant costs should not be separated into two categories as SCE suggests, and instead should all be reimbursed pursuant to § 631.

PG&E responded in opposition to SCE's suggestion that a portion of DRA's consultant costs could be allocated to PG&E. PG&E argues that there is no basis for it or its ratepayers to assume any of the costs associated with DRA's consultants.

We agree with SCE that DRA consultants' evaluation of DPV2 assisted in the Commission's concurrent consideration in I.05-06-041 of methodologies for the economic evaluation of transmission lines. However, a review of the consultants' testimony confirms, as DRA indicates in its response, that their evaluation focused on need for DPV2. We find that the issues addressed by DRA's consultants are inextricably linked to the Commission's review of DPV2. For this reason, SCE should reimburse all of DRA's consultant costs in this proceeding, pursuant to § 631. We will not place a $375,000 limit on the reimbursable amount, as SCE requests.

We reject SCE's request that the cost cap for DPV be increased to reflect DRA's consultant costs. SCE has included an allowance for contingency costs in its DPV2 cost estimates, which we include in the maximum cost adopted in Section III.A.5.b pursuant to § 1005.5(a). SCE may treat the reimbursed consultant costs as DPV2 project costs for purposes of determining compliance with the approved maximum cost. If needed, SCE may seek an increase in the approved maximum cost as provided in Section 1005.5(b).

DRA notes that, at the time of its response to SCE's motion, the Commission had presented SCE five invoices and eight late notices for costs related to DRA's consultants, in amounts exceeding $300,000. SCE should pay all outstanding Commission invoices for DRA consultant expenses within five days of the effective date of this order.

X. Comments on Proposed Decision

The proposed decision of the ALJ in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and Rule 14.2(a) of the Commission's Rules of Practice and Procedure. SCE, the CAISO, and DRA filed comments on the proposed decision. No party filed reply comments.

We have made several minor modifications and clarifications to the proposed decision in response to the filed comments. As addressed elsewhere in the decision, these changes include more accurate descriptions of GO 131-D requirements and § 1005.5(a) provisions, as well as clarifications regarding the CAISO's economic evaluation of DPV2 and the adopted raven control mitigation requirement. In addition, in Attachment B we clarify that the Final EIR/EIS does not consider EMF concerns in the context of CEQA or NEPA.

XI. Assignment of Proceeding

Dian M. Grueneich is the assigned Commissioner and Charlotte F. TerKeurst is the assigned ALJ in this proceeding.

Findings of Fact

1. Our assessment of the economic benefits the DPV2 project is based on its design and construction to provide 1,200 MW of transfer capability between southern California and Arizona, to be operated by the CAISO.

2. SCE projects that DPV2 will provide benefits to CAISO ratepayers of almost $460 million in excess of its costs, with a resulting benefit-cost ratio of 1.71.

3. The CAISO projects that DPV2 will provide levelized annual benefits to CAISO ratepayers between $17 million and $158 million in excess of its costs, with a resulting benefit-cost ratio between 1.25 and 3.34.

4. DRA forecasts that DPV2 will provide net energy benefits of $261 million in excess of DPV2's costs, with a CAISO Ratepayer benefit-cost ratio of 1.31.

5. It is reasonable to adopt a maximum cost for DPV2 pursuant to § 1005.5(a) of $545,285,000 in 2005 dollars, to be decreased by $24,080,000 if the Devers-Harquahala line is terminated at Harquahala Junction and increased by $8,282,000 if the Alligator Rock—North of Desert Center route segment is used. In assessing compliance with the authorized maximum cost, it is reasonable to deflate actual expenditures to their equivalent value in 2005 dollars using the Handy-Whitman Index of Public Utility Construction Costs.

6. The parties' economic evaluations of DPV2 submitted in this proceeding demonstrate that DPV2 will provide significant economic benefits to CAISO-area ratepayers.

7. DPV2 will expand the interstate regional transmission network, increase its reliability, provide more operational flexibility, and provide insurance value as an economic hedge against low-probability, high-impact events.

8. Energy efficiency, demand response, and renewable generation do not hold sufficient near-term promise to provide a feasible or cost-effective alternative to DPV2, and would not offer the operational and other system benefits expected due to DPV2.

9. New transmission and generation options, in addition to demand side resources, should be pursued to meet the need for new energy supply in southern California.

10. Based on the STEP process that considered a range of potential transmission alternatives, DPV2 is the preferred new transmission alternative to provide access to lower-cost energy in the Southwest.

11. Terminating the Devers-Harquahala transmission line at Harquahala Junction would be less expensive than termination at the Harquahala Generating Company switchyard, and is the environmentally preferred alternative.

12. It is reasonable to require SCE to pursue good-faith efforts to reach a commercially reasonable agreement and seek the additional authorizations needed for construction of Harquahala Junction.

13. The Alligator Rock—North of Desert Center alternate route segment would avoid the Alligator Rock ACEC and is environmentally preferable to the proposed project paralleling DPV1 through the ACEC.

14. Neither SCE's PEA nor the Final EIR/EIS for DPV2 addressed environmental impacts if DPV2 is integrated with the Desert Southwest project.

15. The Devers-Valley No. 2 alternative is a viable and acceptable alternative to the West of Devers upgrades proposed by SCE.

16. It is reasonable to allow SCE to construct the Devers-Valley No. 2 transmission line as part of the DPV2 project.

17. A 20-foot increase in the height of DPV2 transmission towers would achieve a 15% reduction in the magnetic field at the edge of the right of way nearest to the DPV2 towers.

18. SCE reports that increasing the height of 33 towers by 20 feet would have an incremental cost of $1.4 million.

19. It is reasonable to require SCE to undertake low-cost EMF mitigation for the DPV2 project, as described in Section V.C of this decision.

20. A comprehensive record on environmental matters was developed in this proceeding through issuance of a draft EIR/EIS, consultation with public agencies and others, and public hearings. All are elements in the environmental process, which culminated in the issuance of the Final EIR/EIS.

21. The project alternatives considered in the Final EIR/EIS constitute a reasonable range of feasible alternatives, as required by the CEQA Guidelines.

22. The Final EIR/EIS identifies significant environmental impacts of the approved route that cannot be mitigated or avoided.

23. The environmental mitigation measures identified in the Final EIR/EIS, as modified by this order and contained in Attachment A, are feasible and will minimize or avoid significant environmental impacts.

24. As State lead agency under CEQA, the Commission is required to monitor the implementation of mitigation measures adopted for this project to ensure full compliance with the provisions of the monitoring program.

25. The Mitigation Monitoring, Compliance, and Reporting Plan in Section X of Attachment B to this decision conforms to the recommendations of the Final EIR/EIS for measures required to mitigate or avoid environmental effects of the project that can be reduced or avoided.

26. The Commission will develop a detailed implementation plan for the Mitigation Monitoring, Compliance, and Reporting Plan.

27. The Commission has reviewed and considered the information in the Final EIR/EIS before approving the project.

28. The Final EIR/EIS is a competent and comprehensive informational tool. With the modifications adopted in this decision, the quality of the information therein is such that we are confident of its accuracy.

29. Statement of Overriding Considerations: The DPV2 project will provide substantial benefits, in that it will provide significant economic benefits for CAISO-area ratepayers, increase the reliability of the interstate transmission network, increase operational flexibility, and provide insurance value as an economic hedge against low-probability, high-impact events. The DPV2 project's unavoidable impacts are acceptable in light of these substantial benefits, which constitute an overriding consideration warranting approval of the project, despite each and every unavoidable impact.

Conclusions of Law

1. The Commission has jurisdiction over the proposed project pursuant to, *inter alia,* Pub. Util. Code § 1001 *et seq.*

2. SCE's motion to submit late-filed Exhibit 43 should be granted.

3. The Commission has authority to specify a "maximum cost determined to be reasonable and prudent" for the DPV2 project pursuant to Pub. Util. Code § 1005.5.

4. The Commission should approve a maximum reasonable and prudent cost for this project as specified in Finding of Fact 5.

5. If SCE's final detailed engineering design-based construction estimates for the authorized project is one percent or more lower than the authorized maximum cost, SCE should show cause why the Commission should not adopt a lower amount as the maximum reasonable and prudent cost to reflect the final estimate.

6. If SCE's final detailed engineering design-based construction estimates for the authorized project exceeds the authorized maximum cost, SCE should seek an increase in the approved maximum cost pursuant to § 1005.5(b), to allow the Commission to assess whether the cost increases affect the cost effectiveness and need for the DPV2 project.

7. Commission approval of SCE's application, as modified herein, is in the public interest.

8. Project approval should be conditioned upon construction according to the following route:

> In Arizona, the DPV2 project should depart from either the Harquahala Generating Station switchyard or a new Harquahala Junction. If the DPV2 project departs from the Harquahala Generating Station switchyard, it should proceed east, paralleling the existing Harquahala-Hassayampa 500 kV line for approximately five miles to its intersection with SCE's existing DPV1 route at the site of the proposed Harquahala Junction. At this point, whether the route departs from the Harquahala Generating Station switchyard or Harquahala Junction, the route should be the same.
>
> At its intersection with DPV1 at Harquahala Junction, the DPV2 route should turn north (paralleling the DPV1 line) for approximately 2.4 miles to where it should cross I-10, and then proceed 3.7 miles to a point northeast of Burnt Mountain. From there the route should turn west and roughly parallel the north side of I-10 and the Central Arizona Project Canal for approximately 20 miles into La Paz County, then turn southwest, crossing to the south of I-10 and proceeding approximately 5 miles to a point where it meets the El Paso Natural Gas Company (EPNG) pipeline. The route should parallel the EPNG pipeline and DPV1 for approximately 56 miles, across the Ranegras Plain where a series capacitor bank should be constructed and through La Posa Plain. The route may follow or deviate from SCE's proposed route in the Kofa

area. The route should cross over Arizona Highway 95 and proceed into the Dome Rock Mountains to the summit of Copper Bottom Pass. The route should turn southwest and descend the western slope of the Dome Rock Mountains to reach the Colorado River.

The route should cross the Colorado River into California and generally follow the DPV1 right of way to SCE's Devers substation. The route should pass into the Palo Verde Valley, five miles south of Blythe, California and should proceed westerly to the top of the Palo Verde Mesa and then turn northwest to a point two miles south of I-10 and five miles southwest of Blythe Airport. At this point, the route should turn west following the DPV1 line to a point five miles east of Desert Center. DPV2 should either follow the DPV1 route for 10.6 miles or the North of Desert Center route for 11.8 miles north of I-10 and Desert Center to avoid the Alligator Rock Area ACEC. On the west side of Alligator Rock ACEC and south of I-10, the route should continue west for another 24 miles, passing a site where a series capacitor should be constructed, to a point in Shavers Valley where it should turn north and cross I-10 about two miles east of the Cactus City Rest Stop. After crossing I-10, the route should continue west-northwest, parallel to the DPV1 line for 46 miles to the Devers substation.

The route west of the Devers substation should leave Devers in a westerly direction paralleling SCE's existing Devers-Valley No. 1 line for 41.6 miles. The route should cross into the San Bernardino National Forest and the Santa Rosa and San Jacinto Mountains National Monument and parallel the Devers-Valley No. 1 line westerly and southwesterly until it terminates at SCE's Valley substation.

9. SCE should be authorized to terminate the Devers-Harquahala transmission line at Harquahala Junction or, if Harquahala Junction does not receive the needed approvals in Arizona or is otherwise not feasible, at the Harquahala Generating Company switchyard.

10. If the USFWS rejects the proposed route for DPV2 paralleling DPV1 through Kofa, that route will become legally infeasible.

11. SCE should be authorized to construct a route in the Kofa area that is acceptable to the USFWS and other permitting agencies, subject to a showing, if a proposed routing modification causes expected DPV2 costs to exceed the authorized maximum cost, that the routing modification is not detrimental to the cost effectiveness of DPV2.

12. SCE should be authorized to construct the North of Desert Center alternative or, if BLM does not authorize the North of Desert Center alternative, to construct DPV2 on a route segment through the Alligator Rock ACEC that is acceptable to BLM if the route segment received full consideration in the Final EIR/EIS or if it deviates from one of the reviewed segments solely within BLM land.

13. If SCE and IID reach agreement regarding integration of DPV2 and the Desert Southwest transmission project, SCE should be required to address environmental and other impacts of the proposed upgrades to DPV2 if it requests Commission authorization to construct the Midpoint substation or any other facilities related to integration of DPV2 and the Desert Southwest transmission project.

14. The West of Devers portion of SCE's proposed DPV2 project is not legally feasible.

15. SCE should be authorized to construct the Devers-Valley No. 2 transmission line as part of the DPV2 project.

16. SCE should amend its EMF management plan as needed to apply its no-cost 500 kV EMF management techniques to the Devers-Valley corridor in

addition to the Devers-Harquahala corridor, and to incorporate low-cost EMF mitigation as described in Section V.C of this decision.

17. The Commission retains authority to approve SCE's EMF management plan to ensure that it does not create adverse environmental impacts.

18. Mitigation measure B-16a should be modified to clarify that ravens are not raptors.

19. Section 1.1.4 in the Executive Summary of the Final EIR/EIS should be modified to describe GO 131-D requirements accurately.

20. The mitigation measures contained in Attachment A to this decision should be adopted and made conditions of project approval.

21. The Mitigation Monitoring, Compliance, and Reporting Plan in Section X of Attachment B to this decision should be adopted.

22. The findings required by CEQA Guidelines Section 15091, as contained in Attachment B to this decision, should be adopted.

23. The Final EIR/EIS has been completed in compliance with the CEQA guidelines.

24. Section H.1.3 in the Final EIR/EIS should be deleted.

25. With the modifications adopted in this decision, the Final EIR/EIS satisfies CEQA requirements and should be certified.

26. Pub. Util. Code § 625(a)(l)(A) does not apply to this project. However, SCE must provide notice pursuant to § 625(a)(l)(B) if and when it pursues installation of facilities for purposes of providing competitive services.

27. SCE's motion regarding reimbursement of DRA consultant expenses should be denied, except that SCE should be required to pay all outstanding invoices for DRA consultant expenses expeditiously.

28. This order should be effective today so that SCE may proceed expeditiously with construction of the authorized project.

O R D E R

IT IS ORDERED that:

1. A Certificate of Public Convenience and Necessity (CPCN) is granted, subject to the conditions set forth in this Order, to Southern California Edison Company (SCE) to construct a 500 kilovolt (kV) transmission line between either the Harquahala Generating Station switchyard or a new Harquahala Junction in Arizona to SCE's Devers substation, a 500 kV transmission line between the Devers substation and SCE's Valley substation, and associated facilities (collectively, the Devers-Palo Verde No. 2 (DPV2) project).

2. SCE shall, as a condition of the CPCN, build the DPV2 project in accordance with the following route:

> In Arizona, the DPV2 project shall depart from either the Harquahala Generating Station switchyard or a new Harquahala Junction. If the DPV2 project departs from the Harquahala Generating Station switchyard, it shall proceed east, paralleling the existing Harquahala-Hassayampa 500 kV line for approximately five miles to its intersection with SCE's existing Devers-Palo Verde No. 1 (DPV1) route at the site of the proposed Harquahala Junction. At this point, whether the route departs from the Harquahala Generating Station switchyard or Harquahala Junction, the route shall be the same.
>
> At its intersection with DPV1 at Harquahala Junction, the DPV2 route shall turn north (paralleling the DPV1 line) for approximately 2.4 miles to where it shall cross Interstate 10 (I-10), and then proceed 3.7 miles to a point northeast of Burnt Mountain. From there the route shall turn west and roughly parallel the north side of I-10 and the Central Arizona Project Canal for approximately 20 miles into La Paz County, then turn

southwest, crossing to the south of I-10 and proceeding approximately 5 miles to a point where it meets the El Paso Natural Gas Company (EPNG) pipeline. The route shall parallel the EPNG pipeline and DPV1 for approximately 56 miles, across the Ranegras Plain where a series capacitor bank shall be constructed and through La Posa Plain. The route may follow or deviate from SCE's proposed route in the Kofa National Wildlife Reserve (Kofa) area. The route shall cross over Arizona Highway 95 and proceed into the Dome Rock Mountains to the summit of Copper Bottom Pass. The route shall turn southwest and descend the western slope of the Dome Rock Mountains to reach the Colorado River.

The route shall cross the Colorado River into California and generally follow the DPV1 right of way to SCE's Devers substation. The route shall pass into the Palo Verde Valley, five miles south of Blythe, California and shall proceed westerly to the top of the Palo Verde Mesa and then turn northwest to a point two miles south of I-10 and five miles southwest of Blythe Airport. At this point, the route shall turn west following the DPV1 line to a point five miles east of Desert Center. DPV2 shall either follow the DPV1 route for 10.6 miles or the North of Desert Center route for 11.8 miles north of I-10 and Desert Center to avoid the Alligator Rock Area of Critical Environmental Concern (ACEC). On the west side of Alligator Rock ACEC and south of I-10, the route shall continue west for another 24 miles, passing a site where a series capacitor shall be constructed, to a point in Shavers Valley where it shall turn north and cross I-10 about two miles east of the Cactus City Rest Stop. After crossing I-10, the route shall continue west-northwest, parallel to the DPV1 line for 46 miles to the Devers substation.

The route west of the Devers substation shall leave Devers in a westerly direction paralleling SCE's existing Devers-Valley No. 1 line for 41.6 miles. The route shall cross into the San Bernardino National Forest and the Santa Rosa and San Jacinto Mountains National Monument and parallel the Devers-Valley

No. 1 line westerly and southwesterly until it terminates at SCE's Valley substation.

3. SCE shall pursue good-faith efforts to reach a commercially reasonable agreement and seek the additional authorizations needed for construction of Harquahala Junction. SCE is authorized to terminate the Devers-Harquahala transmission line at Harquahala Junction or, if Harquahala Junction does not receive the needed approvals in Arizona or is otherwise not feasible, at the Harquahala Generating Company switchyard.

4. Official notice is taken that the United States Fish and Wildlife Service (USFWS) has issued a preliminary Determination of Incompatibility regarding construction of DPV2 through Kofa as proposed by SCE.

5. SCE is authorized to construct a route in the Kofa area that is acceptable to the USFWS and other permitting agencies, subject to a showing, if a proposed routing modification causes expected DPV2 costs to exceed the maximum cost adopted in this Order, that the routing modification is not detrimental to the cost effectiveness of DPV2.

6. SCE is authorized to construct the North of Desert Center alternative or, if the United States Department of Interior, Bureau of Land Management (BLM) does not authorize the North of Desert Center alternative, to construct DPV2 on a route segment through the Alligator Rock ACEC that is acceptable to BLM if the route segment received full consideration in the Final Environmental Impact Report/Environmental Impact Statement (Final EIR/EIS) for DPV2 or if it deviates from one of the reviewed segments solely within BLM land.

7. If SCE requests Commission authorization to construct the Midpoint substation or any other facilities related to integration of DPV2 and the Desert Southwest transmission project, SCE shall address environmental and other

impacts of upgrades to DPV2 that would be undertaken to integrate DPV2 and the Desert Southwest transmission project.

8. SCE is authorized to construct the Devers-Valley No. 2 transmission line as part of the DPV2 project.

9. SCE shall, as a condition of the CPCN, design and construct DPV2 to increase the transfer capability between southern California and Arizona by at least 1,200 megawatts (MW) and shall turn over at least 1,200 MW of transfer capability to the California Independent System Operator (CAISO).

10. Pursuant to Pub. Util. Code § 1005.5(a), the maximum cost determined to be reasonable and prudent for the DPV2 project, including pension and benefits, and administrative and general expenses, but excluding Allowance for Funds Used During Construction, is $545,285,000 in 2005 dollars, to be decreased by $24,080,000 if the Devers-Harquahala line is terminated at Harquahala Junction and increased by $8,282,000 if the Alligator Rock—North of Desert Center route segment is used. The Handy-Whitman Index of Public Utility Construction Costs shall be used in assessing compliance with the authorized maximum cost.

11. Once SCE has developed a final detailed engineering design-based construction estimate for the final route, if this estimate is one percent or more lower than the authorized maximum reasonable and prudent cost identified in Conclusion of Law 10, SCE shall, within 30 days, file an advice letter to show cause why the Commission should not adopt a lower amount as the maximum reasonable and prudent cost to reflect the final estimate.

12. If SCE's final detailed engineering design-based construction estimate for the authorized project exceeds the authorized maximum cost, SCE shall, within 30 days, file an advice letter to seek an increase in the approved maximum cost

pursuant to § 1005.5(b), and shall address whether the cost increases affect the cost effectiveness and need for the DPV2 project.

13. As low-cost electric and magnetic field (EMF) mitigation, SCE shall increase tower and conductor heights by 20 feet along those portions of the DPV2 transmission corridor where there are residential properties within 50 feet of the side of the right of way closer to the DPV2 line. SCE shall apply this low-cost EMF mitigation where there are existing residential properties and where development of new residences is underway at the time SCE undertakes final DPV2 project design.

14. SCE shall amend its EMF management plan to apply its no-cost 500 kV EMF management techniques to the Devers-Valley corridor in addition to the Devers-Harquahala corridor, and to incorporate the low-cost EMF mitigation adopted in Ordering Paragraph 13.

15. SCE shall, as a condition of the CPCN, build the DPV2 project in accordance with its EMF management plan as modified consistent Ordering Paragraph 14.

16. SCE shall, prior to commencing construction, submit a detailed EMF management plan for approval of the Commission's Energy Division. The plan shall describe in detail each mitigation element, the cost of each element, and the percentage by which that mitigation will reduce EMF levels.

17. Mitigation measure B-16a proposed in the Final EIR/EIS is modified as follows:

B-16a **Prepare and implement a raven control plan.** SCE shall prepare a common raven control plan that identifies the purpose of conducting raven control, provides training in how to identify raven nests and how to determine whether a nest belongs to a raven or a raptor species, describes the seasonal limitations on disturbing nesting raptors species (excluding ravens), describes the procedure

for obtaining a permit from the USFWS's Division of Migratory Birds, and describes procedures for documenting the activities on an annual basis. SCE shall gain approval of the plan from the USFWS's Division of Migratory Birds. SCE shall provide this raven control plan to all transmission line companies that conduct operations within the ROW.

18. The second paragraph in Section 1.1.4 in the Executive Summary of the Final EIR/EIS is modified as follows:

> No local discretionary (e.g., use) permits are required, since the CPUC has preemptive jurisdiction over the construction, maintenance, and operation of SCE facilities in California. SCE would still have to obtain all ministerial building and encroachment permits from local jurisdictions, and the CPUC's General Order 131-D requires that, in locating electric facilities such as DPV2, SCE consult with local agencies regarding land use matters. The CPUC's authority does not preempt special districts, such as the South Coast Air Quality Management District, or other State agencies or the federal government.

19. The mitigation measures contained in Attachment A to this decision are adopted.

20. The mitigation monitoring and reporting program contained in Section X of Attachment B to this decision is adopted.

21. SCE shall, as a condition of the CPCN, comply with all applicable mitigation measures specified in Attachment A attached hereto, as directed by the Commission's Executive Director or his designee(s). SCE shall work with the Commission's Energy Division to create detailed maps for use in construction and mitigation monitoring.

22. The Executive Director shall supervise and oversee construction of the project insofar as it relates to monitoring and enforcement of the adopted mitigation measures contained in Attachment A to this decision. The Executive Director may delegate these duties to one or more Commission staff members or

outside staff. The Executive Director is authorized to employ staff independent of the Commission staff to carry out such functions, including, without limitation, the on-site environmental inspection, environmental monitoring, and environmental mitigation supervision of the construction of the project. Such staff may be individually qualified professional environmental monitors or may be employed by one or more firms or organizations. In monitoring the implementation of the adopted mitigation measures, the Executive Director shall attribute the acts and omissions of SCE's employees, contractors, subcontractors, or other agents to SCE. SCE shall comply with all orders and directives of the Executive Director concerning implementation of the adopted mitigation measures.

23. The findings required by California Environmental Quality Act (CEQA) Guidelines Section 15091, as contained in Attachment B to this decision, are adopted.

24. Section H.1.3 in the Final EIR/EIS is deleted.

25. With the modifications adopted in Ordering Paragraphs 17, 18, and 24, the Final EIR/EIS for the DPV2 project is certified pursuant to CEQA.

26. The Commission finds that the DPV2 project will provide substantial benefits, in that it will provide significant economic benefits for CAISO-area ratepayers, increase the reliability of the interstate transmission network, increase operational flexibility, and provide insurance value as an economic hedge against low-probability, high-impact events. The Commission finds that the DPV2 project's unavoidable impacts are acceptable in light of these substantial benefits, which constitute an overriding consideration warranting approval of the project, despite each and every unavoidable impact.

27. SCE shall file a written notice with the Commission, served on all parties to this proceeding, of its agreement, executed by an officer of SCE duly authorized (as evidenced by a resolution of its board of directors duly authenticated by a secretary or assistant secretary of SCE) to acknowledge SCE's acceptance of the conditions set forth in the Ordering Paragraphs of this decision. Failure to file such notice within 75 days of the effective date of this decision shall result in the lapse of the authority granted by this decision.

28. The Executive Director shall file a Notice of Determination for the project as required by CEQA and the regulations promulgated pursuant thereto.

29. Upon satisfactory completion of the project, SCE shall file a notice of completion with the Executive Director by the Energy Division.

30. SCE's right to construct the DPV2 project as set forth in this decision shall be subject to all other necessary federal, State and local permitting processes and approvals.

31. SCE's motion to submit late-filed Exhibit 43 is granted.

32. SCE shall pay all outstanding Commission invoices for Division of Ratepayer Advocates (DRA) consultant expenses within five days of the effective date of this order. In all other respects, SCE's motion regarding reimbursement of DRA consultant expenses is denied.

33. Application 05-04-015 is closed.

This order is effective today.

Dated January 25, 2007, at San Francisco, California.

MICHAEL R. PEEVEY
President
DIAN M. GRUENEICH
JOHN A. BOHN

RACHELLE B. CHONG
Commissioners

ATTACHMENT A

Mitigation Measures

All mitigation measures presented in the Final EIR/EIS are listed below. The four measures at the end of the list would apply only to alternative routes; all other measures apply to the Proposed Project or to all alternatives. Mitigation measure B-16a in the Final EIR/EIS is modified as contained herein.

Measures Applicable to the Proposed Project and All Alternatives

Biological Resources

B-1a **Prepare and implement a Habitat Restoration/Compensation Plan.** SCE shall restore all areas disturbed by project construction, including temporary disturbance areas around tower construction sites, laydown/staging areas, temporary access and spur roads, and existing tower locations that are removed during construction of the Proposed Project. Where onsite restoration is planned for mitigation of temporary impacts to sensitive vegetation communities, SCE shall identify a qualified Habitat Restoration Specialist to be approved by the CPUC/BLM. Hydroseeding, drill seeding, or an otherwise proved restoration technique shall be utilized on all disturbed surfaces using a locally endemic native seed mix approved by the CPUC/CDFG/AGFD/FWS and BLM. SCE shall flag the limits of disturbance at each construction site. The Plan shall incorporate the measures identified in the June 2006 Memorandum of Understanding regarding vegetation management along rights-of-way for electrical transmission and distribution facilities on Federal lands. In project areas that occur in the WRCMSHCP plan area, SCE shall use the applicable Best Management Practices identified in the WRCMSHCP.

The creation or restoration of habitat shall be monitored for five years after mitigation site construction, or until established success criteria are met, to assess progress and identify potential problems with the restoration site. Remedial activities (e.g., additional planting, weeding, or erosion control) shall be taken during the monitoring period if necessary to ensure the success of the restoration effort. If the mitigation fails to meet the established performance criteria after the five-year maintenance and monitoring period, monitoring shall extend beyond the five-year period until the criteria are met or unless otherwise noted by the CPUC/BLM.

B-1b **Coordinate tower placement with USFWS/BLM.** Where the proposed route crosses the Kofa National Wildlife Refuge, SCE shall coordinate with the U.S. Fish and Wildlife Service, Division of Refuges' refuge management personnel to determine specific tower site and spur road locations in order to minimize habitat disturbance and/or the loss of valuable habitat features. SCE shall demonstrate compliance with this measure prior to construction.

B-2a **Conduct invasive and noxious weed inventory.** SCE shall survey the project corridor, including access roads, for populations of invasive and noxious weeds prior to the start of construction. All populations of invasive and noxious weeds within 500 feet of each tower location shall be flagged prior to construction. The Applicant shall submit a Noxious Weed Control Plan to BLM, CPUC, ADGF, CDFG, and/or USFWS at least 60 days prior to the start of construction. The weed control plan shall specify the location of existing weed populations;

measures to control introduction and spread of noxious weeds in the project corridor; worker training, specifications, and inspection procedures for construction materials and equipment used in the project corridor; post-construction monitoring for noxious weeds; and eradication and control methods.

Known populations of invasive and noxious weeds in the project corridor shall be evaluated by BLM, CPUC, CDFG, and USFWS to identify candidates for eradication. Selected weed populations shall then be eradicated prior to construction.

All seeds and straw material shall be certified weed free. All gravel and fill material used during project construction and maintenance shall be certified weed free by the local County Agriculture Commissioner's Office.

B-2b **Implement control measures for invasive and noxious weeds.** SCE shall adhere to the BLM management guidelines for reducing the potential for the introduction of noxious weeds and invasive, non-native plant species by implementation of the following standards:

- **Wash all equipment and vehicles.** Vehicles and all equipment must be washed BEFORE AND AFTER entering all project sites unless otherwise directed in writing by the BLM. This includes wheels, undercarriages, bumpers and all parts of the vehicle. In addition, all tools such as chain saws, hand clippers, pruners, etc., must also be washed BEFORE AND AFTER entering all project areas. For example, vehicles traveling into contaminated areas are the main dispersal mechanism for yellow star-thistle. All washing must take place where rinse water is collected and disposed of in either a sanitary sewer or a landfill.
- **Keep written logs.** When vehicles and equipment are washed, a daily log must be kept stating the location, date and time, types of equipment, methods used and staff present. The log shall contain the signature of the responsible crewmember.
- **Written logs will be available** for CPUC/BLM inspection and shall be turned in to BLM on a weekly basis.
- **Post-construction weed abatement on the Coachella Valley Preserve.** Post-construction follow-up weed abatement will be conducted on the work areas within the Coachella Valley Preserve and Kofa National Wildlife Refuge. Weed abatement will be conducted during the spring following construction and prior to when the weeds establish flowers or produce seeds.

B-5a **Conduct pre-construction surveys and monitoring for breeding birds.** SCE shall conduct protocol level surveys for nesting birds if construction activities are scheduled to occur during the breeding season for raptors and other migratory birds. Surveys shall be conducted in areas within 500 feet of tower sites, laydown/staging areas, substation sites, and access road/spur road locations. SCE shall be responsible for designating a CPUC/BLM-approved qualified biologist who can conduct pre-construction surveys and monitoring for breeding birds. If State or federally listed birds with active nests are found, a biological monitor shall establish a 500-foot buffer around the nest and no activities will be allowed within the buffer until the young have fledged from the nest or the nest fails. The biological monitor shall conduct regular monitoring of the nest to determine success/failure and to ensure that project activities are not conducted within the 500-foot buffer until the nesting cycle is complete or the nest fails. The biological monitor shall be responsible for documenting the results of the surveys and the

ongoing monitoring. A 300-foot buffer shall be implemented in the event that raptors or other species protected under the MBTA are located. This buffer will be evaluated after consultation with the CPUC/BLM/CDFG/and USFWS.

B-6a **Develop a transplanting plan.** In coordination with the BLM, SCE shall prepare a transplanting plan in compliance with both Arizona and California laws and regulations regarding native and sensitive plants, prior to project construction activities. The plan will provide details on the plants being transplanted, including which species and how many individuals of each species; where the plants will be transplanted; how the plants will be transplanted; how the plants will be maintained during the transplanting efforts; and if the plants will be used to re-vegetate disturbed areas of the construction site. As a condition of the plan, a pre-construction survey will be conducted to mark (using bright-colored flagging) all plants that will be transplanted. Some cacti will need to be transplanted facing the same direction as they currently face (in other words, the north side of the plant must stay facing the north); these cacti will be identified in the plan and appropriately marked to identify which side faces north. For listed plant species SCE shall identify if the plants can be avoided. If avoidance is not possible, SCE shall purchase off site mitigation in coordination with the USFWS and CDFG.

B-7a **Avoid Colorado River.** All tower pads, equipment laydown areas, and pulling sites would be located outside flowing portions of the Colorado River and flowing tributaries of the river.

B-7b **Conduct pre-construction tortoise surveys.** Prior to construction, SCE shall survey the transmission line corridor for desert tortoise burrows and pallets within fourteen (14) days preceding construction. Tortoise burrows and pallets encountered within the construction zone (if any) will be conspicuously flagged by the surveying biologist(s) and avoided during all construction activities.

- During construction activities, SCE shall inspect under equipment and vehicles prior to moving equipment. If tortoises are encountered, the vehicle will not be moved until such animals have voluntarily moved to a safe distance away from the parked vehicle or a qualified biologist moves the tortoise.
- SCE shall monitor construction activities in all areas with the potential to support desert tortoise.
- Desert tortoises will be handled only by a FWS/CDFG permitted and authorized tortoise handler and only when necessary. New latex gloves will be used when handling each desert tortoise to avoid the transfer of infectious diseases between animals. Desert tortoises will be moved the minimum distance possible within appropriate habitat to ensure their safety. In general, desert tortoises will not be moved in excess of 1,000 feet for adults and 300 feet for hatchlings.
- Desert tortoises that are found above ground and need to be moved will be placed in the shade of a shrub. All desert tortoises removed from burrows will be placed in an unoccupied burrow of approximately the same size as the one from which it was removed. All excavation of desert tortoise burrows will be done using hand tools, either by, or under the direct supervision of, an authorized tortoise handler. If an existing burrow is unavailable, an authorized tortoise handler will construct or direct the construction of a burrow of similar shape, size, depth, and orientation as the original burrow. Desert tortoises moved

during inactive periods will be monitored for at least two days after placement in the new burrows to ensure their safety. An authorized tortoise handler will be allowed some judgment and discretion to ensure that survival of the desert tortoise is likely.

- If desert tortoises need to be moved at a time of the day when ambient temperatures could harm them (less than 40 degrees F or greater than 90 degrees F), they will be held overnight in a clean cardboard box. These desert tortoises shall be kept in the care of an authorized tortoise handler under appropriate controlled temperatures and released the following day when temperatures are favorable. All cardboard boxes will be appropriately discarded after one use.
- All desert tortoises moved will be marked for future identification. An identification number using the acrylic paint/epoxy covering technique should be placed on the fourth costal scute. No notching would be authorized.

B-7c **Purchase mitigation lands for impacts to tortoise habitat.** Following construction, SCE shall acquire lands to compensate for the loss of tortoise habitat within the Category II and III management areas in Arizona and California. The amount of land to be acquired will depend on the acreage of disturbance within these management areas. Acquired lands will be in a nearby area of good tortoise density and within tortoise habitat. BLM and SCE shall conduct a field inspection of the disturbed areas after completion of construction of the transmission line to determine the exact acreage required for compensation. The lands purchased will be transferred to the United States and be administered by the BLM. Land may be transferred to the BLM and/or incorporated into an existing management area.

B-7d **Purchase mitigation lands for impacts to fringe-toed lizard habitat.** SCE shall purchase or enhance lands for all permanent loss of habitat that are within the Coachella Valley fringe-toed lizard Critical Habitat unless otherwise directed by the USFWS Biological Opinion for the Proposed Project. Mitigation Lands shall be determined in consultation with the USFWS, CDFG, and CPUC.

Clearing work areas of CVFTL in the Coachella Valley Preserve. A temporary fence or other effective barrier that does not allow lizards to enter the work areas shall be constructed around the perimeter of each of the work areas in the refuge. Any lizards found within the barrier shall be relocated outside of the work areas.

Duration of Surveys for fringe-toed lizard and flat-tailed horned lizard. Surveys for CVFTL and FTHL shall be conducted during the appropriate seasons (May 1 through the end of summer) and conditions for species identification. The duration of the surveys shall coincide with the duration of construction activities in potential habitat for these species (particularly on the Coachella Valley Preserve) that occurs during the summer season. For any areas of suitable habitat, this measure shall apply. Construction shall not occur on the Preserve or in other potential habitat areas outside of the detection period for FTHL.

B-7e **Conduct focused surveys for California gnatcatchers.** SCE shall conduct protocol level surveys for California Gnatcatchers in all areas supporting suitable coastal sage or Riversidean sage scrub habitats that may be affected by the project (San Bernardino to Vista Substation and San Bernardino Junction to San Bernardino Substation). This will include a minimum 300-foot buffer around construction areas. Presence/absence of this species shall be determined prior to construction activities. If direct impacts to coastal California gnatcatcher

occupied habitat cannot be avoided, then impacts to this species shall be addressed through either the Section 7 or Section 10(a)(1)(B) Process under the Federal Endangered Species Act of 1973, as amended and consistent with the WRCMSHCP. SCE shall complete compliance with the Federal Endangered Species Act prior to Project construction. After definition of suitable habitat, the following requirements apply:

- Construction activities shall be restricted within coastal sage scrub habitat during the gnatcatcher breeding season (March 15-July 31);
- SCE shall implement the applicable Best Management practices in the WRCMSHCP;
- SCE shall restore, create, or enhance on site coastal sage scrub habitat; and/or
- SCE shall purchase land or mitigation bank credits at an appropriate ratio to offset impacts to gnatcatchers and their habitat.

B-7f **Conduct focused surveys for Stephens' kangaroo rat and San Bernardino kangaroo rat.** Prior to the implementation of construction in areas that support suitable habitat for Stephens' kangaroo rat and San Bernardino kangaroo rat (Calimesa and San Timoteo Canyon). SCE shall conduct focused surveys to determine if sign (burrows, scat, and etc.) of these species is present in all areas within 100 feet that would be permanently or temporarily affected by construction activities. All surveys shall be conducted by a qualified biologist who holds the appropriate Federal FWS permits to conduct trapping surveys for these species. If sign is found to be present, then SCE shall conduct focused trapping surveys according to accepted protocols to determine presence/absence of these species. If these species are found, then SCE shall implement measure to avoid direct impacts, including the placement of exclusion fencing around work areas where impacts will occur, trapping of animals from inside impact areas, and placement of those animals outside of exclusion fencing until construction is completed. A qualified biological monitor shall be present during construction to ensure that animals are not harmed. Following completion of construction, SCE shall remove all exclusion fencing and recontour the soils to the pre-construction condition.

B-8a **Conduct surveys for listed plant species.** SCE shall conduct focused surveys for listed and sensitive plants prior to construction, Surveys shall be conducted during the appropriate floristic period necessary for the identification of sensitive plant species in all suitable habitat located within the project ROW and within 100' of all surface disturbing activities.

Populations of sensitive plants shall be flagged and mapped prior to construction. If listed plants are located during the focused surveys, then modification of the placement of towers, access roads, laydown areas, and other ground disturbing activities would be implemented in order to avoid listed plants. If listed plants cannot be avoided, SCE shall be responsible for the translocation of plants and/or collection of seeds from existing populations that would be impacted and the planting/seeding of these plants in adjacent suitable portions of the ROW that would not be affected by Proposed Project construction or maintenance activities.

B-9a **Conduct pre-construction surveys.** SCE shall conduct pre-construction surveys for sensitive wildlife in any area subject to project disturbance. Surveys shall be conducted during a time of year when these species are known to be active. The location of sensitive species identified during the pre-construction surveys shall be identified on project maps.

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B-9b **Conduct biological monitoring.** SCE shall conduct biological monitoring of the project area including the laydown, staging, access roads, and any area subject to project disturbance. The biological monitor shall look for sensitive wildlife species (including forest watch list animals and Forest Service Region 5 sensitive species) that may be located within or immediately adjacent to the construction areas. If sensitive species are found, the biological monitor shall move them out of harm's way (listed species require take authorization) to avoid direct impacts to these species. In the event that the wildlife species may cause harm to the biologist, the biologist shall notify the construction crews and monitor the species until it moves out of harms way. The results of all monitoring shall be recorded in daily monitoring notes that shall be included as part of the required monitoring reports for the project. The SCE shall notify the CPUC/BLM if any sensitive species are located during construction of the project. SCE shall notify the Forest Service of all sensitive species found on Forest Service land.

B-9c **Implement a Worker Environmental Awareness Program.** A Worker Environmental Awareness Program (WEAP) shall be implemented for construction crews by a qualified biologist(s) provided by SCE and approved by the CPUC/BLM prior to the commencement of construction activities. Training materials and briefings shall include but not be limited to, discussion of the Federal and State Endangered Species Acts, the consequences of noncompliance with these acts, identification and values of sensitive plant and wildlife species and significant natural plant community habitats, fire protection measures, sensitivities of working on forest service lands and identification of Forest Service sensitive species and MIS wildlife species, hazardous substance spill prevention and containment measures, and review of mitigation requirements. Training materials and a course outline shall be provided to the CPUC and BLM for review and approval at least 30 days prior to the start of construction. Training materials and updates of training materials shall also be provided to the Forest Service for review and comment. SCE shall provide to the CPUC and BLM a list of construction personnel who have completed training, and this list shall be updated by SCE as required when new personnel start work. No construction worker may work in the field for more than 5 days without receiving the WEAP.

B-9d **Conduct pre-construction reptile surveys.** Prior to construction, SCE shall conduct surveys in areas of suitable habitat for Sonoran desert tortoise, common chuckwalla, banded Gila monster, and desert rosy boa within 48 hours prior to the start of construction activities. If common chuckwallas, banded Gila monsters and/or desert rosy boas are found on the construction site, they will be relocated to nearby suitable habitat outside the construction area. Following the clearance surveys, exclusion fencing will be erected or a biological monitor will be onsite during construction activities.

- If potentially suitable burrows or rock piles are found, they will be checked for occupancy. Occupied burrows will be flagged and avoided (employing a 50-foot buffer) during construction. If the burrow cannot be avoided, it will be excavated and the occupant relocated to an unoccupied burrow outside the construction area and of approximately the same size as the one from which it was removed. If an existing burrow is unavailable, the biologist will construct or direct the construction of a burrow of similar shape, size, depth, and orientation as the original. Trenches, holes, or other excavations will be examined for banded Gila monster prior to filling. If individuals are found, the biological monitor will relocate them to nearby suitable habitat.
- During construction, if a common chuckwalla, banded Gila monster, and/or desert rosy boa occur on the project site, construction activities adjacent to the individual's location

will be halted and the animal will be allowed to move away from the construction site. If the individual is not moving, a qualified biologist will relocate it to nearby suitable habitat outside the construction area. It shall be placed in the shade of a shrub. The Forest Service will be notified of any sensitive wildlife identified on NFS lands. Also during construction, if a Sonoran desert tortoise occurs on the project site, construction activities adjacent to the individual's location will be halted and the *Guidelines for Handling Sonoran Desert Tortoises Encountered During Construction Projects* will be followed by qualified personnel.

B-9e **Conduct pre-construction surveys and owl relocation.** Prior to construction, SCE shall conduct pre-construction surveys for the western burrowing owl. Surveys shall be conducted prior to ground disturbance activities in appropriate areas within the potential impact areas of the project to determine the presence of burrowing owls and to ensure clearance of these areas. If active owl burrows are discovered during pre-construction surveys, owls would be evicted from the burrows using either active or passive techniques as recommended by the BLM and Burrowing Owl Consortium. Owl relocation, as well as discouragement of owls from returning to the site, will occur in the following manner:

- During the non-breeding season (September 1 through January 31), burrowing owls occupying the Proposed Project site will be evicted by passive relocation. Passive relocation would include installation of one-way doors on burrow entrances that would let owls out of the burrow but would not let them back in.
- If construction is to occur during the breeding season (February 1 through August 31) and prior to the relocation of the owls, 75-meter (246-foot) protective buffers would be maintained around burrows occupied by owls until a BLM approved biologist approves other action. Other actions could include passive relocation if it is determined that owls have not begun laying eggs or postponement of construction in the area until the young are fledged and no longer dependent upon the nest burrow.
- Once fledglings are capable of independent survival and adult non-breeding owls have successfully been relocated offsite, potential owl habitat (squirrel burrows) would be collapsed in order to keep the owls from returning. Ground squirrels would be removed from the site by trapping and relocation or by other approved means. Following squirrel removal, existing ground squirrel burrows would be destroyed.

B-9f **Perform construction outside of breeding and lambing period.** Construction activities conducted within suitable habitat near Burnt Mountain, Harquahala Mountain, and Kofa NWR shall not occur during the period of the year when bighorn sheep are lambing (from January 1 to April 30). A pre-construction survey for bighorn sheep shall be conducted on Forest Service lands prior to construction and maintenance of the transmission lines. If bighorn sheep are found, then SCE shall consult with the Forest Service, USFWS, and Bighorn Institute to identify appropriate avoidance measures.

B-9g **Conduct pre-construction surveys and relocation for American badger.** Prior to construction, SCE shall conduct pre-construction surveys for American badger. Surveys will be conducted prior to ground disturbance activities in areas that contain habitat for this species. Badger dens located outside the project area shall be flagged for avoidance. Unoccupied dens located in the right of way shall be covered to prevent the animal from re-occupying the den prior to construction. If occupied dens are identified in the area of the ROW that must be disturbed,

the CDFG/BLM/Forest Service shall be consulted regarding options for action. Hand-excavation is an option if occupied dens cannot be avoided, but alternatives shall be considered due to potential danger to biologists. Dens shall be hand–excavated only before or after the breeding season (February 1–May 30). Any relocation of badgers shall take place after consultation with the BLM, Forest Service, and CDFG.

B-9h **Conduct pre-construction surveys for roosting bats.** SCE shall conduct surveys focused surveys for suitable roosting habitat or nursery sites for sensitive bats at the tower location, access/spur roads, and laydown/staging areas that occur in rocky areas or in areas where caves or old mines are present. If suitable roosting/nursery sites are found, then focused surveys shall be conducted to determine if the sites support sensitive bat species. If sensitive bat species occur at these sensitive roosting/nursery sites, then tower-specific adjustments and adjustments of the locations of access/spur roads and laydown/staging areas shall be made to avoid these sites. If towers, access/spur roads, and/or laydown/staging areas cannot avoid these sites, then construction of the towers, roads, and establishment of laydown/staging areas shall be delayed until the breeding cycles for the sensitive bats are completed. SCE shall consult with a bat specialist in order to determine when the breeding cycle for the sensitive bats are completed. SCE shall document the results of the surveys and any avoidance of roosting/nursery sites for sensitive bats.

B-9i **Schedule construction when the Coachella Valley round-tailed squirrel is dormant.** SCE shall conduct pre-construction surveys for Coachella Round Tailed Squirrels prior to construction to identify locations of nesting colonies. Placement of footings, roads, and laydown areas shall avoid nesting colonies of this species. If this species is identified within the ROW, construction activities shall be scheduled only during periods when this species is dormant (between August 1 and February 28).

B-13a **Demonstrate compliance with the Western Riverside County MSHCP.** SCE shall provide documentation that it has complied with the provisions of the MSHCP.

B-13b **Implement the Best Management Practices required by the Western Riverside County MSHCP.** SCE shall provide documentation that is has implemented the Best Management Practices set forth in Appendix C of the Western Riverside MSCHP.

B-15a **Utilize collision-reducing techniques in installation of transmission lines.** SCE shall install the transmission line utilizing APLIC standards for collision-reducing techniques as outlined in "Mitigating Bird Collisions with Power Lines: The State of the Art in 1994 (APLIC, 1996)."

- Placement of towers and lines will not be located significantly above existing transmission line towers and lines, topographic features, or tree lines to the maximum extent practicable.
- Overhead lines that occur significantly above the above-mentioned features and that are located in highly utilized avian flight paths will be marked utilizing aerial marker spheres, swinging plates, spiral vibration dampers, bird flight diverters, avifauna spirals, or other diversion device as to be visible to birds and reduce avian collisions with lines.

B-16a **Prepare and implement a raven control plan.** SCE shall prepare a common raven control plan that identifies the purpose of conducting raven control, provides training in how to identify raven nests and how to determine whether a nest belongs to a raven or a raptor species, describes the seasonal limitations on disturbing nesting raptors species (excluding ravens), describes the procedure for obtaining a permit from the USFWS's Division of Migratory Birds, and describes procedures for documenting the activities on an annual basis. SCE shall gain approval of the plan

from the USFWS's Division of Migratory Birds. SCE shall provide this raven control plan to all transmission line companies that conduct operations within the ROW.

B-18a **No Activities in Riparian Conservation Areas.** The final project design will include protective measures that prohibit construction activities on NFS lands in Riparian Conservation Areas in compliance with the Forest Plan. Examples of activities that will NOT be allowed include ground disturbance, adding potable water to these areas while implementing erosion control measures, and removing water from the waterways.

Visual Resources

V-1a **Reduce visibility of construction activities and equipment.** Substation construction sites and all staging and material and equipment storage areas, including storage sites for excavated materials shall be appropriately located away from areas of high public visibility. If visible from nearby roads, residences, public gathering areas, or recreational areas, facilities, or trails, construction sites and staging and storage areas shall be visually screened using temporary screening fencing. Fencing will be of an appropriate design and color for each specific location. Additionally, avoid construction in areas visible from recreation facilities and areas during holidays and periods of heavy recreational use. This measure encompasses BLM permit requirements B-7.1 and B-7.2. SCE shall submit final construction plans demonstrating compliance with this measure to the BLM and CPUC for review and approval at least 60 days prior to the start of construction.

V-1b **Reduce construction night lighting impacts.** SCE shall design and install all lighting at construction and storage yards and staging areas such that light bulbs and reflectors are not visible from public viewing areas; lighting does not cause reflected glare; and illumination of the project facilities, vicinity, and nighttime sky is minimized. SCE shall submit a Construction Lighting Mitigation Plan to the BLM and CPUC for review and approval at least 90 days prior to the start of construction or the ordering of any exterior lighting fixtures or components, whichever comes first. SCE shall not order any exterior lighting fixtures or components until the Construction Lighting Mitigation Plan is approved by the BLM and CPUC. The Plan shall include but is not necessarily limited to the following:

- Lighting shall be designed so exterior light fixtures are hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the nighttime sky is minimized. The design of the lighting shall be such that the luminescence or light sources is shielded to prevent light trespass outside the project boundary
- All lighting shall be of minimum necessary brightness consistent with worker safety
- High illumination areas not occupied on a continuous basis shall have switches or motion detectors to light the area only when occupied.

V-2a **Reduce in-line views of land scars.** Construct access or spur roads at appropriate angles from the originating, primary travel facilities to minimize extended, in-line views of newly graded terrain. Contour grading should be used where possible to better blend graded surfaces with existing terrain. SCE shall submit final construction plans demonstrating compliance with this measure to the BLM and CPUC for review and approval at least 60 days prior to the start of construction.

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V-2b **Reduce visual contrast from unnatural vegetation lines.** In those areas where views of land scars are unavoidable, the boundaries of disturbed areas should be aggressively revegetated to create a less distinct and more natural-appearing line to reduce visual contrast. Furthermore, all graded roads and areas not required for on-going operation, maintenance, or access shall be returned to pre-construction conditions. This measure partially encompasses BLM permit requirement BLM B-6.9. SCE shall submit final construction and restoration plans demonstrating compliance with this measure to the BLM and CPUC for review and approval at least 60 days prior to the start of construction.

V-2c **Reduce color contrast of land scars.** In those areas where views of land scars from sensitive public viewing locations are unavoidable, disturbed soils shall be treated with Eonite or similar treatments to reduce the visual contrast created by the lighter-colored disturbed soils with the darker vegetated surroundings. SCE will consult with the Authorized Officer on a site-by-site basis for the use of Eonite. This measure partially encompasses BLM permit requirement BLM B-6.4. SCE shall submit final construction and restoration plans demonstrating compliance with this measure to the BLM and CPUC for review and approval at least 60 days prior to the start of construction.

V-3a **Reduce visual contrast of towers and conductors.** The following design measures shall be applied to all new structures and conductors in order to reduce the degree of visual contrast caused by the new facilities:

- All new and replacement structures are to as closely as possible match the design of the existing structures with which they will be seen.
- All new and replacement structures are to be paired as closely as possible with the existing structure(s) in the corridor in order to avoid or reduce the number of off-setting (from existing structures) tower placements.
- All new and replacement structures are to match the heights of the existing DPV1 structures to the extent possible as dictated by variation in terrain.
- All new and reconductored spans are to match existing conductor spans as closely as possible in order to avoid or reduce the occurrence of unnecessary visual complexity associated with asynchronous conductor spans, particularly at sensitive crossings such as Salome Highway, I-10, U.S. 95, Colorado River, SR 78, Dillon Road, SR 62, Whitewater Canyon Road, and San Timoteo Canyon Road.
- All new conductors are to be non-specular in design in order to reduce conductor visibility and visual contrast.
- To the extent feasible, no new access roads are to be constructed downhill from existing or proposed towers to reduce the potential for structure skylining.

V-6a **Reduce visual contrast associated with ancillary facilities.** SCE shall submit to BLM and CPUC a Surface Treatment Plan describing the application of colors and textures to all facility structures, buildings, walls, fences, and components comprising all ancillary facilities including substations/switchyards, series capacitor banks, and optical repeater stations. The Surface Treatment Plan must reduce glare and minimize visual intrusion and contrast by blending the facilities with the landscape. The Treatment Plan shall be submitted to BLM and CPUC for approval at least 90 days prior to (a) ordering the first structures that are to be color treated

during manufacture, or (b) construction of any of the ancillary facility component, whichever comes first. If the BLM or CPUC notifies SCE that revisions to the Plan are needed before the Plan can be approved, within 30 days of receiving that notification, SCE shall prepare and submit for review and approval a revised Plan. The Surface Treatment Plan shall include:

- Specification, and 11"x17" color simulations at life size scale, of the treatment proposed for use on project structures, including structures treated during manufacture
- A list of each major project structure, building, tower and/or pole, and fencing specifying the color(s) and finish proposed for each (colors must be identified by name and by vendor brand or a universal designation)
- Two sets of brochures and/or color chips for each proposed color
- A detailed schedule for completion of the treatment
- A procedure to ensure proper treatment maintenance for the life of the project.

SCE shall not specify to the vendors the treatment of any buildings or structures treated during manufacture, or perform the final treatment on any buildings or structures treated onsite, until SCE receives notification of approval of the Treatment Plan by the BLM and CPUC. Within 30 days following the start of commercial operation, SCE shall notify the BLM and CPUC that all buildings and structures are ready for inspection.

V-6c **Reduce night lighting impacts.** SCE shall design and install all permanent lighting such that light bulbs and reflectors are not visible from public viewing areas; lighting does not cause reflected glare; and illumination of the project facilities, vicinity, and nighttime sky is minimized. SCE shall submit a Lighting Mitigation Plan to the BLM and CPUC for review and approval at least 90 days prior to ordering any permanent exterior lighting fixtures or components. SCE shall not order any exterior lighting fixtures or components until the Lighting Mitigation Plan is approved by the BLM and CPUC. The Plan shall include but is not necessarily limited to the following:

- Lighting shall be designed so exterior light fixtures are hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the nighttime sky is minimized. The design of the lighting shall be such that the luminescence or light sources is shielded to prevent light trespass outside the project boundary
- All lighting shall be of minimum necessary brightness consistent with worker safety
- High illumination areas not occupied on a continuous basis shall have switches or motion detectors to light the area only when occupied.

V-40a **Reduce visual contrast of towers and conductors.** The following design measures are to be applied to all new structures and conductors in order to reduce the degree of visual contrast caused by the new facilities: **(a)** all new structures are to as closely as possible match the design of the existing structures with which they will be seen; **(b)** all new structures are to be paired as closely as possible with the existing structure(s) in the corridor in order to avoid or reduce the number of off-setting (from existing structures) tower placements; **(c)** all new structures are to match the heights of the existing D-V1 structures to the extent possible as dictated by variation in terrain; **(d)** all new spans are to match existing conductor spans as closely as possible in order to avoid or reduce the occurrence of unnecessary visual complexity associated with asynchronous conductor spans, particularly at sensitive crossings such as SR

62, I-10, SR 111, SR 243, SR 79, Gilman Springs Road, Ramona Expressway, Menifee Road, and SR 74; **(e)** all new conductors are to be non-specular in design in order to reduce conductor visibility and visual contrast, and **(f)** no new access roads are to be constructed downhill from existing or proposed towers to reduce the potential for skylining. SCE shall provide to the CPUC, BLM, and Forest Service a Project Design Plan demonstrating implementation of this measure at least 90 days prior to the start of construction, and shall not commence construction until the Project Design Plan has been approved by the CPUC, BLM, and Forest Service.

Land Use

L-1a **Prepare Construction Notification Plan.** Forty-five days prior to construction, SCE shall prepare and submit a Construction Notification Plan to the CPUC and the BLM for approval. The Plan shall identify the procedures to ensure that SCE will inform property and business owners of the location and duration of construction, identify approvals that are needed prior to posting or publication of construction notices, and include template copies of public notices and advertisements (i.e., formatted text). To ensure effective notification of construction activities, the plan shall address at a minimum the following components:

- **Public notice mailer.** Fifteen days prior to construction, a public notice mailer shall be prepared. The notice shall identify construction activities that would restrict, block, or require a detour to access existing residential properties, retail and commercial businesses, wilderness and recreation facilities, and public facilities (e.g., schools and memorial parks). The notice shall state the type of construction activities that will be conducted, and the location and duration of construction. SCE shall mail the notice to all residents or property owners within 300 feet of the right-of-way and to specific public agencies with facilities that could be impacted by construction. If construction delays of more than seven days occur, an additional notice shall be prepared and distributed.
- **Newspaper advertisements.** Fifteen days prior to construction, within a route segment, one round of newspaper advertisements shall be placed in local newspapers and bulletins. The advertisement shall state when and where construction will occur and provide information on the public liaison person and hotline identified below. If construction is delayed as noted above, an additional round of newspaper ads shall be placed to discuss the status and schedule of construction.
- **Public venue notices.** Thirty days prior to construction, notice of construction shall be posted at public venues such as trail crossings, rest stops, desert centers, resource management offices (e.g., Bureau of Land Management field offices, San Bernardino National Forest Ranger Station), and other public venues to inform residents and visitors to the purpose and schedule of construction activities. For public trail closures, SCE shall post information on the trail detour at applicable resource management offices and post the notice within two miles north and south of the detour. For recreation facilities, the notice shall be posted along the access routes to known recreational destinations that would be restricted, blocked, or detoured and shall provide information on alternative recreation areas that may be used during the closure of these facilities.
- **Public liaison person and toll-free information hotline.** SCE shall identify and provide a public liaison person before and during construction to respond to concerns of neigh-

boring property owners about noise, dust, and other construction disturbance. Procedures for reaching the public liaison officer via telephone or in person shall be included in notices distributed to the public. SCE shall also establish a toll-free telephone number for receiving questions or complaints during construction and shall develop procedures for responding to callers. Procedures for handling and responding to calls shall be addressed in the Construction Notification Plan.

L-1b **Coordinate with the Central Arizona Project regarding canal crossings.** Prior to construction, SCE shall coordinate with the Central Arizona Water Conservation District and the BLM Phoenix Field Office, and shall obtain a license from the Central Arizona Water Conservation District for the areas where the project crosses the Central Arizona Project Canal. SCE shall submit the approved license to the CPUC and the BLM 30 days prior to the start of construction activities. The license or license attachments must identify specific locations where the crossings are permitted and any conditions of approval that have been agreed to by SCE, the Central Arizona Water Conservation District, and the BLM Phoenix Field Office.

L-1c **Provide proof of resolution of land acquisition issues for crossing of Agua Caliente Band of Cahuilla Indians tribal lands.** SCE shall negotiate in good faith to reach a mutually acceptable agreement with the allottee. If an agreement is reached, SCE shall consult and coordinate with the Planning Department of the Agua Caliente to provide the information and/or fees requested by the Planning Department regarding land use matters. If SCE and the allottee reach an agreement then SCE shall notify the Planning Department of the Agua Caliente, and if SCE and the Planning Department agree on the legal requirements, including appropriate waivers, SCE shall notify the BLM and the CPUC of the agreement; however if SCE and the Planning department are unable to reach an agreement, SCE shall notify the CPUC of the inability to reach agreement and the CPUC may hold a hearing within thirty days of notification. SCE reserves the right to institute eminent domain proceedings. SCE believes that a conditional use permit is not required.

L-1d **Coordinate with affected business owners.** Where private parking lots serving businesses would be blocked or partially blocked during construction, SCE shall either make prior arrangements with the business owner(s) to provide alternative parking within a reasonable walking distance (i.e., no more than 1,000 feet), or shall coordinate with affected business owners to arrange the construction schedule to ensure that the functions of the business(es) are not disrupted. Thirty days prior to construction, SCE shall submit documentation to the CPUC and the BLM that outlines the course of action that was taken to reduce impacts to businesses near construction areas.

<u>The following measure applies only to the West of Devers portion of the Proposed Project:</u>

L-1e **Coordinate construction schedule with public and community facilities.** SCE shall coordinate with the public and community facilities and services listed below regarding the construction schedule and duration in order to minimize impacts to these land uses. The purpose of this measure is to work with sensitive land uses that would be impacted by construction and to identify construction times/periods that would have the least impact to peak use of these public and community facilities. This coordination could result in limiting or avoiding construction during school sessions, identifying hauling routes that do not conflict with school commute routes, or working with the memorial parks to address funeral procession routes and noise sensitivities. Thirty days prior to construction, SCE shall document its coordination efforts

including contact persons, information provided, and comments received, and submit this documentation to the CPUC and BLM.

- Schools near the project route: Beaumont Middle School and High School, Calvary Christian School, Chavez Elementary School, Terrace View Elementary School, public elementary school on East Canyon Vista Drive
- San Gorgonio Memorial Park
- Desert Lawn Memorial Park
- Banning Municipal Airport
- Grandview Baptist Church

Wilderness and Recreation

WR-1a **Coordinate construction schedule and activities with the authorized officer for the recreation area.** No less than 40 days prior to construction, SCE shall coordinate construction activities and the project construction schedule with the authorized officer of the recreation areas listed below. SCE shall schedule construction activities to avoid heavy recreational use periods, including major holidays, in coordination with, and at the discretion of the authorized officer. SCE shall locate construction equipment to avoid temporary preclusion of recreation areas per the recommendations of the authorized officer. SCE shall also prepare a public notice of construction activities consistent with Mitigation Measure L-1a (Prepare Construction Notification Plan). SCE shall document its coordination efforts with the authorized officer, and provide this documentation to the CPUC and the BLM 30 days prior to construction.

WR-2a **Coordinate with USFWS to improve impacted areas within Kofa National Wildlife Refuge.** SCE shall coordinate with the USFWS to improve impacted areas within the Kofa National Wildlife Refuge (NWR). The implementation of improvements would be conducted at the discretion of the authorized officer for the Kofa NWR, and may include the acquisition of private land in-holdings from willing sellers within the refuge boundaries, and the rehabilitation of abandoned mine sites and old roads within the refuge. SCE shall document its coordination with the authorized officer of the Kofa NWR, and must demonstrate that negotiations and subsequent improvements have been conducted to the satisfaction of the USFWS. Documentation shall be submitted to the CPUC and the BLM at least 30 days prior to operation of the project.

WR-3a **Coordinate tower and road locations with the authorized officer for the recreation area.** Where the proposed route crosses the recreation areas listed below, SCE shall coordinate with the authorized officer to determine specific tower site and spur road locations in order to minimize impacts to recreational resources. This coordination shall occur no less than 30 days prior to the start of construction. SCE shall document its coordination with the authorized officer and shall submit this documentation to the CPUC and the BLM prior to initiating project construction.

WR-1b **Provide a temporary detour for Pacific Crest National Scenic Trail users.** No less than 40 days prior to construction, SCE shall coordinate with the USDA Forest Service to establish a temporary detour of the trail to avoid hazardous construction areas. SCE shall prepare a public notice of the temporary trail closure and information on the trail detour consistent with Mitigation Measure L-1a (Prepare Construction Notification Plan). SCE shall document its

coordination efforts with the USDA Forest Service and submit this documentation to the CPUC and the BLM 30 days prior to construction.

The following measure applies only to the West of Devers portion of the Proposed Project:

WR-1c **Coordinate with local agencies to identify alternative recreation areas.** SCE shall coordinate with the local parks and recreation departments regarding construction activities at the park and recreation facilities listed below, in order to identify alternative recreation sites that may be used by the public. SCE shall post a public notice at recreation facilities to be closed or limited during construction consistent with Mitigation Measure L-1a (Prepare Construction Notification Plan). SCE shall document its coordination with the parks and recreation departments and shall submit this documentation to the CPUC and the BLM 30 days prior to initiating project construction.

- Noble Creek Park
- Hulda Crooks Park
- Oak Valley Golf Club
- City of Loma Linda riding and hiking trail system

Agriculture

AG-1a **Establish agreement and coordinate construction activities with agricultural landowners.** Sixty (60) days prior to the start of project construction, Southern California Edison (SCE) shall secure a signed agreement with property owners of Farmland (Prime Farmland, Farmland of Statewide Importance, Unique Farmland) and Williamson Act lands that will be used for construction and operation of the project, access and spur roads, staging areas, and other project-related activities. The purpose of this agreement will be to set forth the use of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Williamson Act lands during construction in order to: (1) schedule proposed construction activities at a location and time when damage to agricultural operations would be minimized, and (2) ensure that any areas damaged or disturbed by construction are restored to a condition mutually agreed upon by the landowner and SCE.

SCE shall coordinate with the agricultural landowners in the affected areas where Farmland or Williamson Act land will be temporarily disturbed in order to determine when and where construction should occur in order to minimize damage to agricultural operations. This includes avoiding construction during peak planting, growing, and harvest seasons. If damage or destruction does occur, SCE shall perform restoration activities on the disturbed area in order to return the area to a pre-determined condition or the pre-construction condition, whichever option is agreed upon by the landowner and SCE. This could include activities such as soil preparation, regrading, and reseeding. This measure applies to agricultural landowners with land that is impacted by the Proposed Project. SCE shall provide proof of the continued use of Farmland and/or Williamson Act lands through the submittal of a signed agreement between an individual property owner and SCE. The signed agreements shall be submitted to the CPUC and BLM for review and approval prior to the start of construction.

AG-4a **Locate transmission towers and pulling/splicing stations to avoid agricultural operations.** SCE shall site transmission towers and pulling/splicing stations in locations that minimize

impacts to active agricultural operations. Specifically, SCE shall comply with the following measures when siting transmission towers and splicing/pulling stations within areas where active cultivated farmland would be removed through the presence of structures:

- SCE shall avoid orchards, vineyards, row crops, and furrow-irrigated crops where towers would interfere with irrigation and harvest activities.
- SCE shall avoid irrigation canals and ditches.
- SCE shall align towers adjacent to field boundaries and parallel to rows (if located in row crops), and shall avoid diagonal orientations and angular alignments within agricultural land.
- SCE shall match tower spans with existing DPV1 towers within agricultural land.
- SCE shall construct towers with heights and spacing to minimize safety hazards to aerial applicators flying in the Palo Verde Valley (CA) and other agricultural areas;
- SCE shall consult with the Palo Verde Irrigation District (PVID) regarding tower placement to minimize disruption to PVID facilities;

SCE shall document and provide proof of compliance with the above listed items 90 days prior to the start of Proposed Project construction. This documentation shall be submitted to the CPUC and the BLM for review and approval prior to the start of construction, and reviewed with affected landowners during coordination presented in Mitigation Measure AG-1a (Establish agreement and coordinate construction activities with agricultural landowners).

Cultural and Paleontological Resources

C-1b **Avoid and protect potentially significant resources.** On the basis of preliminary National Register of Historic Places (NRHP) eligibility assessments (Mitigation Measure C-1a) the BLM and CPUC 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. Where operationally feasible, potentially NRHP-eligible resources shall be protected from direct project impacts by project redesign.

Where the BLM and CPUC decide that potentially NRHP-eligible cultural resources cannot be protected from direct impacts by project redesign, the Applicant shall undertake additional studies to evaluate the resources' NRHP-eligibility and to recommend further mitigative treatment. The nature and extent of this evaluation shall be determined by the BLM in consultation with the CPUC and the appropriate State Historic Preservation Officer (SHPO) and shall be based upon final project engineering specifications. Evaluations will be based on surface remains, subsurface testing, archival and ethnographic resources, and in the framework of the historic context and important research questions of the project area. Results of those evaluation studies and recommendations for mitigation of project effects shall be incorporated into a Historic Properties Treatment Plan consistent with Mitigation Measure C-1c (Develop and implement Historic Properties Treatment Plan).

All potentially NRHP-eligible resources (as determined by the BLM and CPUC) that will not be affected by direct impacts, but are within 50 feet of direct impact areas will be designated as Environmentally Sensitive Areas (ESAs). Protective fencing, or other markers, at the BLM's

discretion, shall be erected and maintained to protect ESAs from inadvertent trespass for the duration of construction in the vicinity. Construction personnel and equipment shall be instructed on how to avoid ESAs. ESAs shall not be identified specifically as cultural resources. A monitoring program shall be developed as part of the Historic Properties Treatment Plan and implemented by the Applicant to ensure the effectiveness of ESAs.

C-1c **Develop and implement Historic Properties Treatment Plan.** Upon approval of the inventory report and the National Register of Historic Places (NRHP)-eligibility evaluations by the BLM and CPUC, consistent with Mitigation Measures C-1a (Inventory and evaluate cultural resources in Final APE) and C-1b (Avoid and protect potentially significant resources), the Applicant shall prepare and submit for approval a Historic Properties Treatment Plan (HPTP) for NRHP-eligible cultural resources to mitigate or avoid identified impacts. Treatment of cultural resources shall follow the procedures established by the Advisory Council on Historic Preservation for compliance with Section 106 of the National Historic Preservation Act and other appropriate State and local regulations. Avoidance, recordation, and data recovery will be used as mitigation alternatives. The HPTP shall be submitted to the BLM and CPUC for review and approval.

As part of the HPTP, the Applicant shall prepare a research design and a scope of work for evaluation of cultural resources and for data recovery or additional treatment of NRHP-eligible sites that cannot be avoided. Data recovery on most resources would consist of sample excavation and/or surface artifact collection, and site documentation. A possible exception would be a site where burials, cremations, or sacred features are discovered that cannot be avoided.

The HPTP shall define and map all known NRHP-eligible properties in or within 50 feet of all project APEs and shall identify the cultural values that contribute to their NRHP-eligibility. A cultural resources protection plan shall be included that details how NRHP-eligible properties will be avoided and protected during construction. Measures shall include, at a minimum, designation and marking of Environmentally Sensitive Areas (ESAs), archaeological monitoring, personnel training, and effectiveness reporting. The plan shall detail: what measures will be used; how, when, and where they will be implemented; and how protective measures and enforcement will be coordinated with construction personnel.

The HPTP shall also define any additional areas that are considered to be of high-sensitivity for discovery of buried NRHP-eligible cultural resources, including burials, cremations, or sacred features. The HPTP shall detail provisions for monitoring construction in these high-sensitivity areas. It shall also detail procedures for halting construction, making appropriate notifications to agencies, officials, and Native Americans, and assessing NRHP-eligibility in the event that unknown cultural resources are discovered during construction. For all unanticipated cultural resource discoveries, the HPTP shall detail the methods, the consultation procedures, and the timelines for assessing NRHP-eligibility, formulating a mitigation plan, and implementing treatment. Mitigation and treatment plans for unanticipated discoveries shall be approved by the BLM and CPUC, appropriate local governments, appropriate Native Americans, and the appropriate State Historic Preservation Officer prior to implementation.

The HPTP shall include provisions for analysis of data in a regional context, reporting of results within one year of completion of field studies, curation of artifacts (except from private land)

and data (maps, field notes, archival materials, recordings, reports, photographs, and analysts' data) at a facility that is approved by BLM, and dissemination of reports to local and State repositories, libraries, and interested professionals. The BLM will retain ownership of artifacts collected from BLM managed lands. The Applicant shall attempt to gain permission for artifacts from privately held land to be curated with the other project collections. The HPTP shall specify that archaeologists and other discipline specialists conducting the studies meet the Secretary of the Interior's Standards (per 36 CFR 61).

C-1d **Conduct data recovery to reduce adverse effects.** If National Register of Historic Places (NRHP)-eligible resources, as determined by the BLM and SHPO, cannot be protected from direct impacts of the Proposed Project, data-recovery investigations shall be conducted by the Applicant to reduce adverse effects to the characteristics of each property that contribute to its NRHP-eligibility. For sites eligible under Criterion d, significant data would be recovered through excavation and analysis. For properties eligible under Criteria a, b, or c, data recovery may include historical documentation, photography, collection of oral histories, architectural or engineering documentation, preparation of a scholarly work, or some form of public awareness or interpretation. Data gathered during the evaluation phase studies and the research design element of the Historic Properties Treatment Plan (HPTP) shall guide plans and data thresholds for data recovery; treatment will be based on the resource's research potential beyond that realized during resource recordation and evaluation studies. If data recovery is necessary, sampling for data-recovery excavations will follow standard statistical sampling methods, but sampling will be confined, as much as possible, to the direct impact area. Data-recovery methods, sample sizes, and procedures shall be detailed in the HPTP consistent with Mitigation Measure C-1c (Develop and implement Historic Properties Treatment Plan) and implemented by the Applicant only after approval by the BLM and CPUC. Following any field investigations required for data recovery, the Applicant shall document the field studies and findings, including an assessment of whether adequate data were recovered to reduce adverse project effects, in a brief field closure report. The field closure report shall be submitted to the BLM and CPUC for their review and approval, as well as to appropriate State repositories and local governments. Construction work within 100 feet of cultural resources that require data-recovery fieldwork shall not begin until authorized by the BLM or CPUC, as appropriate.

C-1e **Monitor construction.** The Applicant shall implement archaeological monitoring by a professional archaeologist during subsurface construction disturbance at all locations identified in the Historic Properties Treatment Plan (HPTP). Full-time monitoring shall occur when ground-disturbing activities take place at all archaeological High-Sensitivity Areas described above and at all cultural resource Environmentally Sensitive Areas (ESAs). These locations and their protection boundaries shall be defined and mapped in the HPTP. Intermittent monitoring may occur in areas of moderate archaeological sensitivity at the discretion of the BLM and CPUC. Archaeological monitoring shall be conducted by a qualified archaeologist familiar with the types of historical and prehistoric resources that could be encountered within the project, and under direct supervision of a principal archaeologist. The qualifications of the principal archaeologist and archaeological monitors shall be approved by the BLM and CPUC. A Native American monitor may be required at culturally sensitive locations specified by the BLM following government-to-government consultation with Native American tribes. The monitoring plan in the HPTP shall indicate the locations where Native American monitors will be required and shall specify the tribal affiliation of the required Native American monitor for each location. The Applicant shall retain and schedule any required Native American monitors.

Compliance with and effectiveness of the cultural resources monitoring plan shall be documented by the Applicant in a monthly report to be submitted to the BLM and CPUC, and, on San Bernardino National Forest, to the USFS, and on Agua Caliente land to the THPO, for the duration of project construction. In the event that cultural resources are not properly protected by ESAs, all project work in the immediate vicinity shall be diverted by the archaeological monitor until authorization to resume work has been granted by the BLM and CPUC. The Applicant shall notify the BLM of any damage to cultural resource ESAs. The Applicant shall consult with the BLM and CPUC to mitigate damages and to increase effectiveness of ESAs. At the discretion of the BLM and CPUC, such mitigation may include, but not be limited to modification of protective measures, refinement of monitoring protocols, data-recovery investigations, or payment of compensatory damages in the form of non-destructive cultural resources studies or protection.

C-1f **Train construction personnel.** All construction personnel shall be trained regarding the recognition of possible buried cultural remains and protection of all cultural resources, including prehistoric and historic resources during construction, prior to the initiation of construction or ground-disturbing activities. The Applicant shall complete training for all construction personnel. Training shall inform all construction personnel of the procedures to be followed upon the discovery of archaeological materials, including Native American burials. Training shall inform all construction personnel that Environmentally Sensitive Areas (ESAs) must be avoided and that travel and construction activity must be confined to designated roads and areas. All personnel shall be instructed that unauthorized collection or disturbance of artifacts or other cultural materials on or off the right-of-way by the Applicant, his representatives, or employees will not be allowed. Violators will be subject to prosecution under the appropriate State and federal laws and violations will be grounds for removal from the project. Unauthorized resource collection or disturbance may constitute grounds for the issuance of a stop work order. The following issues shall be addressed in training or in preparation for construction:

- All construction contracts shall include clauses that require construction personnel to attend training so they are aware of the potential for inadvertently exposing buried archaeological deposits, their responsibility to avoid and protect all cultural resources, and the penalties for collection, vandalism, or inadvertent destruction of cultural resources.
- The Applicant shall provide a background briefing for supervisory construction personnel describing the potential for exposing cultural resources, the location of any potential ESA, and procedures and notifications required in the event of discoveries by project personnel or archaeological monitors. Supervisors shall also be briefed on the consequences of intentional or inadvertent damage to cultural resources. Supervisory personnel shall enforce restrictions on collection or disturbance of artifacts or other cultural resources.
- Upon discovery of potential buried cultural materials by archaeologists or construction personnel, or damage to an ESA, work in the immediate area of the find shall be diverted and the Applicant's archaeologist notified. Once the find has been inspected and a preliminary assessment made, the Applicant's archaeologist will consult with the BLM or CPUC, as appropriate, to make the necessary plans for evaluation and treatment of the find(s) or mitigation of adverse effects to ESAs.

C-1g **Minimize impacts at Harquahala Peak**. SCE shall consult with BLM's Phoenix Area Office to define and implement the most effective actions to reduce impacts of the proposed

telecommunications tower at Harquahala Peak on cultural, visual, and recreational resources. Options for consideration shall include the following:

- SCE shall work with BLM to evaluate and analyze different locations for the communications facility, and shall document each site as to its adequacy for SCE's needs. If a different site (or sites) appears to be feasible and acceptable to BLM, SCE shall complete biological and cultural resources surveys and provide reports to BLM.
- SCE shall design and finish the tower for the proposed new facility to emulate the existing facilities. In addition, the location of the proposed new tower shall be relocated to the place determined by BLM to minimize effects on the interpretive site.
- SCE shall provide visitor facilities or enhanced historic interpretive information in order to better convey to the public the scientific contributions that the Observatory has made to history, and which make it worthy of NRHP listing under Criterion a.
- SCE shall consult with CAP and BLM to develop a co-located communications facility requiring only one tower to serve both parties.
- Based on consultation with BLM, SCE shall relocate the laydown area to a site that minimizes effects on visitors to Harquahala Peak.

After consultation with BLM on the options defined above, SCE shall submit a revised description of the Harquahala Peak facilities and laydown area along with detailed construction plans for review and approval by BLM's Phoenix Area Office at least 60 days prior to the start of construction.

C-2a **Consult agencies and Native Americans.** If human remains are discovered during construction, all work will be diverted from the area of the discovery and the BLM authorized officer will be informed immediately. The Applicant shall follow all State and federal laws, statutes, and regulations that govern the treatment of human remains. The Applicant shall assist and support the BLM in all required government-to-government consultations with Native Americans and appropriate agencies and commissions, as requested by the BLM. The Applicant shall comply with and implement all required actions and studies that result from such consultations, as directed by the BLM.

C-3a **Complete consultation with Native American and other Traditional Groups.** The Applicant shall provide assistance to the BLM, as requested by the BLM, to complete required government-to-government consultation with interested Native American tribes and individuals (Executive Memorandum of April 29, 1994 and Section 106 of the National Historic Preservation Act) and other Traditional Groups to assess the impact of the Proposed Project on Traditional Cultural Properties or other resources of Native American concern. As directed by the BLM, the Applicant shall undertake required treatments, studies, or other actions that result from such consultation. Written documentation of the completion of all pre-construction actions shall be submitted by the Applicant and approved by the BLM at least 30 days before commencement of construction activities. Actions that are required during or after construction shall be defined, detailed, and scheduled in the Historic Properties Treatment Plan and implemented by the Applicant, consistent with Mitigation Measure C-1c (Develop and implement Historic Properties Treatment Plan).

ATTACHMENT A

C-4a **Inventory paleontological resources in Final APE.** Prior to construction and all other surface-disturbing activities, the Applicant shall have conducted and submitted for approval an inventory of potentially significant paleontological resources, based on field inspection of areas of high or undetermined paleontological sensitivity that will be affected by the project as determined by the BLM and CPUC. As part of the inventory report, the Applicant shall evaluate and refine the paleontological sensitivity modeling of sediments that will be affected.

C-4b **Develop Paleontological Monitoring and Treatment Plan.** The Applicant shall, upon approval of the paleontological inventory report by the BLM and CPUC, prepare and submit for approval a plan to mitigate identified impacts. The Paleontological Monitoring and Treatment Plan shall identify construction impact areas of high sensitivity for encountering significant resources and the depths at which those resources are likely to be discovered. The Plan shall outline a coordination strategy to ensure that all construction disturbance in high sensitivity sediments will be monitored full-time by qualified professionals. Sediments of undetermined sensitivity will be spot-checked. The Plan shall detail the significance criteria to be used to determine which resources will be avoided or recovered for their data potential. The Plan shall also detail methods of recovery, post-excavation preparation and analysis of specimens, final curation of specimens at a federally recognized, accredited facility, data analysis, and reporting. The Plan shall specify that all paleontological work undertaken by the Applicant on public land shall be carried out by qualified professionals on a currently valid Paleontological Collecting Permit for the appropriate State. Notices to proceed will be issued by the BLM and CPUC following approval of the Paleontological Monitoring and Treatment Plan.

C-4c **Monitor construction for paleontology.** Based on the paleontological sensitivity assessment and Monitoring and Treatment Plan consistent with Mitigation Measure C-4b (Develop Paleontological Monitoring and Treatment Plan), the Applicant shall conduct full-time construction monitoring in areas where and when sediments of high paleontological sensitivity will be disturbed. Construction activities shall be diverted when data recovery of significant fossils is warranted.

C-4d **Conduct paleontological data recovery.** If avoidance of significant paleontological resources is not feasible or appropriate, treatment (including recovery, specimen preparation, data analysis, curation, and reporting) shall be carried out by the Applicant, in accordance with the approved Treatment Plan per Mitigation Measure C-4b (Develop Paleontological Monitoring and Treatment Plan).

C-4e **Train construction personnel.** All construction personnel shall be trained regarding the recognition of possible buried paleontological resources and protection of all paleontological resources during construction, prior to the initiation of construction or ground-disturbing activities. The Applicant shall complete training for all construction personnel. Training shall inform all construction personnel of the procedures to be followed upon the discovery of paleontological materials. Training shall inform all construction personnel that Environmentally Sensitive Areas (ESAs) must be avoided and that travel and construction activity must be confined to designated roads and areas. All personnel shall be instructed that unauthorized collection or disturbance of federally protected fossils on or off the right-of-way by the Applicant, his representatives, or employees will not be allowed. Violators will be subject to prosecution under the appropriate State and federal laws and will be grounds for removal from the project. Unauthorized resource collection or disturbance may constitute grounds for the

issuance of a stop work order. The following issues shall be addressed in training or in preparation for construction:

- All construction contracts shall include clauses that require construction personnel to attend training so they are aware of the potential for inadvertently exposing buried paleontological deposits, their responsibility to avoid and protect all such resources, and the penalties for collection, vandalism, or inadvertent destruction of paleontological resources.
- The Applicant shall provide a background briefing for supervisory construction personnel describing the potential for exposing paleontological resources, the location of any potential ESA, and procedures and notifications required in the event of discoveries by project personnel or paleontological monitors. Supervisory personnel shall enforce restrictions on collection or disturbance of fossils.
- Upon discovery of potential buried paleontological materials by paleontologists or construction personnel, work in the immediate area of the find shall be diverted and the Applicant's paleontologist notified. Once the find has been inspected and a preliminary assessment made, the Applicant's paleontologist will notify the BLM and CPUC and proceed with data recovery in accordance with the approved Treatment Plan consistent with Mitigation Measure C-4b (Develop Paleontological Monitoring and Treatment Plan).

C-5a **Protect and monitor NRHP-eligible properties.** The Applicant shall design and implement a long-term plan to protect National Register of Historic Places (NRHP)-eligible sites from direct impacts of project operation and maintenance and from indirect impacts, such as erosion that result from the presence of the project. The plan shall be developed in consultation with the BLM to design measures that will be effective against project maintenance impacts and project-related vehicular impacts. The plan shall also include protective measures for NRHP-eligible properties within the DPV corridor that will experience operational and access impacts as a result of the Proposed Project. The proposed measures may include restrictive fencing or gates, permanent access road closures, signage, stabilization of erosion, site capping, site patrols, and interpretive/educational programs, or other measures that will be effective for protecting NRHP-eligible properties. The plan shall be property specific and shall include provisions for monitoring and reporting its effectiveness and for addressing inadequacies or failures that result in damage to NRHP-eligible properties. The plan shall be submitted to the BLM and CPUC for review and approval at least 30 days prior to project operation.

Monitoring of selected sites shall be conducted annually by a professional archaeologist for a period of five years. Monitoring shall include inspection of all site loci and defined surface features, documented by photographs from fixed photomonitoring stations and written observations. A monitoring report shall be submitted to the BLM and CPUC within one month following the annual resource monitoring. The report shall indicate any properties that have been impacted by erosion or vehicle or maintenance impacts. For properties that have been impacted, the Applicant shall provide recommendations for mitigating impacts and for improving protective measures. After the fifth year of resource monitoring, the BLM or CPUC, as appropriate, will evaluate the effectiveness of the protective measures and the monitoring program. Based on that evaluation, the BLM or CPUC may require that the Applicant revise or refine the protective measures, or alter the monitoring protocol or schedule. If the BLM does not authorize alteration of the monitoring protocol or schedule, those shall remain in effect for the duration of project operation.

If the annual monitoring program identifies adverse effects to National Register of Historic Places (NRHP)–eligible properties from operation or long-term presence of the project, or if, at any time, the Applicant, BLM or CPUC become aware of such adverse effects, the Applicant shall notify the BLM and CPUC immediately and implement mitigation for adverse changes, as directed by the BLM and CPUC. At the discretion of the BLM and CPUC, such mitigation may include, but not be limited to modification of protective measures, refinement of monitoring protocols, data-recovery investigations, or payment of compensatory damages in the form of non-destructive cultural resources studies or protection.

Noise

N-1a **Implement best management practices for construction noise.** SCE shall employ the following noise-suppression techniques to minimize the impact of temporary construction noise and avoid possible violations of local rules, standards, and ordinances:

- Construction noise shall be confined to daytime, weekday hours (e.g., 7:00 a.m. to 6:00 p.m.) or an alternative schedule established by the local jurisdiction;
- Construction equipment shall use noise reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer;
- Construction traffic shall be routed away from residences and schools, where feasible;
- Unnecessary construction vehicle use and idling time shall be minimized to the extent feasible. The ability to limit construction vehicle idling time is dependent upon the sequence of construction activities and when and where vehicles are needed or staged. A "common sense" approach to vehicle use shall be applied; if a vehicle is not required for use immediately or continuously for construction activities, its engine should be shut off. (Note: certain equipment, such as large diesel-powered vehicles, require extended idling for warm-up and repetitive construction tasks.)

Transportation & Traffic

T-7a **Repair roadways damaged by construction activities.** If roadways, sidewalks, medians, curbs, shoulders, or other such features are damaged by the project's construction activities, as determined by the CPUC Environmental Monitor or the affected public agency, SCE shall coordinate repairs with the affected public agencies and ensure that any such damage is repaired to the pre-construction condition within 60 days from the end of all construction within each affected county.

T-13a **Coordinate helicopter operations with Kofa NWR personnel.** SCE shall develop a plan defining coordination with Kofa NWR personnel to ensure that no conflicts occur between construction helicopter operations and NWR rescue helicopter operations. The plan shall be submitted to the Kofa NWR at least 60 days before the start of construction for review and approval.

T-14a **Consult with Kofa NWR personnel.** SCE shall provide adequate signage at both ends of the utility road segment and work with Kofa NWR law enforcement personnel to prohibit public use of the road. SCE shall consult with Kofa NWR law enforcement personnel at least 60

days prior to the start of construction to develop appropriate measures to prevent inadvertent use of this road segment.

Public Health and Safety

P-1a **Develop Hazardous Substance Control and Emergency Response Plan.** A Hazardous Substance Control and Emergency Response Plan shall be prepared for the project, and a copy shall be kept on site (or in vehicles) during construction and maintenance of the project. SCE shall document compliance by submitting the plan to the CPUC or BLM or USFWS, as appropriate, for review and approval at least 60 days before the start of construction.

P-1b **Conduct environmental training and monitoring program.** An environmental training program shall be established to communicate environmental concerns and appropriate work practices, including spill prevention, emergency response measures, and proper Best Management Practice (BMP) implementation, to all field personnel prior to the start of construction. The training program shall emphasize site-specific physical conditions to improve hazard prevention (e.g., identification of potentially hazardous substances) and shall include a review of all site-specific plans, including but not limited to, the project's Storm Water Pollution Prevention Plan and the Hazardous Substances Control and Emergency Response Plan. SCE shall document compliance by (a) submitting to the CPUC or BLM or USFWS, as appropriate, for review and approval an outline of the proposed Environmental Training and Monitoring Program, and (b) maintaining for monitor review a list of names of all construction personnel who have completed the training program.

Best Management Practices, as identified in the project Storm Water Pollution Prevention Plan and the Hazardous Substances Control and Emergency Response Plan, shall be implemented during the construction of the project to minimize the risk of an accidental release and provide the necessary information for emergency response.

P-1c **Ensure proper disposal of construction waste.** All non-hazardous construction and demolition waste, including trash and litter, garbage, and other solid waste shall be disposed of properly. Petroleum products and other potentially hazardous materials shall be removed to a hazardous waste facility permitted or otherwise authorized to treat, store, or dispose of such materials.

P-1d **Maintain emergency spill supplies and equipment.** Hazardous material spill kits shall be maintained at all construction sites for small spills. This shall include oil-absorbent material, tarps, and storage drums to be used to contain and control any minor releases. Emergency spill supplies and equipment shall be kept adjacent to all work areas and staging areas, and shall be clearly marked. Detailed information for responding to accidental spills and for handling any resulting hazardous materials shall be provided in the project's Hazardous Substances Control and Emergency Response Plan.

P-2a **Identify pesticide/herbicide contamination.** Soil samples shall be collected in construction areas where the land has historically or is currently being farmed to identify the possibility of and to delineate the extent of pesticide and/or herbicide contamination. Excavated materials containing elevated levels of pesticide or herbicide will require special handling and disposal procedures. Standard dust suppression procedures (as defined in Mitigation Measure AQ-1a)

shall be used in construction areas to reduce airborne emissions of these contaminants and reduce the risk of exposure to workers and the public. Regulatory agencies for the states of Arizona or California (as appropriate) and the appropriate county shall be contacted to provide oversight regarding the handling, treatment, and/or disposal options.

P-3a **Observe exposed soil for evidence of contamination.** During grading or excavation work, the construction contractor shall observe the exposed soil for visual evidence of contamination. If visual contamination indicators are observed during construction, the contractor shall stop work until the material is properly characterized and appropriate measures are taken to protect human health and the environment. The contractor shall comply with all local, State, and federal requirements for sampling and testing, and subsequent removal, transport, and disposal of hazardous materials. Additionally, in the event that evidence of contamination is observed, the contractor shall document the exact location of the contamination and shall immediately notify the CPUC or BLM, describing proposed actions. A weekly report listing encounters with contaminated soils and describing actions taken shall be submitted to the CPUC or BLM.

P-4a **Prepare Spill Prevention, Countermeasure, and Control Plans.** To minimize, avoid, and/or clean up unforeseen spill of hazardous materials during operation of the proposed facilities, SCE shall update or prepare, if necessary, the Spill Prevention, Countermeasure, and Control plan for each substation, series capacitors, and the switchyard. SCE shall document compliance by providing a copy of the Spill Prevention, Control, and Countermeasures plans to the CPUC or BLM or USFWS, as appropriate, for review and approval at least 60 days before the start of operation.

PS-1a **Limit the conductor surface electric gradient.** As part of the design and construction process for the Proposed Project, the Applicant shall limit the conductor surface electric gradient in accordance with the IEEE Radio Noise Design Guide.

PS-1b **Document and resolve electronic interference complaints.** After energizing the transmission line, SCE shall respond to and document all radio/television/equipment interference complaints received and the responsive action taken. These records shall be made available to the CPUC for review upon request. All unresolved disputes shall be referred by SCE to the CPUC for resolution.

PS-1c **Coordinate with Kofa NWR to prevent radio interference.** Prior to construction, SCE shall coordinate with Kofa National Wildlife Refuge to determine any additional design, planning, or shielding measures that are necessary to prevent radio interference within the Refuge.

PS-2a **Implement grounding measures.** As part of the siting and construction process for the Proposed Project, SCE shall identify objects (such as fences, metal buildings, and pipelines) within and near the right-of-way that have the potential for induced voltages and shall implement electrical grounding of metallic objects in accordance with SCE's standards. The identification of objects shall document the threshold electric field strength and metallic object size at which grounding becomes necessary.

ATTACHMENT A

Air Quality

AQ-1a **Develop and Implement a Fugitive Dust Emission Control Plan.** SCE shall develop and implement a Fugitive Dust Emission Control Plan (FDECP) for construction work. Measures to be incorporated into the plan include, but are not limited to the APMs (A-1 and A-5 through A-7) and the following, which also incorporate and revise the requirements of APMs A-2 through A-4 to make them definitive and enforceable:

- CARB certified non-toxic soil binders shall be applied to all active unpaved roadways, unpaved staging areas, and unpaved parking area(s) throughout construction (as allowed by responsible agencies such as the BLM or USFWS) in amounts meeting manufacturer's recommendations to meet the CARB certification fugitive dust reduction efficiency of 84 percent.
- Water the disturbed areas of the active construction sites, where CARB certified soil binders have not been applied, at least three times per day.
- Enclose, cover, water three times daily, or apply non-toxic soil binders according to manufacturer's specifications to exposed piles with a five percent or greater silt content.
- Install wheel washers/cleaners or wash the wheels of trucks and other heavy equipment where vehicles exit the site or unpaved access roads and sweep paved streets daily with water sweepers if visible soil material from the construction sites or unpaved access roads are carried onto adjacent public streets.
- Establish a vegetative ground cover or allow natural revegetation to occur on temporarily disturbed areas following the completion of construction (in compliance with biological resources impact mitigation measures), or otherwise create stabilized surfaces on all unpaved areas at each of the construction sites within 21 days after active construction operations have ceased.
- Increase the frequency of watering, or implement other additional fugitive dust mitigation measures, to all disturbed fugitive dust emission sources when wind speeds (as instantaneous wind gusts) exceed 25 miles per hour (mph).
- Travel route planning will be completed to identify required travel routes to minimize unpaved road travel to each construction site to the extent feasible.

AQ-1b **Use ultra low-sulfur diesel fuel.** CARB-certified ultra low-sulfur diesel (ULSD) fuel containing 15 ppm sulfur or less shall be used in all diesel-powered construction equipment.

AQ-1c **Restrict engine idling.** Diesel engine idle time shall be restricted to no more than a 10 minutes duration.

AQ-1d **Use lower emitting offroad diesel-fueled equipment.** All offroad construction diesel engines not registered under CARB's Statewide Portable Equipment Registration Program, which have a rating of 50 hp or more, shall meet, at a minimum, the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, section 2423(b)(1) unless that such engine is not available for a particular item of equipment. In the event a Tier 2 engine is not available for any offroad engine larger than 100 hp, that engine shall be equipped with a Tier 1 engine. In the event a Tier 1 engine is

not available for any offroad engine larger than 100 hp, that engine shall be equipped with a catalyzed diesel particulate filter (soot filter), unless certified by engine manufacturers that the use of such devices is not practical for specific engine types. Equipment properly registered under and in compliance with CARB's Statewide Portable Equipment Registration Program are considered to comply with this mitigation measure.

AQ-1e **Use onroad vehicles that meet California onroad standards.** All onroad construction vehicles working within California shall meet all applicable California onroad emission standards and shall be licensed in the State of California. This does not apply to construction worker personal vehicles.

AQ-1f **Use lower emitting offroad gasoline-fueled equipment.** All offroad stationary and portable gasoline powered equipment shall have EPA Phase 1/Phase 2 compliant engines, where the specific engine requirement shall be based on the new engine standard in effect two years prior to the initiating project construction.

AQ-1g **Reduce helicopter use during construction.** Helicopter use in California shall be limited to that necessary for conductor installation, using helicopters of the smallest practical size; and helicopters shall not be used for delivering supplies or personnel within California federal or State ozone nonattainment areas except as specifically excepted by the CPUC due to limitations in road access and/or to reduce other adverse environmental impacts associated with road construction/travel (such as to biological resources or cultural resources).

AQ-1h **Schedule deliveries outside of peak hours.** For marshalling and construction yards west of the eastern border of the City of Indio, all material deliveries to the yards and from the yards to the construction sites shall be scheduled to occur outside of peak "rush hour" traffic hours (7:00 to 10:00 a.m. and 4:00 to 7:00 pm) to the extent feasible, and other truck trips during peak traffic hours shall be minimized to the extent feasible.

AQ-1i **Obtain NOx emission offsets.** SCE shall obtain NOx emission reduction credits or offsets in sufficient quantities to offset construction emissions of NOx that exceed the South Coast Air Basin ozone nonattainment area federal General Conformity Rule applicability threshold as determined in the General Conformity analysis for the project. The emission offset method shall comply with SCAQMD rules and regulations, and offsets shall be obtained by SCE prior to construction.

Hydrology and Water Resources

H-6a **Design diversion dikes or other site remediations to avoid damage to adjacent property.** Where diversion dikes are required to protect towers or other project structures from flooding or erosion, these dikes shall be designed to avoid increasing the risk of erosion or flooding onto adjacent areas where life or property could be threatened. Diversion dike designs shall be submitted to the CPUC and BLM for review and approval at least 60 days prior to construction.

H-1a **Restore disturbed soil with re-vegetation or construction of permanent erosion-control structures.** Soil disturbance at towers and access roads shall be the minimum necessary and designed to prevent long-term erosion through revegetation or construction of permanent erosion

control structures according to plans to be reviewed and approved by the U.S. Forest Service. Copies of the final approved plans shall be submitted to the CPUC/BLM for their files.

Geology, Mineral Resources, and Soils

G-1a **Protect desert pavement.** Grading for new access roads or work areas in areas covered by desert pavement shall be avoided if possible. If avoidance of these areas is not possible, the desert pavement surface shall be protected from damage or disturbance from construction vehicles by use of temporary mats on the surface. A plan for identification and avoidance or protection of sensitive desert pavement shall be prepared and submitted to the CPUC, BLM, and USFWS for review and approval at least 60 days prior to start of construction.

G-2a **Conduct geotechnical studies for soils to assess characteristics and aid in appropriate foundation design.** Design-level geotechnical studies shall be performed by the Applicant to identify the presence, if any, of potentially detrimental soil chemicals, such as chlorides and sulfates. Appropriate design measures for protection of reinforcement, concrete, and metal-structural components against corrosion shall be utilized, such as use of corrosion-resistant materials and coatings, increased thickness of project components exposed to potentially corrosive conditions, and use of passive and/or active cathodic protection systems. The geotechnical studies shall also identify areas with potentially expansive or collapsible soils and include appropriate design features, including excavation of potentially expansive or collapsible soils during construction and replacement with engineered backfill, ground-treatment processes, and redirection of surface water and drainage away from expansive foundation soils. Study results and proposed solutions shall be provided to the CPUC and BLM, as appropriate, for review and approval at least 60 days before construction.

G-3a **Conduct geotechnical surveys for landslides.** The Applicant shall perform design-level geotechnical surveys in areas crossing and adjacent to hills and mountains. These surveys will acquire data that will allow identification of specific areas with the potential for unstable slopes, landslides, earth flows, and debris flows along the approved transmission line route and in other areas of ground disturbance, such as grading for access and spur roads. The investigations shall include an evaluation of subsurface conditions, identification of potential landslide hazards, and provide information for development of excavation plans and procedures. Where landslide hazard areas cannot be avoided, appropriate engineering design and construction measures shall be incorporated into the project designs to minimize potential for damage to project facilities. A report documenting these surveys and design measures to protect structures shall be submitted to the CPUC and BLM for review and approval at least 60 days before construction.

G-5a **Design project facilities to avoid impact from ground failure.** Since seismically induced ground failure has the potential to damage or destroy project components, the Applicant shall complete design-level geotechnical investigations at tower locations in areas with potential liquefaction-related impacts. These studies shall specifically assess the potential for liquefaction and lateral spreading hazards to affect the approved project and all associated facilities. Where these hazards are found to exist, appropriate engineering design and construction measures shall be incorporated into the project designs. A report documenting results of the geotechnical surveys shall be submitted to the CPUC and BLM for review and approval at least 60 days before construction.

G-6a **Coordinate with quarry operations.** Operations and management personnel for the Indio Pit quarry shall be consulted regarding locations of active mining and for coordination of construction activities in and through those areas. A plan to avoid or minimize interference with mining operations shall be prepared in conjunction with mine/quarry operators prior to construction. SCE shall document compliance with this measure prior to the start of construction by submitting the plan to the CPUC and BLM for review at least 60 prior to the start of construction.

G-7a **Minimize project structures within active fault zones.** SCE shall perform a geologic/geotechnical study to confirm the location of mapped traces of active and potentially faults crossed by the project route. For crossings of active faults, the towers shall be placed as far as feasible outside the area of mapped fault traces. Compliance with this measure shall be documented to the CPUC and BLM in a report submitted for review and approval at least 60 days prior to the start of construction.

Socioeconomics

S-2a **Recycle construction waste.** To comply with the Integrated Waste Management Act of 1989, during project construction SCE and/or its construction contractor shall recycle a minimum of 50 percent of the waste generated during construction activities. Prior to the start of construction, SCE shall provide the CPUC/BLM with a letter explaining how it will comply with this requirement.

Measures Applicable to the Devers-Valley No. 2 Alternative

V-40b **Reduce visual contrast of towers and conductors on San Bernardino National Forest land.** The following design measures are to be applied to all new structures and conductors on SBNF land based on SCE's consultation with SBNF staff prior to completion of final design. The details of these measures shall be developed:

In all areas:

- Transmission lines should have a permanent coloring of dark gray.
- All towers not back-dropped on mid-slope should have permanent coloring of cool mid-gray (battleship gray).

In mid-slope areas (as defined by SBNF):

- All towers and concrete bases on slopes which could serve as backdrops (mid-slope) should be painted olive drab.
- Tower pads should be left uneven without leveling.
- No construction roads shall be built.
- Towers shall be constructed by air support.

At ridge crossing and mid-slope (as defined by SBNF):

- Towers should be constructed of lower profile to closer "hug" the top of the ridge to avoid tower silhouetting.
- Graphic studies from dominant view sites should be used to best place towers where they would be best back-dropped from expected viewing points.
- All towers and concrete bases on slopes which could serve as backdrops (mid-slope) should be painted olive drab.
- Tower pads should be left uneven without leveling.
- No construction roads shall be built.
- Towers should be constructed by air support.

V-40c **Reduce visual contrast of towers and conductors near the Pacific Crest Trail.** For towers located south of I-10 and outside of the SBNF, the following provisions apply:

- Where towers could be practicably back-dropped, utilize mitigation suggested for mid-slope and Ridge Crossing on SBNF lands (as defined in Mitigation Measure V-40b).
- The PCT shall not be crossed with construction roads.
- Locate towers so that the PCT is in the middle of the span (if this does not involve placement of extra or taller span towers to accomplish such action).

Measures Applicable to the Harquahala Junction Switchyard Alternative

V-6b **Screen ancillary facilities.** For the Harquahala Junction Switchyard Alternative, SCE shall provide a Screening Plan for screening vegetation, walls, and fences that reduces visibility and helps the facility blend in with the landscape. The use of berms to facilitate project screening may also be incorporated into the Plan. SCE shall submit the Plan to the BLM for review and approval at least 90 days prior to installing the landscape screening. If the BLM notifies SCE that revisions to the Plan are needed before the Plan can be approved, within 30 days of receiving that notification, SCE shall prepare and submit for review and approval a revised Plan. The plan shall include but not necessarily be limited to:

- An 11"x17" color simulation of the proposed landscaping at 5 years
- A plan view to scale depicting the project and the location of screening elements
- A detailed list of any plants to be used; their size and age at planting; the expected time to maturity, and the expected height at five years and at maturity.

SCE shall complete installation of the screening prior to the start of project operation. SCE shall notify the BLM within seven days after completing installation of the screening, that the screening components are ready for inspection.

V-35a **Screen alternative switchyard site from Salome Highway views.** This measure is required to augment and not replace Mitigation Measure V-6b in order to provide more detailed direction pertaining to the planting of roadside screening vegetation along Salome Highway. Screening vegetation shall be planted along the east side of Salome Highway between mile markers 39 and 40. Vegetation shall be comprised of native species and shall be selected to achieve

heights and screen effectiveness comparable to that shown in Figure D.3-30B (see enclosed CD). SCE shall submit a Screening Plan demonstrating compliance with this measure to the BLM for review and approval at least 90 days prior to installing the landscape screening. If the BLM notifies SCE that revisions to the Plan are needed before the Plan can be approved, within 30 days of receiving that notification, SCE shall prepare and submit for review and approval a revised Plan. The Screening Plan shall include but not necessarily be limited to:

- An 11"x17" color simulation of the proposed landscaping at 5 years
- A plan view to scale depicting the project and the location of screening elements
- A detailed list of any plants to be used; their size and age at planting; the expected time to maturity, and the expected height at five years and at maturity

SCE shall complete installation of the screening prior to the start of project operation. SCE shall notify the CPUC within seven days after completing installation of the screening, that the screening components are ready for inspection.

ATTACHMENT A

Applicant Proposed Measures

The following notes apply to the tables below.

1 APM refers to Applicant Proposed Measures. If there is a measure in the 1989 BLM ROW Grant that is not identified in the PEA as an APM, this FLM Grant measure is listed at the end of the table and is labeled BLM followed by its reference in the ROW Grant.

2 Refers to the Devers-Harquahala 500 kV transmission line.

3 Refers to the West of Devers 230 kV transmission line upgrade.

4 Reference in parentheses denotes the origin of the APM. "(SCE)" is a Proponent's mitigation measure. "(BLM)" is a Proponent's measure derived from a requirement in the BLM Right-of-Way Grant 1989. Numbers such as B-4.1 refer to the specific BLM measure in the 1989 Grant.

5 Holder is BLM's reference to the ROW Grant holder. Holder is SCE, the project proponent.

Applicant Proposed Measures – Biology

Measure Number and Description[1]		Applicable To: 500 kV Transmission Line[2]	Applicable To: 230 kV Upgrade[3]
APM B-1 Vegetation	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. (BLM B-5.1 Vegetation)[4] [Note: The reference to Appendix E is unknown. There is no Appendix E as part of the BLM right-of-way grant (provided from PEA Appendix A). However, the Smith report itself is found in FSEIS (1988) as Appendix B, Study of Desert Bighorn Sheep.]	✓	
APM B-2 Vegetation	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 [Coachella Valley Multiple Species Habitat Conservation] plan. (SCE)	✓	
APM B-3 Vegetation	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 [Coachella Valley Multiple Species Habitat Conservation] plan. (SCE)	✓	
APM B-4 Vegetation/ Wildlife	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. (SCE)	✓	

ATTACHMENT A

Applicant Proposed Measures – Biology

Measure Number and Description[1]		Applicable To: 500 kV Transmission Line[2]	Applicable To: 230 kV Upgrade[3]
APM B-5 Vegetation/ Wildlife	Copper Bottom Pass: • Maintenance of low speed limit on right of way ROW to protect desert animals and reduce dust • Continuous application of water to ROW roads to reduce dust • Requirement that stopped vehicles stop engines if stationary for a determined period of time • Requirement that operators of vehicles, if stopped for longer than a determined period of time, inspect under their vehicles to ensure that no animals have taken shelter from the sun; this requirement has been implemented before by requiring that vehicles with stopped engines have their keys placed under the vehicle thus forcing the operator to inspect • Flagging of all disturbed areas if needed to clarify drive-able or walk-able areas • Tight control of the Copper Bottom Pass area to ensure that only planned construction traffic is allowed in the area and that minimal trips are planned • Restricted use of the area to periods outside of any animal breeding seasons • Tight control on electrical workers for approved hours of access • Ensure that all workers accessing this area have completed environmental awareness training for biological and cultural sensitivities; all trained workers would be equipped with stickers for their hardhats to provide for easy-to-spot inspection • Removal of all construction debris from the area at the conclusion of the work	✓	
APM B-6 Vegetation	Avoid vehicular travel in washes to protect triple-ridged milkvetch. (SCE)	✓	
APM B-7 Vegetation/ Wildlife	No activities whatever should occur in wetland areas. (SCE)	✓	
APM B-8 Vegetation	Provide additional detailed surveys and tower-specific adjustments 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 No. 2 EIR [1987] and Appendix E of the SEIS [1988].) The methodologies and results of these surveys must be submitted to and approved in writing by the BLM Authorized Officer. (BLM B-5.2 Vegetation)	✓	
APM B-9 Vegetation	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. (BLM B-5.4 Vegetation)	✓	
APM B-10 Vegetation	The right-of-way Holder[5] 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. (BLM B-5.5 Vegetation)	✓	
APM B-11 Vegetation	The Authorized Officer may require vegetation in certain areas to 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. (BLM B-5.6 Vegetation)	✓	
APM B-12 Vegetation	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 lines will span critical wildlife habitat. (BLM B-5.7 Vegetation)	✓	

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Applicant Proposed Measures – Biology

Measure Number and Description[1]		Applicable To: 500 kV Transmission Line[2]	Applicable To: 230 kV Upgrade[3]
APM B-13 Vegetation	Tower sites will be selected to allow maximum spacing of sensitive features. (BLM B-5.8 Vegetation)	✓	
APM B-14 Vegetation	Minimize the area needed for equipment operation and material storage and assembly. (BLM B-5.3 Vegetation)	✓	
APM B-15 Wildlife	In the vicinity of the Colorado River, existing tower spacings and conductor heights will be matched to the greatest extent practical. This would reduce the potential for bird collisions with the power line. (BLM B-5.1 Wildlife)	✓	
APM B-16 Wildlife	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. (SCE)	✓	✓
APM B-17 Wildlife	Access – To the maximum extent possible, access for transmission line construction and maintenance should occur from public roads and designated routes. (SCE)	✓	✓
APM B-18 Wildlife	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. (SCE)	✓	✓
APM B-19 Wildlife	Restoration – Whenever possible, spur roads and access roads and other disturbed sites created during construction should be recontoured and restored. (SCE)	✓	✓
APM B-20 Wildlife	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 USFWS's Division of Migratory Birds to take common ravens or their nests. (SCE)	✓	✓
APM B-21 Wildlife	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. (SCE)	✓	
APM B-22 Wildlife	Avoid impact to mesquite-dominated habitats to protect crissal thrasher. (SCE)	✓	
APM B-23 Wildlife	Minimize impact to or removal of creosote bush to benefit LeConte's thrasher. (SCE)	✓	
APM B-24 Wildlife	Avoid any alterations to the vegetation structure of Washington fan palm oases to benefit southern yellow bat. (SCE)	✓	
APM B-25 Wildlife	Avoid any alterations of mesquite hummock habitat to benefit Coachella Valley round-tailed ground squirrel. (SCE)	✓	
APM B-26 Wildlife	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, 1987) will be spanned to the extent possible. (BLM B-5.2 Wildlife)	✓	
APM B-27 Wildlife	Prior to construction activities, 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. (BLM B-5.4 Wildlife)	✓	

ATTACHMENT A

Applicant Proposed Measures – Biology

Measure Number and Description[1]		Applicable To: 500 kV Transmission Line[2]	Applicable To: 230 kV Upgrade[3]
APM B-28 Wildlife	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. (BLM B-5.6 Wildlife)	✓	
APM B-29 Wildlife	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. (BLM B-5.6 Wildlife)	✓	
APM B-30 Wildlife	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. (BLM B-5.7 Wildlife)	✓	
APM B-31 Wildlife	Any desert tortoise observed on access roads or work areas will be moved immediately away from the roadway into safe areas. (BLM B-5.8 Wildlife)	✓	
APM B-32 Wildlife	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 (1988) and Figure 4.5-2 in the Devers–Palo Verde No. 2 EIR (1987). Also see Appendix E for link and milepost descriptions and mitigation measures. (BLM B-5.9 Wildlife)	✓	
APM B-33 Wildlife	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. (BLM B-5.10 Wildlife)	✓	

ATTACHMENT A

Applicant Proposed Measures – Biology

Measure Number and Description[1]		Applicable To: 500 kV Transmission Line[2]	Applicable To: 230 kV Upgrade[3]
APM B-34 Wildlife	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 ay 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, this measure 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). (BLM B-5.11 Wildlife)	✓	
APM B-35 Wildlife	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. (BLM B-5.17 Wildlife)	✓	
APM B-36 Wildlife	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. (BLM B-5.18 Wildlife)	✓	
APM B-37 Wildlife	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. (SCE)		✓
APM B-38 Wildlife	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 acres of suitable habitat potentially affected by the proposed west of Devers 230 kV 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. (SCE)		✓
APM B-39 Wildlife	Stephens' kangaroo rat habitat would be avoided, where possible. (SCE)		✓

Source: SCE, 2005.

ATTACHMENT A

Applicant Proposed Measures – Cultural Resources

Measure Number and Description[1]		Applicable To: 500 kV Transmission Line[2]	Applicable To: 230 kV Upgrade[3]
APM C-1	Prior to construction and all other surface disturbing activities, the Holder[5] 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. (BLM B-9.1)[4]	✓	
APM C-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. (BLM B-9.2)	✓	
APM C-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. (BLM B-9.3)	✓	
APM C-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. (BLM B-9.4)	✓	
APM C-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. (BLM B-9.5)	✓	
APM C-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. (BLM B-9.6)	✓	
APM C-7	When necessary to relocate the proposed line, ancillary facilities, temporary facilities, or work areas as a result of inventory, onsite 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. (BLM B-9.7)	✓	
APM C-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. (BLM B-9.8)	✓	
APM C-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. (BLM B-9.9)	✓	
APM C-10	Vehicles and equipment shall be confined and operated only within areas specified by the Authorized Officer. (BLM B-9.10)	✓	

ATTACHMENT A

Applicant Proposed Measures – Cultural Resources

Measure Number and Description[1]		Applicable To: 500 kV Transmission Line[2]	Applicable To: 230 kV Upgrade[3]
APM C-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. (BLM B-9.11)	✓	

Source: SCE, 2005.

Applicant Proposed Measures – Paleontological Resources

Measure Number and Description[1]		Applicable To: 500 kV Transmission Line[2]	Applicable To: 230 kV Upgrade[3]
APM P-1	Impacts to significant paleontological resources will be mitigated by conducting a pre-construction 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. (SCE)		✓

Source: SCE, 2005.

ATTACHMENT A

Applicant Proposed Measures – Air Quality

Measure Number and Description[1]		Applicable To: 500 kV Transmission Line[2]	Applicable To: 230 kV Upgrade[3]
APM A-1	Heavy duty off-road diesel engines would be properly tuned and maintained to manufacturers' specifications to ensure minimum emissions under normal operations. (SCE)[4]	✓	✓
APM A-2	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. (SCE)	✓	✓
APM A-3	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. (SCE)	✓	✓
APM A-4	Surfaces permanently disturbed by construction activities would be covered or treated with a dust suppressant after completion of activities at each site of disturbance. (SCE)	✓	✓
APM A-5	Vehicle speeds on unpaved roadways would be restricted to 15 miles per hour. (SCE)	✓	✓
APM A-6	Vehicles hauling dirt would be covered with tarps or by other means. (SCE)	✓	✓
APM A-7	Site construction workers would be staged offsite 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. (SCE)	✓	✓
APM A-8	Emissions credits would be purchased to offset any emissions levels which are over the emissions thresholds. (SCE)	✓	✓

Source: SCE, 2005.

Applicant Proposed Measures – Water Resources

Measure Number and Description[1]		Applicable To: 500 kV Transmission Line[2]	Applicable To: 230 kV Upgrade[3]
APM W-1	During the first year following construction, potential soil erosion sites will be inspected by the Holder[5] 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). (BLM B-4.1)[4]	✓	
APM W-2	Construction equipment will be kept out of flowing stream channels except when absolutely necessary to construct crossings. (BLM B-4.2)	✓	
APM W-3	Erosion control and hazardous material plans will be incorporated into the construction bidding specifications to ensure compliance. (BLM B-4.3)	✓	
APM W-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. (BLM B-4.4)	✓	
APM W-5	Towers will be located to the extent feasible 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. (BLM B-4.5)	✓	

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Applicant Proposed Measures – Water Resources

Measure Number and Description[1]		Applicable To: 500 kV Transmission Line[2]	Applicable To: 230 kV Upgrade[3]
APM W-6	Diversion dikes or other structural enhancements 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. (BLM B-4.6)	✓	
APM W-7	Runoff from roadways will be collected and diverted from steep, disturbed, or otherwise unstable slopes. (BLM B-4.7)	✓	
APM W-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. (BLM B-4.8)	✓	
APM W-9	Cut and fill slopes will be minimized by a combination of benching and following natural topography where possible. (BLM B-4.9)	✓	
APM W-10	Construction equipment would be kept out of flowing stream channels except when absolutely necessary to construct crossings. (SCE)		✓
APM W-11	Erosion control and hazardous material plans would be incorporated into the construction bidding specifications to ensure compliance. (SCE)		✓
APM W-12	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. (SCE)		✓
APM W-13	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. (SCE)		✓
APM W-14	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. (SCE)		✓
APM W-15	Runoff from roadways would be collected and diverted from steep, disturbed, or otherwise unstable slopes. (SCE)		✓
APM W-16	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. (SCE)		✓
APM W-17	Cut and fill slopes would be minimized by a combination of benching and following natural topography where possible. (SCE)		✓

Source: SCE, 2005.

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Applicant Proposed Measures – Geology and Soils

Measure Number and Description[1]		Applicable To: 500 kV Transmission Line[2]	Applicable To: 230 kV Upgrade[3]
APM G-1	The line will be located to minimize the disruption of any active mining operations. (BLM B-2.1)[4]	✓	
APM G-2	Individual 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[5] 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 Holder's Geologist and the BLM Authorized Officer. The Holder's Geologist and 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. (BLM B-2.2)	✓	
APM G-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. (BLM B-2.3)	✓	
APM G-4	In general, an appropriate tower design which accounts for lateral wind loads and conductor loads exceeds any credible seismic loading (groundshaking). (BLM B-2.4)	✓	
APM G-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. (BLM B-2.5. Note: Text here omits references to specific figures and maps in the original (1987-88) DEIR and DEIS.)	✓	
APM G-6	Wherever feasible to minimize the potential for slope instability, towers will be located to avoid gullies or active drainages, and over-steepened slopes. (BLM B-2.6)	✓	
APM G-7	SCE will provide a list of sites where helicopter construction is recommended. 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 stub roads within a reasonable distance of the tower site, 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. (BLM B-2.7)	✓	
APM G-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. Individual 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. (BLM B-2.8)	✓	
APM G-9	Appropriate design of tower foundations will be used to reduce the potential for settlement and compaction. (BLM B-2.9)	✓	

ATTACHMENT A

Applicant Proposed Measures – Geology and Soils

Measure Number and Description[1]		Applicable To: 500 kV Transmission Line[2]	Applicable To: 230 kV Upgrade[3]
APM G-10	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. (BLM B-3.1. Note: Text here omits references to specific figures and maps in the original (1987-88) DEIR and DEIS.)	✓	
APM G-11	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. (BLM B-3.2)	✓	
APM G-12	Side casting of soil during grading will be minimized. Excess soil and excavated soil will be properly stabilized or, dispersed around tower construction sites or on stub or access roads. (BLM B-3.3)	✓	
APM G-13	During grading operations, care would be exercised to minimize side casting. No earth would be removed below final elevations, and no cuts would be made deeper than necessary for clearing and road construction. (SCE)	✓	✓
APM G-14	Upon completion of construction, any drainage deficiencies would be corrected to prevent future erosion. Trees and brush would be cleared only when necessary to provide electrical clearance, line reliability, or suitable access for maintenance and construction. (SCE)	✓	✓
APM G-15	Counterpoise may need to be installed if the local soil conditions indicate that the soil has a resistance above 30 ohms. This is accomplished by attaching a 0.375-inch cable to the tower steel. The cable is installed 1 foot underground and extends approximately 100 feet within the ROW from two or more footings.	✓	✓
APM G-16	The line would be located to minimize the disruption of any active mining operations. (SCE)		✓
APM G-17	Appropriate tower design would be used to mitigate the potential for impacts from very strong seismic groundshaking. In general, an appropriate tower design which accounts for lateral wind loads and conductor loads during line stringing exceeds any credible seismic loading (groundshaking). (SCE)		✓
APM G-18	Whenever possible to minimize the potential for slop instability, towers would be located to avoid gullies or active drainages, and over-steepened slopes. (SCE)		✓
APM G-19	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. (SCE)		✓

Source: SCE, 2005.

ATTACHMENT A

Applicant Proposed Measures – Visual Resources

Measure Number and Description[1]		Applicable To: 500 kV Transmission Line[2]	Applicable To: 230 kV Upgrade[3]
APM V-1	Non-specular conductors will be used [to reduce glare and visual contrast]. (BLM B-6.1)[4] [bracketed text added by SCE]	✓	✓
APM V-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. (BLM B-6.2) [PEA adds: "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 [adjacent towers], and in some locations tower spacing may not correspond to the adjacent DPV1 structures, to provide adequate ground clearance." (PEA, p. 6-31)	✓	
APM V-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]. (BLM B-6.3) [From "and where feasible," the BLM text reads "...at right angles, from the crossing." SCE has replaced this phrase in the bracketed text.]	✓	
APM V-4	Improvements to existing access and new access will be accomplished according to Mitigation Measures 1 and 2 as identified under soils. (BLM B-6.4)	✓	
APM V-5	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. (BLM B-6.8a)	✓	
APM V-6	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). (BLM B-6.8b)	✓	
APM V-7	The proposed steel lattice towers would be constructed using a dulled galvanized steel finish, which would result in visual contrast reduction. (SCE)		✓
APM V-8	Non-specular conductors would be used to reduce glare and resulting visual contrast. (SCE)		✓
APM V-9	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. (SCE)		✓
APM V-10	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. (SCE)		✓

Source: SCE, 2005.

ATTACHMENT A

Applicant Proposed Measures – Land Use

Measure Number and Description[1]		Applicable To: 500 kV Transmission Line[2]	Applicable To: 230 kV Upgrade[3]
APM L-1	Impacts in 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. (SCE)[4]	✓	
APM L-2	Although the Holder[5] may restore and maintain existing access roads, they cannot be either widened or upgraded without approval of the Authorized Officer. (BLM B-1.1)	✓	
APM L-3	New access road construction will be kept to a minimum. (BLM B-1.2)	✓	
APM L-4	Where feasible, the following additional mitigation measures would be implemented: • Matching of tower spans • Aligning towers adjacent to 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. (SCE)	✓	
APM L-5	Along Link 10 in the Palo Verde Valley, 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. (SCE)	✓	
APM L-6	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. (SCE)	✓	
APM L-7	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. (SCE)	✓	
APM L-8	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. (SCE)	✓	
APM L-9	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. (SCE)		✓

Source: SCE, 2005.

ATTACHMENT A

Applicant Proposed Measures – Noise

Measure Number and Description[1]		Applicable To: 500 kV Transmission Line[2]	Applicable To: 230 kV Upgrade[3]
APM N-1	The proposed construction would comply with local noise ordinances. 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. (SCE)[4]	✓	✓

Source: SCE, 2005.

(END OF ATTACHMENT A)

ATTACHMENT B

CEQA Findings of Fact

Regarding the Final Environmental Impact Report/Environmental Impact Statement for the
Devers–Palo Verde No. 2 Transmission Line Project
State Clearinghouse No. 2005101104
EIS No. CA-660-06-32

I. Revisions to the Final EIR/EIS

The second paragraph in Section 1.1.4 in the Executive Summary of the Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) is hereby replaced with the following language:

> No local discretionary (e.g., use) permits are required, since the CPUC has preemptive jurisdiction over the construction, maintenance, and operation of SCE facilities in California. SCE would still have to obtain all ministerial building and encroachment permits from local jurisdictions, and the CPUC's General Order 131-D requires that, in locating electric facilities such as DPV2, SCE consult with local agencies regarding land use matters. The CPUC's authority does not preempt special districts, such as the South Coast Air Quality Management District, or other State agencies or the federal government.

Section H.1.3 of the Final EIR/EIS is hereby deleted:

H.1.3 Non-Federal Land in Arizona

Non-federal land in Arizona is not under the jurisdiction of the CPUC or the BLM and therefore, mitigation measures may not be enforceable in these areas of the project. Mitigation measures for these areas are recommended in this EIR/EIS, in order that Arizona agencies with jurisdiction over the DPV2 project (e.g., the Arizona Corporations Commission (ACC), Arizona counties for road or highway encroachment) may consider requiring implementation of these measures in order to reduce the impacts of the project in Arizona. The CPUC and BLM will not monitor implementation of mitigation measures on non-federal lands in Arizona unless specifically invited by these Arizona agencies. If and when the ACC approves the DPV2 project, the ACC could adopt the mitigation measures recommended in this EIR/EIS and/or it could add new measures of its own.

Mitigation measure B-16a in the Final EIR/EIS is modified to read as follows:

B-16a **Prepare and implement a raven control plan.** SCE shall prepare a common raven control plan that identifies the purpose of conducting raven control, provides training in how to identify raven nests and how to determine whether a nest belongs to a raven or a raptor species, describes the seasonal limitations on disturbing nesting raptors species (excluding ravens), describes the procedure for obtaining a permit from the USFWS's Division of Migratory Birds, and describes procedures for documenting the activities on an annual basis. SCE shall gain approval of the plan from the USFWS's

Division of Migratory Birds. SCE shall provide this raven control plan to all transmission line companies that conduct operations within the ROW.

II. Certification

The California Public Utilities Commission (CPUC or Commission) hereby certifies the Devers–Palo Verde No. 2 Transmission Line Project (Project) Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS), State Clearinghouse No. 2005101104. In accordance with CEQA Guidelines §15090, the CPUC, as California Lead Agency for the Project, certifies that

(1) The Final EIR/EIS has been completed in compliance with the California Environmental Quality Act (CEQA);

(2) The Final EIR/EIS was presented to the Commission, and the Commission has received, reviewed, and considered the information contained in the Final EIR/EIS and hearing documents prior to approving the project;

(3) The Final EIR/EIS reflects the CPUC's independent judgment and analysis.

The CPUC has exercised independent judgment in accordance with Public Resources Code, Section 21082.1(c) in retaining its own environmental consultant directing the consultant in preparation of the EIR/EIS as well as reviewing, analyzing, and revising material prepared by the consultant.

In accordance with Public Resources Code §21081 and CEQA Guidelines §15091, the Commission has made one or more specific written findings regarding significant impacts associated with the Project. Those findings are presented below, along with a presentation of facts in support of the findings. Concurrent with the adoption of these findings, the Commission adopts the Mitigation Monitoring Program as presented in the Final EIR/EIS (provided as Section X at the end of Attachment B).

The documents and other materials that constitute the record of proceedings on which the Project findings are based are located at the California Public Utilities Commission, 505 Van Ness Avenue, San Francisco, CA 94102. The custodian for these documents is the Energy Division, CEQA Unit. This information is provided in compliance with Public Resources Code §21081.6(a)(2) and 14 California Code of Regulations §15091(e).

III. Project Background

III.1 Project Description Summary

Southern California Edison (SCE) filed an application (Application Number A.05 04 015) for a Certificate of Public Convenience and Necessity (CPCN) with the California Public Utilities Commission (CPUC) on April 11, 2005 for the Devers–Palo Verde 500 kV No. 2 (DPV2) Transmission Line Project (Project). The DPV2 Project as proposed by SCE in its Application to the CPUC originally included a new 230-mile 500 kV line from the Harquahala Substation (in Arizona, near the Palo Verde nuclear power plant) to SCE's Devers Substation (in North Palm Springs, California).

Depending on the outcome of contract negotiations, the Arizona portion of the Project will consist of approximately 102 miles of 500 kV transmission line from either the Harquahala Generating Station switchyard (located near Wintersburg and approximately 11 miles west-southwest of Tonopah, Maricopa County) or from the Harquahala Junction, 5 miles to the east, to the Colorado River. Based on the EIR/EIS analysis, the CPUC finds that the Harquahala Junction Switchyard Alternative is environmentally superior. A new switching station will be constructed east of the Harquahala Generating Station, at the point where the existing Harquahala-Hassayampa and DPV1 transmission lines diverge (a location called "Harquahala Junction"), which will be the eastern termination point of the Project. This switchyard will avoid the need to construct the 5-mile segment of the Project from Harquahala Junction to the Harquahala Generating Station Switchyard. The Harquahala Junction Switchyard will be built on a site of between 6 and 40 acres in the southwest quarter of Section 25, Township 2 North, Range 8 West, near the intersection of 451st Avenue and the Thomas Road alignment in unincorporated Maricopa County, Arizona. The CPUC finds that the Harquahala Junction Switchyard will meet project objectives, will be feasible, and will indefinitely postpone the need for almost 20 total miles of new 500 kV transmission line segments (5 miles of the Project from Harquahala Junction to the Harquahala Generating Station Switchyard will be eliminated and 14.7 miles of the TS-5 Project 500 kV line between Harquahala Junction and the PVNGS or Duke Arlington Power Plant could be indefinitely postponed). Overall, the use of the Harquahala Junction Switchyard will lessen impacts to wildlife and habitat, vegetation, noxious weeds, and agriculture in comparison to the portion of the Project route proposed by SCE.

The 500 kV DPV2 transmission line will follow the existing SCE 500 kV transmission line, Devers–Palo Verde No. 1 (DPV1) from the Harquahala Junction Switchyard to east of Alligator Rock. As a result of the EIR/EIS analysis, the Alligator Rock–North of Desert Center route was found to be environmentally preferable to the Project route proposed by SCE in the same area due to the biological, cultural, and recreational resources impacts it will avoid. This route and the portion of the Project it will replace are almost entirely on BLM lands. Approximately 5 miles east of Desert Center (between MPs 149 and 150), the Alligator Rock–North of Desert Center route will diverge from the Project route and will head northwest for approximately 1.5 miles before crossing Interstate 10 (I-10) to the north and continuing for 1.1 miles to an unnamed east-west dirt road along the section line. The route will then turn to the west and will parallel the roadway for approximately 1.4 miles before turning again to the northwest for 0.6 miles. The route will then turn west along another east-west section line, staying just within BLM land (north of private land at Desert Center) for another 0.6 miles before heading southwest for 1.5 miles to Ragsdale Road. The route will parallel Ragsdale Road and I-10 to the north for 3.6 miles before crossing back to the south of Ragsdale Road and I-10 to rejoining SCE's proposed route 1.5 miles later. The 11.8-mile route will be entirely on BLM land. The Project for this segment will be 10.6 miles long. The CPUC finds the Alligator Rock–North of Desert Center route to be environmentally superior to the Project portion it will replace. However, because most of the Alligator Rock–North of Desert Center route is on BLM lands, the ultimate authorization and approval of its route will be the responsibility of the BLM. In the event, that the BLM does not authorize the Alligator Rock–North of Desert Center route, the original Project route between approximately MP 149 and 160 will be approved and implemented.

The Project route from west of Alligator Rock to Devers Substation will remain as proposed by SCE in its Application to the CPUC. However, a different location for the Proposed SCE Midpoint Substation is available based on the Desert Southwest Transmission Line Project (DSWTP) that was reviewed and approved by the BLM and Imperial Irrigation District (IID). The DSWTP Final EIR/EIS considered a different location for the Midpoint Substation (herein called the Midpoint-DSW Substation) at the eastern intersection of the DSWTP line with the existing DPV1 line, which will be located approximately 5 miles

northwest of SCE's proposed Midpoint Substation location for the DPV2 Project. In a comment on the DPV2 Draft EIR/EIS, the DSWTP proponents asked that the CPUC and BLM consider designation of the Midpoint-DSW substation location as an acceptable location for SCE to interconnect with the Desert Southwest transmission line from the Blythe power plants. The Midpoint-DSW Substation was fully analyzed in the DPV2 EIR/EIS as a component of the DSWTP Alternatives analysis, and was found to have equal environmental impacts when compared to the Midpoint Substation location identified by SCE. Both sites are on BLM land, and no significant environmental impacts will result from construction of a substation at either site. The CPUC finds that the Midpoint-DSW Substation location will meet project objectives and will be feasible. Overall, the impacts will be very similar to those of the proposed DPV2 Project Midpoint Substation. Because the Midpoint-DSW Substation location is entirely on BLM lands, its ultimate authorization and approval will be the responsibility of the BLM. In the event, that the BLM does not authorize this substation location as part of DSWTP, SCE's Midpoint Substation location will be approved and implemented. See Section V of this Attachment (Alternatives to the Project) for the findings for the entire DSWTP Alternative.

At the time of SCE's Application to the CPUC for the DPV2 project, the Project included upgrades to an additional 50 miles of 230 kV transmission lines west of the Devers Substation, called the "West of Devers" portion of the Project. However, the CPUC has determined that the West of Devers portion of the proposed Project is legally infeasible as a result of the segment which would cross over Morongo tribal lands and will implement the Devers-Valley No. 2 Alternative (analyzed in the EIR/EIS) instead of the West of Devers upgrades. Therefore, the impacts of all West of Devers upgrades will be eliminated. The CPUC finds that the implementation of the Devers-Valley No. 2 Alternative will meet the project objectives and is feasible. The Devers-Valley No. 2 (D-V Alternative) route will be a new 41.6-mile 500 kV line following the existing SCE Devers-Valley No. 1 500 kV transmission line corridor, with each new tower being located about 130 feet south of the existing D-V towers, where feasible. The route will traverse a small portion of the San Bernardino National Forest (SBNF) and the Santa Rosa and San Jacinto Mountains National Monument (National Monument). It will cross the Pacific Crest National Scenic Trail (PCT). The USDA Forest Service will need to determine whether the D-V route will be consistent with management direction in the governing Forest Land Management Plan. Based on this determination, the route could require amendments to the SBNF Land Management Plan, the National Monument Proposed Management Plan, and an existing MOU between BLM, Forest Service, and the Pacific Crest Trail Association (PCTA). While a portion of the corridor is within a designated wilderness area, the SCE transmission corridor was specifically excluded from wilderness by Congress. The findings presented in this document reflect this amendment to the proposed Project.

The Project will traverse federal BLM land in both California and Arizona, as well as private land and lands under various other jurisdictions. Although the Project will be located primarily within SCE's existing easement for the existing DPV1 transmission line, there may be some areas where additional ROW will need to be acquired. Therefore, SCE has also applied for a Right-of-Way Grant Permit from BLM to implement the project and comply with the National Environmental Policy Act (NEPA). In addition, because approximately 102 miles of the SCE proposed alignment will traverse lands in Arizona (the majority of which will be on BLM lands or under federal jurisdiction), pursuant to Arizona Revised Statute 40 360 et seq., the Arizona Corporation Commission (ACC) must issue a Certificate of Environmental Compatibility (CEC) to SCE based on environmental review and an analysis of purpose and need in order for SCE to construct a transmission line. For this process, SCE filed an application for a CEC with the ACC in early May 2006.

III.2 Project Objectives/Purpose and Need

SCE's stated objectives for the Project are fourfold:

- **Increase California's Transmission Import Capability.** DPV2 will increase California's transmission import capability by 1,200 MW providing greater access to sources of low-cost energy currently operating in the Southwest.
- **Enhance the Competitive Energy Market.** DPV2 is expected to enhance competition amongst energy suppliers by increasing access to the California energy market, providing siting incentives for future energy suppliers, and providing additional import capability.
- **Support the Energy Market in the Southwest.** DPV2 will expand the Western Electricity Coordinating Council (WECC) interstate regional transmission network and will increase the ability for California and the Southwest to pool resources, and provide emergency support in the event of generating unit outages or natural disasters.
- **Provide Increased Reliability, Insurance Value, and Operating Flexibility.** DPV2 will improve the reliability of the regional transmission system, providing insurance against major outages such as the loss of a major generating facility or of another high-voltage transmission line.

IV. Environmental Review Process and the EIR/EIS

A joint Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) was published in May 2006 by the CPUC and BLM in compliance with CEQA and NEPA requirements. The Final EIR/EIS on the Project was published in October 2006. The Final EIR/EIS has been prepared for the CPUC in accordance with CEQA (Public Resources Code §21000 et seq.) and the CEQA Guidelines (14 California Code of Regulations [CCR], §15000 et seq.), as amended. As allowed for in §15084(d)(2) of the CEQA Guidelines, the CPUC retained a consultant to assist with the preparation of the environmental documents. The CPUC, acting as State Lead Agency, has reviewed and edited as necessary the submitted drafts to reflect its own independent judgment. The key milestones associated with the preparation of the EIR/EIS are summarized below. In addition, an extensive public involvement and agency notification effort was conducted to solicit input on the scope and content of the EIR/EIS and to solicit comment on the results of the environmental analysis presented in the Draft EIR/EIS. In general, the preparation of the EIR/EIS included the following key steps and public notification efforts:

- **Notice of Preparation.** Thirty-day scoping process began with the CPUC's issuance of the Notice of Preparation (NOP) of an EIR on October 25, 2005 and the BLM's publication of the Notice of Intent (NOI) to prepare an EIS in the Federal Register on December 7, 2005 (Volume 70, Number 234, pages 72845-72846).
- The NOP was filed with the State Clearinghouse on October 25, 2005. The NOP and a separate notice of the eight public scoping meetings was mailed to over 4,500 property owners, regulatory agencies; environmental groups; private organizations; tribal government representatives; and elected officials. Copies of the NOP were available at 26 local libraries and agency offices.
- The CPUC and BLM attended six consultation meetings with agencies and local jurisdictions to discuss the Project and hear any comments or concerns.

- **Scoping Report.** In December 2005, a comprehensive Scoping Report was issued and 106 copies of the Scoping Report were distributed to agencies, parties on the CPUC's Service List, and individuals who requested copies. In February and March 2006, an Addendum to the Scoping Report was issued and 141 copies of the Addendum were distributed to agencies, parties on the CPUC's Service List, and individuals who requested copies. The Scoping Report and Addendum were also available for review at 26 repositories and on the Internet.
- **Draft EIR/EIS.** The CPUC issued the Draft EIR/EIS on May 4, 2006. Copies of the full Draft EIR/EIS and Appendices were sent to 170 interested parties and agencies, and to the 26 document repositories. One hundred and sixty-two (162) copies of the Executive Summary and 79 CDs with the text of the Draft EIR/EIS were also sent out. Additional copies of the Executive Summary and of the CDs with the text of the Draft EIR/EIS were distributed at the EIR/EIS Informational Workshops in June and July 2006.
- **Notice of Completion.** The Notice of Completion for the Draft EIR/EIS was filed with the State Clearinghouse on May 4, 2006.
- **Notice of Availability.** A Notice of Availability (NOA) of the Draft EIR/EIS was mailed to over 4,347 interested parties, agencies, county and city departments, special districts, property owners, and occupants on or adjacent to SCE's Proposed Project route in May 2006. A second NOA was mailed to 5,191 people to correct a mailing error, to announce that the Devers-Valley No. 2 Alternative had become SCE's preferred route, and to announce an additional public meeting in July 2006.
- **Public Meetings.** Six Informational Workshops and three Public Participation Hearings were held in June and July 2006. Forty-three (43) members of the public, including representatives of organizations and government agencies were documented in attendance at the CPUC Informational Workshops and Public Participation Hearings for the Draft EIR/EIS.
- **Project Resources.** The EIR/EIS e-mail address, telephone hotline, and a Project-specific Internet site was available to provide another avenue for public comment and inquiry. All meetings and document publications were also advertised in 10 local and regional newspapers in California and Arizona.

V. Environmental Impacts and Findings

Public Resources Code Section 21081 states that no public agency shall approve or carry out a project for which an EIR has been completed which identifies one or more significant effects on the environment unless the public agency makes one or more of the following findings:

1. Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment.

2. Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency.

3. Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report.

Pursuant to Public Resources Code §21081 and CEQA Guidelines §15091, the Commission has made one or more of these specific written findings regarding significant impacts associated with the Project. Such findings are made in Sections IV.2 and IV.3 below.

The EIR/EIS evaluation included a detailed analysis of impacts in 13 environmental disciplines, analyzing the Project and alternatives, including the No Project Alternative. The EIR/EIS discloses the environmental impacts expected to result from the construction and operation of the DPV2 Project. Where possible, mitigation measures were identified to avoid or minimize significant environmental effects. In addition, SCE committed to implementing measures in order to reduce the direct and indirect impacts that will result from Project activities. These measures, referred to as Applicant Proposed Measures (APMs), were identified by SCE in its CPCN Application to the CPUC. Table B-10 (Applicant Proposed Measures) in Section B.5 of the EIR/EIS provides a detailed list of the APMs. The issue area analyses of the EIR/EIS assumed the APMs to be part of the Project, and were applied to help reduce project impacts. APMs are discussed below in the Findings for each applicable environmental impact.

V.1 Environmental Impacts Found to be Less Than Significant

Based on the issue area assessment in the EIR/EIS the Commission determines that the Project will have no impact or less than significant impacts for several issues as summarized in the table below. The rationale for the conclusion that no significant impact would occur in each of the issue areas in the table is based on the detailed discussion of these impacts in the detailed issue area analyses in Section D of the EIR/EIS, located in Volumes 1 and 2, and the cumulative impacts discussed in Section F (Cumulative Scenario and Impacts) of the EIR/EIS that were found to have no impact or less than significant impacts.

Resource	Impact Evaluation Category	Rationale for No Impact or Less than Significant Impacts
Biological Resources	Impact B-3: Construction activities will create dust that may result in degradation to vegetation	SCE will implement dewatering measures (Air Quality) to decrease fugitive dust including reduced vehicle speeds, use of tackifiers, and periodic watering of the ROW.
	Impact B-4: Construction activities and increased vehicular traffic on access roads will result in disturbance to wildlife species	Local wildlife populations along the ROW will temporarily decline or disperse during the construction phase of the project but will return to their pre-construction levels following the restoration of the laydown areas and tower erection sites. Also, as construction is limited to relatively small areas wildlife will return to the ROW as work crews move to new tower locations.
	Impact B-7: Construction activities will result in indirect or direct loss of listed wildlife or habitat	**Invertebrates**. There is no indication that any rare or listed invertebrates occur within the Project area. **Amphibians**. No listed amphibians are located within the habitat conditions of the Project route, or known recorded occurrences of these species do occur in or adjacent to the construction area.
	Impact B-8: Construction activities will result in indirect or direct loss of individuals, or a direct loss of habitat for sensitive plants	The Arizona segments of the Project contain plant species protected under the Arizona Native Plant Law. However, this portion of the Project does not contain suitable habitat for sensitive plants and is located outside the geographical range for any of the sensitive plant species These species have not been previously recorded in the Project area and were not identified during surveys conducted by SCE.
	Impact B-9: Construction activities will result in indirect or direct loss of individuals, or a direct loss of habitat for sensitive wildlife	**Invertebrates.** Sensitive invertebrate species were not observed along the Project route; however, the Cheese-weed moth lacewing has a moderate potential to occur in the Arizona segments. Although suitable habitat for the cheese-weed moth lacewing occurs along the project route, known locations of the species are more than 60 miles south of the Project. Consequently, implementation of the APMs B-1, B-3, B-8, B-10, B-12, B-13, B-14, B-16, and B-23 and avoidance of known locations of cheese-weed moth lacewing makes impacts to this species unlikely. **Amphibians.** There is no indication that any sensitive amphibians occur along the Project route. Surveys conducted of the project area did not detect the presence of sensitive amphibian species and impacts are considered less than significant.
	Impact B-12: Construction activities will result in adverse effects to linkages and wildlife movement corridors	The disturbance associated with project construction will result in temporary impacts to wildlife utilizing the waterways and adjacent habitat as a movement corridor. A temporary increase in traffic and activities in these areas will not impede the movement of wildlife and will not affect the nocturnal movement of wildlife.
	Impact B-13: Construction activities may conflict with local policies or ordinances protecting biological resources	The Project will traverse the jurisdictions of the BLM and Riverside and San Bernardino Counties. Plans developed by these jurisdictions were reviewed to determine if there were any biological resources policies that will apply to the construction and operation of the Project. The Project was found to be applicable to many identified policies as evaluated in Section D.2.6.1.11 of the EIR/EIS. See Appendix 2 of the Draft EIR/EIS for a complete discussion of applicable biological resources policies
	Impact B-14: Operation of the transmission line may result in electrocution of listed and/or protected bird species	Peregrine falcons, golden eagles, and other large aerial perching birds are most susceptible to electrocution because of their size, distribution, and behavior. In addition, raptor species that utilize the towers for nesting could be electrocuted while landing. Based on studies completed, it was found that the likelihood of electrocutions occurring at voltages greater than 69 kV is extremely low.

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Resource	Impact Evaluation Category	Rationale for No Impact or Less than Significant Impacts
	Impact B-17: Wildlife mortality resulting from traffic on access roads	The operations and maintenance activities will be conducted at about the same frequency as currently exists for the DPV1 transmission line. Vehicle speeds will be limited to a maximum of 25 mph in desert tortoise habitat (APM B-29). The implementation of this APM, and the approximate same level of use of the roads as currently exists for operation and maintenance activities, will result in a similar impact to what currently exists.
Biological Resources, cont.	Impact B-18: The Project will result in disturbance to Management Indicator Species (MIS)	**Healthy Diverse Habitats (mule deer).** To reduce potential impacts, construction vehicles will remain on established roads except for tower construction in order to avoid unnecessary disturbances to wildlife (see APM B-3), and vehicles will be required to drive at low speeds on NFS lands (see APM A-5). Although construction may result in temporary disturbance to this species, the impact is considered adverse but not significant. **Fragmentation (mountain lion).** Construction of Devers-Valley No. 2 will result in some loss of habitat as a result of tower footings, access roads, and construction staging areas. However, much of this will be temporary and only a small percentage of regional habitat will be permanently removed at each tower location. In addition, Devers-Valley No. 2 will not create a physical barrier to dispersal or limit the connectivity between core habitat areas. Although construction may result in temporary impacts to mountain lions, impacts are considered adverse but not significant. **Montane Conifer Forest (California spotted owl, California black oak, and white fir).** Conifer stand and oak woodlands utilized by this species will not be impacted by the Devers-Valley No. 2 Alternative. White fir and black oak are not present in the corridor for Devers-Valley No. 2. Impacts to these MIS will not occur. **Aquatic Habitat (Arroyo toad).** The arroyo toad is not expected to occur on the designated utility corridor on NFS lands. This species may be present at Whitewater Canyon which is on non-NFS lands. This species will not be affected by Devers-Valley No. 2. Impacts to this MIS will not occur. **Oak Regeneration (Blue oak, Engleman oak, and Valley oak).** Blue oak, valley oak, and Engleman oaks were not identified in the Project utility corridor and will not be impacted by project construction. Impacts to these MIS will not occur. **Bigcone Douglas-fir Forest (Bigcone Douglas-fir).** This MIS is not present in the designated utility corridor for the Devers-Valley No. 2 Alternative. Impacts to this MIS will not occur. **Coulter Pine Forest (Coulter pine).** Coulter pine is a major component of lower montane forests which are not present in the designated utility corridor for Devers-Valley No. 2. Impacts to this MIS will not occur.
	Cumulative Impacts	Several transmission projects are being constructed or proposed within the same utility corridor. The Project will remain primarily within an existing transmission line ROW and will result in minimal permanent impacts to biological resources. Temporarily impacted areas will be restored to pre-existing conditions. Although the Project will accommodate the other transmission and energy projects that will in turn enable future growth and development in the region, the Project will not significantly contribute to cumulative effects of these projects on biological resources.
Visual Resources	V-1 Short-term visibility of construction activities, equipment, and night lighting	Impacts result from visibility of equipment, vehicles, materials and work force; construction and night lighting will be temporary. APMs B-5, B-14, L-1 and L-9 as well as Mitigation Measures V-1a and V-1b will further reduce effects from this less than significant impact.

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Resource	Impact Evaluation Category	Rationale for No Impact or Less than Significant Impacts
	V-3 Increased structure contrast when viewed from Key Viewpoint 1, south of the Big Horn Mountains	Low level of change at this viewpoint (I-10; west of Burnt Mountains). New structures/conductors visible but not prominent. APMs V-1 thru V-3, V-5 thru V-10, L-4, and L-5 as well as Mitigation Measure V-3a will further reduce effects from this less than significant impact.
	V-4: Increased structure contrast, view blockage, and skylining when viewed from Key Viewpoint 2 on Interstate 10, crossing the Harqua-hala Plain	Project will be similar in scale and design to the DPV1 line and conductor spans will generally be matched. Mitigation Measure V-3a will further reduce less than significant impacts.
Visual Resources, cont.	V 5: Increased structure contrast, view blockage, and skylining when viewed from Key Viewpoint 3 at the north end of the Eagletail Mountains (VRM)	Line/Tower will repeat the characteristics of the existing capacitor bank and will not dominate the view of the casual observer. Mitigation Measure V-3a will further reduce less than significant impacts.
	V 6: Increased structure contrast, industrial character, and skylining when viewing the Arizona Series Capacitor Bank from Pipeline Road (VRM)	New capacitor bank will repeat the characteristics of the existing capacitor bank and will not dominate the view of the casual observer. Mitigation Measures V-6a and V-6c will further reduce less than significant impacts
	V 8: Increased structure contrast, view blockage, and skylining when viewed from Key Viewpoint 5 on U.S. 95 near the Crystal Hill Road Entrance to Kofa NWR	Line/Tower will repeat the characteristics of the existing line and will not dominate the view of the casual observer. Mitigation Measure V-3a will further reduce less than significant impacts.
	V 9: Increased structure contrast, industrial character, and view blockage when viewed from Key Viewpoint 6 on Pipeline Road near Copper Bottom Pass	Line/Tower will repeat the characteristics of the existing line and will not dominate the view of the casual observer. Mitigation Measure V-3a will further reduce less than significant impacts.
	V 10: Increased structure contrast, view blockage, and skylining when viewed from Key Viewpoint 7 on the Colorado River	Line/Tower will repeat the characteristics of the existing line and will not dominate the view of the casual observer. Mitigation Measure V-3a will further reduce less than significant impacts.
	V 11: Increased structure contrast, view blockage, and skylining when viewed from Key Viewpoint 8 on SR 78 Near Ripley	The Project will be similar in scale and design to the DPV1 line and conductor spans will generally be matched. Mitigation Measure V-3a will further reduce less than significant impacts.

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Resource	Impact Evaluation Category	Rationale for No Impact or Less than Significant Impacts
	V 12: Introduction of new structure contrast and industrial character when viewing the Blythe Optical Repeater Station site from nearby local roads	The facility will appear subordinate to other landscape features including the existing and Project transmission line structures. Mitigation Measures V-6a and V-6c will further reduce less than significant impacts.
	V 13: Increased structure contrast, industrial character, view blockage, and skylining when viewing the Midpoint Substation site from the nearby BLM access road	Substation will repeat the characteristics of the existing line and will not dominate the view of the casual observer. Mitigation Measures V-6a and V-6c will further reduce less than significant impacts.
Visual Resources, cont.	V 14: Increased structure contrast, view blockage, and skylining when viewed from Key Viewpoint 9 on Interstate 10 in the eastern Chuckwalla Valley	The Project will be similar in scale and design to the DPV1 line and conductor spans will generally be matched. Mitigation Measure V-3a will further reduce less than significant impacts.
	V 16: Increased structure contrast, view blockage, and skylining when viewing the Orocopia Mountains from Key Viewpoint 11 on Interstate 10	Line/Tower will repeat the characteristics of the existing line and will not dominate the view of the casual observer. Mitigation Measure V-3a will further reduce less than significant impacts.
	V-17: Increased structure contrast, industrial character, and skylining when viewing the proposed California Series Capacitor Bank from Interstate 10 or Red Cloud Road	New capacitor bank will repeat the characteristics of the existing capacitor bank and will not dominate the view of the casual observer. Mitigation Measures V-6a and V-6c will further reduce less than significant impacts
	V-18: Increased structure contrast and view blockage when viewing the Orocopia Mountains from Key Viewpoint 12 on Cottonwood Springs Road when exiting Joshua Tree National Park	Line/Tower will repeat the characteristics of the existing line and will not dominate the view of the casual observer. Mitigation Measure V-3a will further reduce less than significant impacts.
	V-19: Increased structure contrast, industrial character, and view blockage when viewed from Key Viewpoint 13 in the Terra Lago golf and residential development in Indio	Project will be similar in scale and design to the DPV1 line and conductor spans will generally be matched. Mitigation Measure V-3a will further reduce less than significant impacts.

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Resource	Impact Evaluation Category	Rationale for No Impact or Less than Significant Impacts
	V-20: Increased structure contrast, industrial character, and view blockage when viewing the Santa Rosa Mountains to the south from Key Viewpoint 14 in the Coachella Valley Preserve, just west of Thousand Palms Canyon Road	Line/Tower will repeat the characteristics of the existing line and will not dominate the view of the casual observer. Mitigation Measure V-3a will further reduce less than significant impacts.
Land Use	L-1 Construction will temporarily disturb the land uses it traverses or adjacent land uses.	Construction in remote areas will not disturb existing land uses such as at the Harquahala Switchyard and the location of the substations.
	L-2 Operation will result in permanent preclusion of land uses it traverses or adjacent land uses	Operation of the project in areas where the transmission line will be within an existing corridor or adjacent to existing towers will not permanently preclude land uses.
Wilderness & Recreation	WR 1: Construction of the Proposed Project would temporarily reduce access and visitation to recreation or wilderness areas	Construction activities will not directly impact a wilderness or recreational resource. Within segments of the route where there are no wilderness and recreation areas, this impact has been deemed no impact.
	WR-2: Operation would change the character of a recreation or wilderness area, diminishing its recreational value	Operation of Project will not change the character of recreational activities along the Cactus City Rest Area to Devers Substation segment and North of Alligator Rock. The location of the Project will be adjacent to existing utility structures. Within segments of the route where there are no wilderness and recreation areas, this impact has been deemed no impact.
	WR-3: Operation would permanently preclude recreational activities.	Operation of Project will not permanently preclude existing recreational activities along the Harquahala to Kofa NWR segment. The location of the Project will be adjacent to existing utility structures. Within segments of the route where there are no wilderness and recreation areas, this impact has been deemed no impact.
Agriculture	AG-6 Operation will conflict with a Williamson Act contract	Permanent disturbance caused by the Project will not exceed the 10-acre threshold set to determine significance. APM L-5 will minimize conflicts with Williamson Act land.
Cultural Resources	C-1 Construction of the project will cause an adverse change to known historic properties	If known sites are avoided, no impacts to identified and known historic properties will occur as a result of construction disturbances

Resource	Impact Evaluation Category	Rationale for No Impact or Less than Significant Impacts
	C-2 Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains	No impacts to buried prehistoric and historical sites, or buried human remains will occur if none of these resources are not encountered or discovered during the Project's ground disturbing construction activities
Noise	N-2: Permanent noise levels along the ROW will increase due to corona noise from operation of the transmission lines	Worst-case wet weather and heavy load conditions will not normally occur continuously during a 24-hour period, but if they do, modeling results provided by SCE in a late-filed exhibit (August 1, 2006) show that the corona noise caused by the Project will be below 65 Ldn at all times for any location greater than 25 feet from the edge of the Devers-Harquahala ROW within the following segments and alternatives, resulting in less than significant impacts: • Harquahala to Kofa National Wildlife Refuge • Kofa National Wildlife Refuge • Kofa National Wildlife Refuge to Colorado River • Midpoint Substation to Cactus City Rest Area • Harquahala Switchyard Alternative • SCE and DSW Substations Alternative
Noise, cont.	N-3: Maintenance activities during transmission line operation will increase ambient noise levels	Maintenance visits will be infrequent and will not involve heavy-duty equipment, no notable noise increase will occur as a result of this activity, and the noise impact will be less than significant for all locations along the transmission line ROW.
	N-4: Operation of modified and new substations will result in increased ambient noise levels	The noise levels surrounding the Substation sites will likely be close to 60 dBA near the substation fence. Because of the relatively low level noise sources and the lack of sensitive receptors near the Substation sites, the operational noise impact will be less than significant.
Transportation and Traffic	T-1: A roadway could be temporarily closed to through traffic due to project construction	Prior to conducting work within or above a road ROW, an encroachment permit or similar authorization will be required by the applicable jurisdictional agency at locations where the construction activities will occur within or above the public road ROW. Compliance with the encroachment permits will ensure that potential impacts associated with short-term road closures are less than significant.
	T-2: Temporary road closures due to construction will disrupt the operation of emergency service providers	In the event that an emergency service provider vehicle were to approach a roadway temporarily blocked by overhead construction activities, SCE will be able to accommodate the emergency service provider vehicle by immediately stopping work to allow the passage of the emergency vehicle with minimal delay. Impacts will be less than significant.
	T-3: Construction will cause temporary road and lane closures that will temporarily disrupt bus transit services	Potential closure of freeways or roadways along the Project route will be a one time occurrence that will only last for a few minutes during the early morning before dawn. Therefore, temporary stringing activities will not substantially disrupt Greyhound or local public bus operations. Impacts related to disruptions to bus transit services will be less than significant.

Resource	Impact Evaluation Category	Rationale for No Impact or Less than Significant Impacts
	T-4: Construction activities will cause temporary road closures that will impede pedestrian and/or bicycle movements	In the event pedestrian or bicycle movement was temporarily blocked during construction, roadways will likely be blocked for only a few minutes. In addition, pedestrians and bicyclists will likely be able to take short detours around blocked roads and construction areas. Impacts will be less than significant.
	T-5: Construction will generate additional traffic on the regional and local roadways	Pursuant to the requirements of APM A-7, workers will drive or ride in project vehicles to work areas along the transmission line ROWs. As the transmission line workers will be dispersed throughout the project area and will not typically be working at the same place at any one time, only minimal traffic increases will occur on the study area roadway network relative to construction workers. Similarly, the construction-related truck traffic will be dispersed throughout the project route and throughout the workday. Project-related construction traffic will result in a less than significant impact on traffic conditions in the project area.
	T-6: Construction will conflict with planned transportation projects	The public agencies that have jurisdiction over the affected roadways have been notified of the project through the Notice of Preparation/Notice of Intent, and an encroachment permit or other such agreement must be obtained for each location where the project will interface with a roadway or other transportation facility. Complying with local permits and agreements will ensure appropriate coordination between SCE and the affected agencies so that conflicts will be avoided or minimized. The impacts will be less than significant.
	T-8: Operation will generate additional traffic on the regional and local roadways	Operation of the transmission line will have negligible impacts on the ground transportation system (roadways and railroads) under normal circumstances, as the inspection and maintenance activities will generate only a very small volume of vehicular traffic. Project-related operational traffic will result in a less than significant impact on traffic conditions in the project area.
Transportation and Traffic, cont.	T-9: Construction activities will cause a temporary disruption to rail traffic or operations	The Project will cross the Burlington Northern Santa Fe railroad tracks near Lovekin Boulevard at MP E105. Transmission line stringing activities over the railroad could temporarily affect rail operations. SCE will comply with the regulations and procedures of Burlington Northern Santa Fe relative to disruption to rail service or safety within the railroad ROW. Through compliance with the railroad company requirements, the impacts of the Project on rail traffic and operations will be less than significant.
	T-10: Construction activities will affect aviation activities associated with public airports	The presence of large cranes that will be required to install the new towers could affect aviation activities associated with the Desert Center Airport, Chiriaco Summit Airport, Banning Airport, San Bernardino International Airport, Blythe Airport, and various heliports. However, pursuant to FAA guidelines, SCE will submit FAA Form 7460 1, Notice of Proposed Construction or Alteration, to the Manager of the FAA Air Traffic Division for review and approval of the project. Adherence to FAA guidelines will insure that construction impacts to aviation activities will be less than significant.
	T-11: Operations will affect aviation activities associated with public airports	The presence of new towers could affect aviation activities associated with the Desert Center Airport, Chiriaco Summit Airport, Banning Airport, San Bernardino International Airport, Blythe Airport, and various heliports. However, pursuant to FAA guidelines, SCE will submit FAA Form 7460 1, Notice of Proposed Construction or Alteration, to the Manager of the FAA Air Traffic Division for review and approval of the project. Adherence to FAA guidelines will insure that construction impacts to aviation activities will be less than significant.

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Resource	Impact Evaluation Category	Rationale for No Impact or Less than Significant Impacts
	T-13: Helicopter use during construction could conflict with rescue helicopter use within the Kofa National Wildlife Refuge	Because of the remote nature of the Kofa NWR, helicopters are sometimes used for rescue operations. This situation is not expected to occur frequently, and the impact is less than significant. However, in order to ensure that these rescue flights do not conflict with SCE's construction helicopter operations, Mitigation Measure T-13a will be implemented
	T-14: Construction use of roads could result in increased public use of unauthorized roads with the Kofa National Wildlife Refuge	The utility road at the west Refuge boundary (Highway 95) to approximately Milepost 79.5 (where the utility road joins Crystal Hill Road) is not a public access road. The public may see construction vehicles using this road and think that it is available for public use. Public use of this road will result in an adverse, but less than significant. However, in order to prevent public use of this road, Mitigation Measure T-14a will be implemented.
	Cumulative Traffic Impacts	None of the traffic impacts associated with the Project have the potential to combine with the impacts of other projects to create a cumulatively considerable traffic impact. Those impacts from other projects that have the potential to combine cumulatively with impacts from the Project will be in the use of roads for delivery of labor and materials. However, in undeveloped areas traffic volumes are low, so this will not create a significant impact. In urban and urbanizing areas, the volume of traffic associated with the projects is not sufficiently large to create a cumulatively considerable impact.
Public Health and Safety	PS-3 Effects on Cardiac Pacemakers	While the transmission line's electric field may impact operation of some older model pacemakers, the result of the interference is of short duration and will not be significant or harmful
	PS-4 Wind, Earthquake, and Fire Hazards	SCE is required to design the transmission line in accordance with safety requirements of the CPUC's G.O. 95 and other applicable requirements, so safety impacts associated with wind, earthquake and fire will not be significant.
	PS-5 Transmission Lines in Agricultural Areas Present a Safety Hazard to Aerial Applicators	Pilots are now aware of the presence of the DPV1 transmission line, which has been in place since 1982. However, pilots may have no knowledge that new transmission lines and towers may have been constructed, which creates an increased danger. While this will be an adverse, but less than significant impact, Mitigation Measures A-1a and A-4a will further reduce the impact.
Public Health and Safety, cont.	PS-5 Transmission Lines in Agricultural Areas Present a Safety Hazard to Aerial Applicators	Although most facilities of this type may received power from the SCE grid supplied by DPV2, the facilities will also have back up power/generators to prevent electricity interruptions in the event of an outage, such as will occur with a terrorist attack on a transmission line.
Air Quality	AQ-1: Construction will generate dust and exhaust emissions	The level of construction activity within Maricopa County Air Quality Department (MCAQD) district will be relatively minor resulting in emissions well below the applicable thresholds. Additionally, the earthmoving permits required by the MCAQD will require Best Available Control Measures (BACM) for construction dust control, which will assure that dust emissions will be controlled sufficiently to remain below the significance threshold. The regional emission impact for MCAQD is less than significant.
	AQ-2: Operation, maintenance, and inspections will generate dust and exhaust emissions	The emissions caused directly by operation, maintenance, and inspection of the Project will be below all applicable regional daily and annual emission thresholds. The emissions show that the Project will not result in significant direct operational emissions within any jurisdiction. Therefore, the operational impacts of the Project will not conflict with any air quality management plan, and the project's direct operations will have a less than significant impact.

Resource	Impact Evaluation Category	Rationale for No Impact or Less than Significant Impacts
	AQ-3: Power generated during transmission line operation will cause emissions from power plants	The precise location and quantity of operational transmission line emissions will likely change over time depending on the ultimate sources of power flowing into DPV2. Any NOx emissions represent a small change when considered in a statewide context. The increase in power plant emissions along the Project route, therefore, is considered to be an adverse but less than-significant-impact.
Hydrology and Water Quality	H-1 Construction activity could degrade water quality due to erosion and sedimentation	With the implementation of APMs W-1 through W-3, and W-7 through W-9 and the required SWPPP, construction-related water quality degradation from soil erosion and sedimentation will not be significant.
	H-3 Increased runoff from new impervious areas resulting in flooding or increased erosion downstream	As the amount of new impervious area created by the Project will be generally small, it will only result in small increases in runoff that are not likely to have an appreciable impact. Implementation of APM W-8 will ensure that the adverse affects associated with increased runoff from new impervious areas will be less than significant
	H-5 Excavation could degrade groundwater quality	Discharge of spilled pollutants into excavated areas will be minimized by the hazardous material plans required pursuant to APMs W-3.
	Cumulative Hydrology and Water Resources Impacts	Overall, the Project's impacts on hydrology and water resources were found to be less than significant with mitigation incorporated. In addition, the contribution of the Project to the cumulative increase in flood discharges, flood flows, impacts to groundwater supplies, degradation of water quality, will be negligible.
Geology, Soils, and Mineral Resources	G-1 Construction could accelerate erosion	In the Palo Verde Valley and Midpoint Substation segments and in the segments west of Banning, excavation and grading for tower foundations, work areas, access roads, and spur roads could loosen soil and accelerate erosion. However, because the soil associations identified along the segment are not known to contain desert pavement, implementation of APMs W-3, W-7 through W-9, W-11, G-10 through G-14, and G-19 will ensure that potential impacts will be less than significant
	G-5 Project structures could be damaged by seismically included groundshaking and ground failure	At Midpoint Substation, there will be no impacts associated with seismically induced ground failure or groundshaking. In the segments west of the Midpoint Substation, it is likely that the transmission line towers will be subjected to at least one moderate or larger earthquake occurring close enough to produce groundshaking along this segment. However, implementation of APMs G-4 and G-17 will ensure that impacts related to seismically included groundshaking are less than significant
Geology, Soils, and Mineral Resources, cont.	Cumulative Geologic Impacts	Cumulative impacts consist of the loss of unique geologic features or known mineral and/or energy resources, or the triggering or acceleration of erosion or slope failures. Because other identified projects in the project area will need to comply with erosion control requirements, the effects of these projects in conjunction with Project on the geologic environment are not cumulatively considerable.

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Resource	Impact Evaluation Category	Rationale for No Impact or Less than Significant Impacts
Socioeconomics	S-1: Accidents during project construction will disrupt utility systems	As required by Arizona State Underground Facilities Law or, simply, the Blue Stake Law, (ARS Chapter 2, Article 6.3, Sections 40-360.21 through 40-360.32.), SCE will contact a regional notification center at least two days prior to any excavation, trenching, or other digging activities. In addition, according to Section 1, Chapter 3.1, "Protection of Underground Infrastructure," Article 2 of California Government Code 4216-4216.9, SCE will contact a regional notification center at least two days prior to excavation of any subsurface installation. The application of these required activities, impacts related to a collocation or utility disruption will be less than significant.
	S-2: Project construction will place demands on local water or solid waste utilities	Water used during Project construction and operation is not anticipated to place demands on the available water suppliers serving the route resulting and requiring the need for new or expanded water facilities. Consequently, water demands of the Project will have a less than significant impact. The volume of waste generated by Project construction and operation will be very small compared to the capacities of the landfills serving the route. These landfills will have adequate capacity to receive solid waste generated during construction and operation of the Project. Less than significant impacts to solid waste facilities will occur.
	S-3: Project operation will provide revenue to the Agua Caliente Band of Cahuilla Indians	The Project will traverse allottee lands under the jurisdiction of the Agua Caliente Band of Cahuilla Indians. If it is determined that a CUP is not necessary, any compensation provided to the Agua Caliente Band of Cahuilla Indians as a part of negotiations over the land will also provide revenue for the Agua Caliente. Revenue generation will be considered a beneficial impact to the Tribe. Therefore, under the Project, payments made by SCE to the Agua Caliente Band of Cahuilla Indians in the form of fees or compensation will provide a beneficial socioeconomic impact
	Cumulative Socioeconomics Impacts	The siting of the Project in addition to the other transmission projects will not significantly increase the potential for a collocation accident or a disruption to the utility system. As the Project will adhere to California Government Code 4216-4216.9 and the Arizona State Underground Facilities Law, the Project will not have a significant incremental contribution to potential utility disruptions. Cumulative project construction could place demands on local water or solid waste services. However, local planning agencies augment or develop water, wastewater and solid waste facilities to meet the anticipated needs of population projected for the region. Therefore, the current cumulative impact of all development projects within the cumulative area of impact on water and solid waste facilities serving the areas is less than significant because the impacts of growth have already been anticipated and accommodated in approved plans.

V.2 Significant Environmental Impacts That Have Been Reduced to a Less than Significant Level

The Final EIR/EIS for the Devers–Palo Verde No. 2 Transmission Project included thorough consideration of the environmental resources along the Project route and of the potential impacts associated with the Project. The CPUC has determined that the mitigation measures identified for this Project will reduce impacts associated with construction and operation activities and that these effects or impacts have been mitigated to a level of insignificance.

Each potentially significant impact discussed in the Final EIR/EIS is presented below with the finding identified for each issue. The Commission hereby finds, pursuant to Section 21081, that the following potential environmental impacts can and will be mitigated to below a level of significance based upon the implementation of the mitigation measures in the EIR/EIS. These findings are based on the discussion of impacts in the detailed issue area analyses in Section D of the EIR/EIS, located in Volumes 1 and 2 and the cumulative impacts discussed in Section F (Cumulative Scenario and Impacts) of the EIR/EIS.

V.2.1 Biological Resources

As discussed in Section D.2 (Biological Resources) of the EIR/EIS, extensive literature searches were conducted consisting of a review of relevant databases, maps, technical reports, jurisdictional plans and polices, as well as relevant environmental documents to determine the federal and State listed endangered, threatened, proposed endangered or threatened, rare, and special-status plant and wildlife species that have potential to occur within the vicinity of the Project route. Abundant biological resources data for the Project were available in databases and in existing reports as a result of previous biological studies conducted for the adjacent DPV1 Project. In addition, extensive field surveys were conducted in order to verify the location of any habitat or species of wildlife that will be affected by new project development and areas of temporary construction activity. Within the Arizona portion of the Project, a team of biologists surveyed the Arizona portion of the proposed DPV2 route on October 6, 7, 12, 13, 25, 26, and 27, 2005. Within the California portion of the Project, biological reconnaissance surveys were conducted during October and November 2005. Specific dates of the surveys were October 18–21 and 31, and November 1–3, 2005. In addition to performing an overview survey of the entire length of the Project route, each tower site and spur road where disturbance would occur was surveyed.

For the purposes of the analysis in the EIR/EIS and based on NEPA and CEQA requirements, biological resources identified include all plant and wildlife species and habitat observed during field studies and all those included in the results of the literature review. Those identified were analyzed in order to identify portions of the ROW that are known to support listed and special-status plant and wildlife species, or are most likely to support habitat for listed and special-status plant and wildlife species.

Impact B-1: Construction activities would result in temporary and permanent loss of native vegetation

As discussed in Section D.2 (Biological Resources) of the EIR/EIS, the Project will result in both temporary and permanent impacts to a variety of regionally unique habitats. Ground-disturbing activity, including tower pad preparation and construction, grading of new access roads, transportation, maintenance of construction equipment and supplies, staging area and material yard preparation and use, and use or improvement of existing access roads has the potential to disturb the vegetation communities. This impact was found to be consistent for all Project and alternative routes segments studied. APMs B-1, B-3, B-4,

B-6, B-13, B-16, B-17, B-19, B-25, B-26, B-33, B-34, and B-36 have been incorporated into the Project to reduce impact to native vegetation. A complete description of APMs applicable to Biological Resources is located in EIR/EIS Table D.2-6.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact B-1. The CPUC finds that the following mitigation measures will mitigate significant effects on native vegetation from Impact B-1 to a less than significant level. These measures are identified as B-1a and B-1b below.

B-1a **Prepare and implement a Habitat Restoration/Compensation Plan.** SCE shall restore all areas disturbed by project construction, including temporary disturbance areas around tower construction sites, laydown/staging areas, temporary access and spur roads, and existing tower locations that are removed during construction of the Proposed Project. Where onsite restoration is planned for mitigation of temporary impacts to sensitive vegetation communities, SCE shall identify a qualified Habitat Restoration Specialist to be approved by the CPUC/BLM. Hydroseeding, drill seeding, or an otherwise proved restoration technique shall be utilized on all disturbed surfaces using a locally endemic native seed mix approved by the CPUC/CDFG/AGFD/FWS and BLM. SCE shall flag the limits of disturbance at each construction site. The Plan shall incorporate the measures identified in the June 2006 Memorandum of Understanding regarding vegetation management along rights-of-way for electrical transmission and distribution facilities on federal lands. In project areas that occur in the WRCMSHCP plan area, SCE shall use the applicable Best Management Practices identified in the WRCMSHCP.

The creation or restoration of habitat shall be monitored for five years after mitigation site construction, or until established success criteria are met, to assess progress and identify potential problems with the restoration site. Remedial activities (e.g., additional planting, weeding, or erosion control) shall be taken during the monitoring period if necessary to ensure the success of the restoration effort. If the mitigation fails to meet the established performance criteria after the five-year maintenance and monitoring period, monitoring shall extend beyond the five-year period until the criteria are met or unless otherwise noted by the CPUC/BLM.

B-1b **Coordinate tower placement with USFWS/BLM.** Where the proposed route crosses the Kofa National Wildlife Refuge, SCE shall coordinate with the U.S. Fish and Wildlife Service, Division of Refuges' refuge management personnel to determine specific tower site and spur road locations in order to minimize habitat disturbance and/or the loss of valuable habitat features. SCE shall demonstrate compliance with this measure prior to construction.

Rationale for Finding. Implementation of the above mitigation measures will restore all areas disturbed by Project construction, including temporary disturbance areas around tower construction sites, laydown/staging areas, temporary access and spur roads, and existing tower locations and coordinating where the Project route crosses the Kofa National Wildlife Refuge, impacts to native vegetation will be mitigated to a less than significant level.

Reference. Section D.2 provides a complete assessment of the biological resources impacts of the Project.

Impact B-2: Construction activities would result in the introduction invasive non-native or noxious plant species

As discussed in Section D.2 of the EIR/EIS, the Project will temporarily remove native vegetation communities at the construction sites located adjacent to each tower and along access roads, laydown areas or Substation sites. Introduction of non-native plant species will occur primarily during construction, but will also continue to occur during operation and maintenance phases of the Project. This impact was found to be consistent for all Project and alternative route segments studied. APMs B-2, B-11, and B-19 have been incorporated into the Project to reduce impacts related to invasive non-native or noxious plant species. A complete description of APMs applicable to Biological Resources is located in EIR/EIS Table D.2-6.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact B-2. The CPUC finds that implementation of mitigation measures B-1a (above under Impact B-1), and B-2a, and B-2b below will mitigate significant effects of invasive non-native or noxious plant species from Impact B-2 to a less than significant level.

B-2a **Conduct invasive and noxious weed inventory.** SCE shall survey the project corridor, including access roads, for populations of invasive and noxious weeds prior to the start of construction. All populations of invasive and noxious weeds within 500 feet of each tower location shall be flagged prior to construction. The Applicant shall submit a Noxious Weed Control Plan to BLM, CPUC, ADGF, CDFG, and/or USFWS at least 60 days prior to the start of construction. The weed control plan shall specify the location of existing weed populations; measures to control introduction and spread of noxious weeds in the project corridor; worker training, specifications, and inspection procedures for construction materials and equipment used in the project corridor; post-construction monitoring for noxious weeds; and eradication and control methods.

Known populations of invasive and noxious weeds in the project corridor shall be evaluated by BLM, CPUC, CDFG, and USFWS to identify candidates for eradication. Selected weed populations shall then be eradicated prior to construction.

All seeds and straw material shall be certified weed free. All gravel and fill material used during project construction and maintenance shall be certified weed free by the local County Agriculture Commissioner's Office.

B-2b **Implement control measures for invasive and noxious weeds.** SCE shall adhere to the BLM management guidelines for reducing the potential for the introduction of noxious weeds and invasive, non-native plant species by implementation of the following standards:

- Wash all equipment and vehicles. Vehicles and all equipment must be washed BEFORE AND AFTER entering all project sites unless otherwise directed in writing by the BLM. This includes wheels, undercarriages, bumpers and all parts of the vehicle. In addition, all tools such as chain saws, hand clippers, pruners, etc., must also be washed BEFORE AND AFTER entering all project areas. For example, vehicles traveling into contaminated areas are the main dispersal mechanism for yellow star-thistle. All washing must take place where rinse water is collected and disposed of in either a sanitary sewer or a landfill.

- Keep written logs. When vehicles and equipment are washed, a daily log must be kept stating the location, date and time, types of equipment, methods used and staff present. The log shall contain the signature of the responsible crewmember.
- Written logs will be available for CPUC/BLM inspection and shall be turned in to BLM on a weekly basis.
- Post-construction weed abatement on the Coachella Valley Preserve. Post-construction follow-up weed abatement will be conducted on the work areas within the Coachella Valley Preserve and Kofa National Wildlife Refuge. Weed abatement will be conducted during the spring following construction and prior to when the weeds establish flowers or produce seeds.

Rationale for Finding. Implementation of the measures outlined in B-1a, B-2a, and B-2b will restore all areas disturbed by project construction, including temporary disturbance areas around tower construction sites, laydown/staging areas, temporary access and spur roads; surveying the project corridor (including access roads) for populations of invasive and noxious weeds prior to the start of construction; and implement construction control measures to control invasive and noxious weeds, impacts to the corridor related to invasive and noxious weeds will be mitigated. Therefore, impacts to these lands will be reduced a less than significant level.

Reference. Section D.2 provides a complete assessment of the biological resources impacts of the Project.

Impact B-5: Construction activities during the breeding season would result in a potential loss of nesting birds

As discussed in Section D.2 of the EIR/EIS, construction activities, including the construction of towers, the establishment of staging/laydown facilities, stringing of conductors, and the increased presence of humans may result in direct or indirect impacts to nesting birds that may occur in the ROW. This impact was found to be consistent for all Project and alternative route segments studied. APMs B-8 and B-16 have been incorporated into the Project to reduce the possibility of impacts from construction activities during the breeding season for raptors and other migratory birds. A complete description of APMs applicable to Biological Resources is located in EIR/EIS Table D.2-6.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact B-5. The CPUC finds that the following mitigation measure will mitigate significant effects to birds from Impact B-5 to a less than significant level. This measure is identified as B-5a below.

B-5a **Conduct pre-construction surveys and monitoring for breeding birds.** SCE shall conduct protocol level surveys for nesting birds if construction activities are scheduled to occur during the breeding season for raptors and other migratory birds. Surveys shall be conducted in areas within 500 feet of tower sites, laydown/staging areas, substation sites, and access road/spur road locations. SCE shall be responsible for designating a CPUC/BLM-approved qualified biologist who can conduct pre-construction surveys and monitoring for breeding birds. If State or federally listed birds with active nests are found, a biological monitor shall establish a 500-foot buffer around the nest and no activities will be allowed within the buffer until the young have fledged from the nest or the nest fails. The biological monitor shall conduct regular monitoring of the nest to determine success/failure and to ensure that project activities are not conducted within the 500-foot buffer

until the nesting cycle is complete or the nest fails. The biological monitor shall be responsible for documenting the results of the surveys and the ongoing monitoring. A 300-foot buffer shall be implemented in the event that raptors or other species protected under the MBTA are located. This buffer will be evaluated after consultation with the CPUC/BLM/CDFG/and USFWS.

Rationale for Finding. By conducting protocol level surveys for nesting birds if construction activities are scheduled to occur during the breeding season for raptors and other migratory birds, as outlined above n B-5a, impacts to the corridor related to breeding birds will be mitigated to a less than significant level.

Reference. Section D.2 provides a complete assessment of the biological resources impacts of the Project.

Impact B-6: Construction activities would result in indirect or direct loss of listed plants

As discussed in Section D.2 of the EIR/EIS, Construction activities, including the construction of towers, the establishment of staging/laydown facilities, stringing of conductors, and the increased presence of humans may result in direct or indirect impacts to listed plant species that may occur in the ROW. This impact was found to be consistent for all Project segments and alternative route segments. APMs B-3, B-4, B-8, B-9, B-12, B-13, and B-19 have been incorporated into the Project to reduce impacts to listed plants. A complete description of APMs applicable to Biological Resources is located in EIR/EIS Table D.2-6.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact B-6. The CPUC finds that implementation of the mitigation measure below will mitigate significant Project effects to listed plant species from Impact B-6 to a less than significant level. This measure is identified as B-6a below.

B-6a **Develop a transplanting plan.** In coordination with the BLM, SCE shall prepare a transplanting plan in compliance with both Arizona and California laws and regulations regarding native and sensitive plants, prior to project construction activities. The plan will provide details on the plants being transplanted, including which species and how many individuals of each species; where the plants will be transplanted; how the plants will be transplanted; how the plants will be maintained during the transplanting efforts; and if the plants will be used to re-vegetate disturbed areas of the construction site. As a condition of the plan, a pre-construction survey will be conducted to mark (using bright-colored flagging) all plants that will be transplanted. Some cacti will need to be transplanted facing the same direction as they currently face (in other words, the north side of the plant must stay facing the north); these cacti will be identified in the plan and appropriately marked to identify which side faces north. For listed plant species SCE shall identify if the plants can be avoided. If avoidance is not possible, SCE shall purchase off site mitigation in coordination with the USFWS and CDFG.

Rationale for Finding. Incorporation of all APMs and implementation of the measures outlined above in mitigation measure B-6a will ensure that all listed plant species potentially impacted will be relocated, and impacts to listed plant species will be reduced to a less than significant level.

Reference. Section D.2 provides a complete assessment of the biological resources impacts of the Project.

Impact B-7: Construction activities would result in indirect or direct loss of listed wildlife or habitat

As discussed in Section D.2 of the EIR/EIS, impacts to listed species could be caused by temporary incremental loss of habitat and accidental death of wildlife during land clearing, excavation, and grading phases of the Project. In addition, wildlife near the construction area may temporarily abandon their territories due to disturbance from noise and increased human activity. In particular, this impact is specific to the following locations, wildlife, and habitat:

- Razorback Sucker Fish: the Kofa National Wildlife Refuge to Colorado River, and the Palo Verde Valley to Midpoint Substation segments.
- Sonoran Desert Tortoise: all segments of the Project as proposed by SCE.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact B-7. The CPUC finds that implementation of the mitigation measure below will mitigate significant Project effects to the Razorback Sucker Fish from Impact B-7 to a less than significant level. This measure is identified as B-7a below.

B-7a **Avoid Colorado River.** All tower pads, equipment laydown areas, and pulling sites would be located outside flowing portions of the Colorado River and flowing tributaries of the river.

The CPUC finds that implementation of the mitigation measures below will mitigate significant effects to the Sonoran Desert Tortoise from Impact B-7 to a less than significant level. These measures are identified as B-7b and B-7c below.

B-7b **Conduct pre-construction tortoise surveys.** Prior to construction, SCE shall survey the transmission line corridor for desert tortoise burrows and pallets within fourteen (14) days preceding construction. Tortoise burrows and pallets encountered within the construction zone (if any) will be conspicuously flagged by the surveying biologist(s) and avoided during all construction activities.

- During construction activities, SCE shall inspect under equipment and vehicles prior to moving equipment. If tortoises are encountered, the vehicle will not be moved until such animals have voluntarily moved to a safe distance away from the parked vehicle or a qualified biologist moves the tortoise.
- SCE shall monitor construction activities in all areas with the potential to support desert tortoise.
- Desert tortoises will be handled only by a FWS/CDFG permitted and authorized tortoise handler and only when necessary. New latex gloves will be used when handling each desert tortoise to avoid the transfer of infectious diseases between animals. Desert tortoises will be moved the minimum distance possible within appropriate habitat to ensure their safety. In general, desert tortoises will not be moved in excess of 1,000 feet for adults and 300 feet for hatchlings.
- Desert tortoises that are found above ground and need to be moved will be placed in the shade of a shrub. All desert tortoises removed from burrows will be placed in an unoccupied burrow of approximately the same size as the one from which it was removed. All excavation of desert tortoise burrows will be done using hand tools, either by, or under the direct supervision of, an authorized tortoise handler. If an existing burrow is unavailable, an authorized

tortoise handler will construct or direct the construction of a burrow of similar shape, size, depth, and orientation as the original burrow. Desert tortoises moved during inactive periods will be monitored for at least two days after placement in the new burrows to ensure their safety. An authorized tortoise handler will be allowed some judgment and discretion to ensure that survival of the desert tortoise is likely.

- If desert tortoises need to be moved at a time of the day when ambient temperatures could harm them (less than 40°F or greater than 90°F), they will be held overnight in a clean cardboard box. These desert tortoises shall be kept in the care of an authorized tortoise handler under appropriate controlled temperatures and released the following day when temperatures are favorable. All cardboard boxes will be appropriately discarded after one use.
- All desert tortoises moved will be marked for future identification. An identification number using the acrylic paint/epoxy covering technique should be placed on the fourth costal scute. No notching would be authorized.

B-7c **Purchase mitigation lands for impacts to tortoise habitat.** Following construction, SCE shall acquire lands to compensate for the loss of tortoise habitat within the Category II and III management areas in Arizona and California. The amount of land to be acquired will depend on the acreage of disturbance within these management areas. Acquired lands will be in a nearby area of good tortoise density and within tortoise habitat. BLM and SCE shall conduct a field inspection of the disturbed areas after completion of construction of the transmission line to determine the exact acreage required for compensation. The lands purchased will be transferred to the United States and be administered by the BLM. Land may be transferred to the BLM and/or incorporated into an existing management area.

Rationale for Finding. The measures outlined in B-7a, B-7b, and B-7c will reduce impacts to loss of listed wildlife or habitat by conducting appropriate surveys and purchasing lands for mitigation of removed habitat.

Reference. Section D.2 provides a complete assessment of the biological resources impacts of the Project.

Impact B-8: Construction activities would result in indirect or direct loss of individuals, or a direct loss of habitat for sensitive plants

As discussed in Section D.2 of the EIR/EIS, Construction activities, including the construction of towers, the establishment of staging/laydown facilities, stringing of conductors, and the increased presence of humans may result in direct or indirect impacts to habitat containing sensitive plant species that may occur in the ROW. This impact was found to be consistent for all Project and alternative route segments studied. APMs B-8 and B-9 have been incorporated into the Project to reduce significant effects to listed plant species from Impact B-8 to a less than significant level. A complete description of APMs applicable to Biological Resources is located in EIR/EIS Table D.2-6.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact B-8. The CPUC finds that implementation of the mitigation measure below will mitigate significant Project effects to listed plant species from Impact B-8 to a less than significant level. This measure is identified as B-8a below.

B-8a **Conduct surveys for listed plant species.** SCE shall conduct focused surveys for listed and sensitive plants prior to construction, Surveys shall be conducted during the appropriate floristic period necessary for the identification of sensitive plant species in all suitable habitat located within the project ROW and within 100' of all surface disturbing activities.

Populations of sensitive plants shall be flagged and mapped prior to construction. If listed plants are located during the focused surveys, then modification of the placement of towers, access roads, laydown areas, and other ground disturbing activities would be implemented in order to avoid listed plants. If listed plants cannot be avoided, SCE shall be responsible for the translocation of plants and/or collection of seeds from existing populations that would be impacted and the planting/seeding of these plants in adjacent suitable portions of the ROW that would not be affected by Proposed Project construction or maintenance activities.

Rationale for Finding. Implementation of Mitigation Measure B-8a will ensure that impacts to sensitive plant species habitat will be reduced as all sensitive plant species potentially impacted will be identified, and construction activities will avoid these areas.

Reference. Section D.2 provides a complete assessment of the biological resources impacts of the Project.

Impact B-9: Construction activities would result in indirect or direct loss of individuals, or a direct loss of habitat for sensitive wildlife

As discussed in Section D.2 of the EIR/EIS, Construction activities, including the construction of towers, the establishment of staging/laydown facilities, stringing of conductors, and the increased presence of humans may result in direct or indirect impacts to habitat containing sensitive wildlife species that may occur in the ROW. This impact was found to be consistent for all Project alternative route segments studied. APMs B-1, B-3, B-5, B-8, B-10, B-12, B-13, B-14, B-16, B-17, B-21, B-23, B-25, B-29, and B-38 have been incorporated into the Project to reduce significant effects to sensitive wildlife habitat. A complete description of APMs applicable to Biological Resources is located in EIR/EIS Table D.2-6.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact B-9. The CPUC finds that the implementation of Mitigation Measures identified as B-9a through B-9i below will reduce significant effects to individuals or habitat for sensitive wildlife species from Impact B-9 to a less than significant level.

B-9a **Conduct pre-construction surveys.** SCE shall conduct pre-construction surveys for sensitive wildlife in any area subject to project disturbance. Surveys shall be conducted during a time of year when these species are known to be active. The location of sensitive species identified during the pre-construction surveys shall be identified on project maps.

B-9b **Conduct biological monitoring.** SCE shall conduct biological monitoring of the project area including the laydown, staging, access roads, and any area subject to project disturbance. The biological monitor shall look for sensitive wildlife species (including forest watch list animals and Forest Service Region 5 sensitive species) that may be located within or immediately adjacent to the construction areas. If sensitive species are found, the biological monitor shall move them out of harm's way (listed species require take authorization) to avoid direct impacts to these species. In the event that the wildlife species may cause harm to the biologist, the biologist shall notify the construction crews and monitor the species until it moves out of harm's way. The results of all

monitoring shall be recorded in daily monitoring notes that shall be included as part of the required monitoring reports for the project. The SCE shall notify the CPUC/BLM if any sensitive species are located during construction of the project. SCE shall notify the Forest Service of all sensitive species found on Forest Service land.

B-9c **Implement a Worker Environmental Awareness Program.** A Worker Environmental Awareness Program (WEAP) shall be implemented for construction crews by a qualified biologist(s) provided by SCE and approved by the CPUC/BLM prior to the commencement of construction activities. Training materials and briefings shall include but not be limited to, discussion of the Federal and State Endangered Species Acts, the consequences of noncompliance with these acts, identification and values of sensitive plant and wildlife species and significant natural plant community habitats, fire protection measures, sensitivities of working on forest service lands and identification of Forest Service sensitive species and MIS wildlife species, hazardous substance spill prevention and containment measures, and review of mitigation requirements. Training materials and a course outline shall be provided to the CPUC and BLM for review and approval at least 30 days prior to the start of construction. Training materials and updates of training materials shall also be provided to the Forest Service for review and comment. SCE shall provide to the CPUC and BLM a list of construction personnel who have completed training, and this list shall be updated by SCE as required when new personnel start work. No construction worker may work in the field for more than 5 days without receiving the WEAP.

B-9d **Conduct pre-construction reptile surveys.** Prior to construction, SCE shall conduct surveys in areas of suitable habitat for Sonoran desert tortoise, common chuckwalla, banded Gila monster, and desert rosy boa within 48 hours prior to the start of construction activities. If common chuckwallas, banded Gila monsters and/or desert rosy boas are found on the construction site, they will be relocated to nearby suitable habitat outside the construction area. Following the clearance surveys, exclusion fencing will be erected or a biological monitor will be onsite during construction activities.

- If potentially suitable burrows or rock piles are found, they will be checked for occupancy. Occupied burrows will be flagged and avoided (employing a 50-foot buffer) during construction. If the burrow cannot be avoided, it will be excavated and the occupant relocated to an unoccupied burrow outside the construction area and of approximately the same size as the one from which it was removed. If an existing burrow is unavailable, the biologist will construct or direct the construction of a burrow of similar shape, size, depth, and orientation as the original. Trenches, holes, or other excavations will be examined for banded Gila monster prior to filling. If individuals are found, the biological monitor will relocate them to nearby suitable habitat.
- During construction, if a common chuckwalla, banded Gila monster, and/or desert rosy boa occur on the project site, construction activities adjacent to the individual's location will be halted and the animal will be allowed to move away from the construction site. If the individual is not moving, a qualified biologist will relocate it to nearby suitable habitat outside the construction area. It shall be placed in the shade of a shrub. The Forest Service will be notified of any sensitive wildlife identified on NFS lands. Also during construction, if a Sonoran desert tortoise occurs on the project site, construction activities adjacent to the individuals location will be halted and the *Guidelines for Handling Sonoran Desert Tortoises Encountered During Construction Projects* will be followed by qualified personnel.

B-9e **Conduct pre-construction surveys and owl relocation.** Prior to construction, SCE shall conduct pre-construction surveys for the western burrowing owl. Surveys shall be conducted prior to ground disturbance activities in appropriate areas within the potential impact areas of the project to determine the presence of burrowing owls and to ensure clearance of these areas. If active owl burrows are discovered during pre-construction surveys, owls would be evicted from the burrows using either active or passive techniques as recommended by the BLM and Burrowing Owl Consortium. Owl relocation, as well as discouragement of owls from returning to the site, will occur in the following manner:

- During the non-breeding season (September 1 through January 31), burrowing owls occupying the Proposed Project site will be evicted by passive relocation. Passive relocation would include installation of one-way doors on burrow entrances that would let owls out of the burrow but would not let them back in.
- If construction is to occur during the breeding season (February 1 through August 31) and prior to the relocation of the owls, 75-meter (246-foot) protective buffers would be maintained around burrows occupied by owls until a BLM approved biologist approves other action. Other actions could include passive relocation if it is determined that owls have not begun laying eggs or postponement of construction in the area until the young are fledged and no longer dependent upon the nest burrow.
- Once fledglings are capable of independent survival and adult non-breeding owls have successfully been relocated offsite, potential owl habitat (squirrel burrows) would be collapsed in order to keep the owls from returning. Ground squirrels would be removed from the site by trapping and relocation or by other approved means. Following squirrel removal, existing ground squirrel burrows would be destroyed.

B-9f **Perform construction outside of breeding and lambing period.** Construction activities conducted within suitable habitat near Burnt Mountain, Harquahala Mountain, and Kofa NWR shall not occur during the period of the year when bighorn sheep are lambing (from January 1 to April 30). A pre-construction survey for bighorn sheep shall be conducted on Forest Service lands prior to construction and maintenance of the transmission lines. If bighorn sheep are found, then SCE shall consult with the Forest Service, USFWS, and Bighorn Institute to identify appropriate avoidance measures.

B-9g **Conduct pre-construction surveys and relocation for American badger.** Prior to construction, SCE shall conduct pre-construction surveys for American badger. Surveys will be conducted prior to ground disturbance activities in areas that contain habitat for this species. Badger dens located outside the project area shall be flagged for avoidance. Unoccupied dens located in the right of way shall be covered to prevent the animal from re-occupying the den prior to construction. If occupied dens are identified in the area of the ROW that must be disturbed, the CDFG/BLM/Forest Service shall be consulted regarding options for action. Hand-excavation is an option if occupied dens cannot be avoided, but alternatives shall be considered due to potential danger to biologists. Dens shall be hand–excavated only before or after the breeding season (February 1–May 30). Any relocation of badgers shall take place after consultation with the BLM, Forest Service, and CDFG.

B-9h **Conduct pre-construction surveys for roosting bats.** SCE shall conduct surveys focused surveys for suitable roosting habitat or nursery sites for sensitive bats at the tower location, access/

spur roads, and laydown/staging areas that occur in rocky areas or in areas where caves or old mines are present. If suitable roosting/nursery sites are found, then focused surveys shall be conducted to determine if the sites support sensitive bat species. If sensitive bat species occur at these sensitive roosting/nursery sites, then tower-specific adjustments and adjustments of the locations of access/spur roads and laydown/staging areas shall be made to avoid these sites. If towers, access/spur roads, and/or laydown/staging areas cannot avoid these sites, then construction of the towers, roads, and establishment of laydown/staging areas shall be delayed until the breeding cycles for the sensitive bats are completed. SCE shall consult with a bat specialist in order to determine when the breeding cycle for the sensitive bats are completed. SCE shall document the results of the surveys and any avoidance of roosting/nursery sites for sensitive bats.

B-9i **Schedule construction when the Coachella Valley round-tailed squirrel is dormant.** SCE shall conduct pre-construction surveys for Coachella Round Tailed Squirrels prior to construction to identify locations of nesting colonies. Placement of footings, roads, and laydown areas shall avoid nesting colonies of this species. If this species is identified within the ROW, construction activities shall be scheduled only during periods when this species is dormant (between August 1 and February 28).

Rationale for Finding. By conducting field surveys and coordinating relocation efforts, all sensitive wildlife species and habitat potentially impacted will be identified, and construction activities will avoid these areas. The measures outlined in B-9a through B-9i will reduce impacts to sensitive wildlife species and habitat to a less than significant level.

Reference. Section D.2 provides a complete assessment of the biological resources impacts of the Project.

Impact B-10: The Proposed Project would result in adverse effects to Jurisdictional Waters and Wetlands

As discussed in Section D.2 of the EIR/EIS, although a formal jurisdictional delineation was not conducted, numerous desert washes and ephemeral drainages are present in the desert portion of the Project (e.g., from Harquahala Switchyard to Midpoint Substation). The maintenance of existing access roads, construction of new access and spur roads, and installation or replacement of culverts in and adjacent to creeks and drainages could result in an alteration of the streambed, discharge of fill into drainages under the jurisdiction of the Regional Water Quality Control Board, increased sedimentation in the drainages (either directly deposited or through runoff), and/or obstruction of water flow. APMs B-7 and B-21 have been incorporated into the Project to reduce impacts to Jurisdictional Waters and Wetlands. A complete description of APMs applicable to Biological Resources is located in EIR/EIS Table D.2-6.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact B-10. With implementation of Mitigation Measure B-1a (under Impact B-1, above), the CPUC finds that significant Project effects to Jurisdictional Waters and Wetlands from Impact B-10 to a less than significant level.

Rationale for Finding. Preparing and implementing a Habitat Restoration/Compensation Plan, as outlined in Mitigation Measure B-1a, will compensate all Jurisdictional Waters and Wetlands potentially impacted and will reduce impacts to Jurisdictional Waters and Wetlands to a less than significant level.

Reference. Section D.2 provides a complete assessment of the biological resources impacts of the Project.

Impact B-11: Construction activities would result in adverse effects to the movement of fish, wildlife movement corridors, or native wildlife nursery sites

As discussed in Section D.2 of the EIR/EIS, bat nursery colonies, may be associated with the rock crevices and caves in the Chuckwalla Mountains, and the Orocopia Mountains. The construction of towers and other construction activities in and adjacent to these mountains could disrupt bat nursery colonies. Construction of the Project may also result in the temporary disturbance to breeding bighorn sheep, particularly in the Kofa NWR. Vehicle movement, equipment staging, and construction activities could temporarily disrupt breeding behavior in this species. APMs B-8 and B-16 have been incorporated into the Project to reduce impacts to wildlife movement corridors. A complete description of APMs applicable to Biological Resources is located in EIR/EIS Table D.2-6.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact B-11. With implementation of Mitigation Measures identified as B-9f and B-9h (under Impact B-9, above), the CPUC finds that the level of impacts will be reduced to less than significant levels. Impacts to wildlife movement or nursery sites will be reduced to less than significant levels through implementation of Mitigation Measure B-9f and impacts to bat nursery colonies will be reduced with implementation of Mitigation Measure B-9h.

Rationale for Finding. Conducting field surveys prior to construction and avoiding construction outside breeding and lambing periods will reduce impacts to wildlife corridors. The measures outlined in B-9f and B-9h will reduce impacts to wildlife corridors to a less than significant level.

Reference. Section D.2 provides a complete assessment of the biological resources impacts of the Project.

Impact B-13: Construction activities may conflict with local policies or ordinances protecting biological resources

As discussed in Section D.2 of the EIR/EIS, The Project would traverse the jurisdictions of the BLM, Riverside and San Bernardino Counties, and cities within. Plans developed by these jurisdictions were reviewed to determine if there were any biological resources policies that would apply to Project construction and operation. To reduce potential impacts related to the direct loss of individuals or a habitat for sensitive wildlife APMs B-1, B-3, B-4, B-8, B-12, B-13, B-16, B-19, B-23, B-25 through B-33, and B-36 have been incorporated into the Project. A complete description of APMs applicable to Biological Resources is located in EIR/EIS Table D.2-6. It was found that the Project and Devers-Valley No. 2 Alternative would conflict with the following plans:

- **Chuckwalla Valley Dune Thicket ACEC:** the impacts resulting from Project construction will result in significant impacts to sensitive habitat in this ACEC and will conflict with the management policies in the CDCA Plan.
- **Chuckwalla DWMA ACEC:** any permanent and temporary loss of desert tortoise habitat in this ACEC will result in significant impacts in this ACEC and will conflict with the management policies in the Plan.
- **Draft Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP):** Project construction through this proposed Conservation Area may result in temporary and permanent impacts to habitat for these species and may result in the loss of individuals of these species. This impact would conflict with the management policies in the Plan.

- **Western Riverside County Multiple Species Habitat Conservation Plan – The Pass Area Plan:** Project construction (along the Devers-Valley No. 2 route) in the San Gorgonio River/San Bernardino–San Jacinto Mountains Linkage would conflict with the provisions of the Western Riverside MSHCP.

Finding. The CPUC finds that Mitigation Measures B-7b through B-7d, B-9f, and B-9i discussed under Impacts B-7 and B-9 (above), and B-13a and B-13b (included below) will reduce these impacts a less than significant level.

B-13a Demonstrate compliance with the Western Riverside County MSHCP. SCE shall provide documentation that it has complied with the provisions of the MSHCP.

B-13b Implement the Best Management Practices required by the Western Riverside County MSHCP. SCE shall provide documentation that is has implemented the Best Management Practices set forth in Appendix C of the Western Riverside MSCHP.

Rationale for Finding. By demonstrating compliance and implementing BMP's within the Western Riverside County MSHCP, and implementing applicable APMs and Mitigation Measures, all potential conflicts with local plans and polices would be identified, and the Project will comply with applicable plans.

Reference. Section D.2 provides a complete assessment of the biological resources impacts of the Project. See Appendix 2 (Policy Screening Report) of the EIR/EIS for a complete discussion of the Project's consistency with applicable biological resources policies.

Impact B-15: Operation of the transmission line may result in collisions by listed bird species

As discussed in Section D.2 of the EIR/EIS, The operation of the Project may result in mortality of listed or sensitive bird species and is a significant impact. This impact was found to be consistent for all Project and alternative route segments studied.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact B-15.The CPUC finds that implementation of the mitigation measure below will mitigate significant effects related to bird collisions from Impact B-15 to a less than significant level. This measure is identified as B-15a below.

B-15a Utilize collision-reducing techniques in installation of transmission lines. SCE shall install the transmission line utilizing APLIC standards for collision-reducing techniques as outlined in "Mitigating Bird Collisions with Power Lines: The State of the Art in 1994 (APLIC, 1996)."

- Placement of towers and lines will not be located significantly above existing transmission line towers and lines, topographic features, or tree lines to the maximum extent practicable.
- Overhead lines that occur significantly above the above-mentioned features and that are located in highly utilized avian flight paths will be marked utilizing aerial marker spheres, swinging plates, spiral vibration dampers, bird flight diverters, avifauna spirals, or other diversion device as to be visible to birds and reduce avian collisions with lines.

Rationale for Finding. By using APLIC Standard collision-reducing techniques, as outlined in Mitigation Measure B-15a, impacts to listed bird species will be reduced to a less than significant level.

Reference. Section D.2 provides a complete assessment of the biological resources impacts of the Project.

Impact B-16: Operation of the transmission line may result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers

As discussed in Section D.2 of the EIR/EIS, the operation of the Project will result in an increase in the number of towers, resulting in an increase in potential nesting sites for common ravens. Common ravens are known to nest on transmission towers and they are also known to be opportunistic and will prey upon wildlife species in the vicinity of perching and nesting sites. An increase in predation on the desert tortoise and other species by ravens nesting in the transmission towers is considered a significant impact. This impact was found to be consistent for all Project alternative route segments studied.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact B-16. The CPUC finds that the Mitigation Measure below will mitigate significant effects related to bird collisions from Impact B-16 to a less than significant level. This measure is identified as B-16a below.

B-16a **Prepare and implement a raven control plan.** SCE shall prepare a common raven control plan that identifies the purpose of conducting raven control, provides training in how to identify raven nests and how to determine whether a nest belongs to a raven or a raptor species, describes the seasonal limitations on disturbing nesting raptors species (excluding ravens), describes the procedure for obtaining a permit from the USFWS's Division of Migratory Birds, and describes procedures for documenting the activities on an annual basis. SCE shall gain approval of the plan from the USFWS's Division of Migratory Birds. SCE shall provide this raven control plan to all transmission line companies that conduct operations within the ROW.

Rationale for Finding. By implementing a raven control plan, as outlined in Mitigation Measure B-16a, impacts related to an increase in hunting by ravens will be reduced to a less than significant level.

Reference. Section D.2 provides a complete assessment of the biological resources impacts of the Project.

Impact B-18: The Project would result in disturbance to Management Indicator Species

As discussed in Section D.2 of the EIR/EIS, construction and operation of the Project within the Devers-Valley No. 2 Alternative on NFS lands segments in the SBNF could potentially impact one Management Indicator Species, the Song Sparrow. In addition, project activities in the SBNF area could cause impacts to the California Black Oak and White Fir.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact B-18. In addition to the previously identified Mitigation Measure B-5a (under Impact B-5, above), the mitigation measure identified as B-18 (below) will reduce significant effects to Management Indicator Species from Impact B-18 to a less than significant level.

B-18a **No Activities in Riparian Conservation Areas.** The final project design will include protective measures that prohibit construction activities on NFS lands in Riparian Conservation Areas in compliance with the Forest Plan. Examples of activities that will NOT be allowed include ground

disturbance, adding potable water to these areas while implementing erosion control measures, and removing water from the waterways.

Rationale for Finding. By prohibiting construction activities within Riparian Conservation Areas within NFS lands will avoid impacts to Management Indicator Species. Implementation of the measure outlined in B-18a will reduce impacts to Management Indicator Species.

Reference. Section D.2 provides a complete assessment of the biological resources impacts of the Project.

V.2.2 Visual Resources

To assess impacts to Visual Resources two different methodologies were used depending on how the land was administered. For federal lands administered by the US Department of Interior Bureau of Land Management (BLM), the BLM's Visual Resource Management (VRM) system was used. For other federal (non-BLM), non-federal public and private lands the Visual Sensitivity–Visual Change system was used.

The study area for the visual resources analysis was defined by the numerous viewpoints from which the Project will be seen. The viewshed is extensive given the relative openness of much of the landscape, the height of the structures, and the availability of viewing opportunities from travel routes, recreational use areas, and nearby residential and commercial areas.

Impact V-2: Long-term visibility of land scars in arid and semi-arid landscapes

Land scarring from use of staging areas and construction yards, construction of new access and spur roads, and activities adjacent to construction sites and along the ROW can be long-lasting in arid and semi-arid environments where vegetation recruitment and growth is slow. In-line views of linear land scars or newly bladed roads are particularly problematic and introduce adverse visual change and contrast by causing unnatural vegetative lines and soil color contrast from newly exposed soils. APMs (B-14, B-19, B-30, B-23–25, W-9, W-17, G-10, G-11, G-19, V-4, L-1 and L-3) have been incorporated into the Project to reduce the number of new access roads, loss or damage to vegetation, and to restore disturbed areas.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project that mitigate significant effects on the environment from Impact V-2. In addition, the CPUC finds that by requiring Mitigation Measures V-2a, V-2b, and V-2c scarring impacts that affect visual resources will be reduced to a less than significant level. These measures are identified below.

V-2a **Reduce in-line views of land scars.** Construct access or spur roads at appropriate angles from the originating, primary travel facilities to minimize extended, in-line views of newly graded terrain. Contour grading should be used where possible to better blend graded surfaces with existing terrain. SCE shall submit final construction plans demonstrating compliance with this measure to the BLM and CPUC for review and approval at least 60 days prior to the start of construction.

V-2b **Reduce visual contrast from unnatural vegetation lines.** In those areas where views of land scars are unavoidable, the boundaries of disturbed areas should be aggressively revegetated to create a less distinct and more natural-appearing line to reduce visual contrast. Furthermore, all graded roads and areas not required for on-going operation, maintenance, or access shall be returned to pre-construction conditions. This measure partially encompasses BLM permit require-

ment BLM B-6.9. SCE shall submit final construction and restoration plans demonstrating compliance with this measure to the BLM and CPUC for review and approval at least 60 days prior to the start of construction.

V-2c **Reduce color contrast of land scars.** In those areas where views of land scars from sensitive public viewing locations are unavoidable, disturbed soils shall be treated with Eonite or similar treatments to reduce the visual contrast created by the lighter-colored disturbed soils with the darker vegetated surroundings. SCE will consult with the Authorized Officer on a site-by-site basis for the use of Eonite. This measure partially encompasses BLM permit requirement BLM B-6.4. SCE shall submit final construction and restoration plans demonstrating compliance with this measure to the BLM and CPUC for review and approval at least 60 days prior to the start of construction.

Rationale for Finding. The APMs, incorporated as part of the Project, will minimize ground disturbance and the number of new access roads; minimize loss or damage to vegetation; and restore and recontour disturbed areas. The mitigation measures require additional actions to reduce in-line view of scars and the visual and color contrast associated with scarring. These measures will reduce the visibility of construction scars, limit the activities that contribute to scarring, and will therefore reduce the visual impacts associated with construction to a less than significant level.

Reference. Section D.3.6.1 (Visual Resources) of the EIR/EIS provides a complete assessment of the scarring impacts of the Project.

Impact V-35: Increased structure contrast, industrial character, view blockage, and skylining when viewing the Harquahala Junction Switchyard Alternative site from Key Viewpoint 29 on Salome Highway

The placement of a 500 kV switchyard immediately adjacent to Salome Highway will introduce substantial industrial character, visual contrast and view blockage into views from Salome Highway. The resulting visual contrast will be moderate-to-high and the switchyard will appear co-dominant with the existing landscape features. View blockage will be moderate.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact V-35 to a less than significant level. In addition, the CPUC finds that by requiring Mitigation Measures V-6a. V-6b, V-6c, and V-35 visual impacts will be reduced to a less than significant level. These measures are identified below.

V-6a **Reduce visual contrast associated with ancillary facilities.** SCE shall submit to BLM and CPUC a Surface Treatment Plan describing the application of colors and textures to all facility structures, buildings, walls, fences, and components comprising all ancillary facilities including substations/switchyards, series capacitor banks, and optical repeater stations. The Surface Treatment Plan must reduce glare and minimize visual intrusion and contrast by blending the facilities with the landscape. The Treatment Plan shall be submitted to BLM and CPUC for approval at least 90 days prior to (a) ordering the first structures that are to be color treated during manufacture, or (b) construction of any of the ancillary facility component, whichever comes first. If the BLM or CPUC notifies SCE that revisions to the Plan are needed before the Plan can be approved, within 30 days of receiving that notification, SCE

shall prepare and submit for review and approval a revised Plan. The Surface Treatment Plan shall include:

- Specification, and 11"x17" color simulations at life size scale, of the treatment proposed for use on project structures, including structures treated during manufacture
- A list of each major project structure, building, tower and/or pole, and fencing specifying the color(s) and finish proposed for each (colors must be identified by name and by vendor brand or a universal designation)
- Two sets of brochures and/or color chips for each proposed color
- A detailed schedule for completion of the treatment
- A procedure to ensure proper treatment maintenance for the life of the project.

SCE shall not specify to the vendors the treatment of any buildings or structures treated during manufacture, or perform the final treatment on any buildings or structures treated onsite, until SCE receives notification of approval of the Treatment Plan by the BLM and CPUC. Within 30 days following the start of commercial operation, SCE shall notify the BLM and CPUC that all buildings and structures are ready for inspection.

V-6b **Screen ancillary facilities.** For the Harquahala Junction Switchyard Alternative, SCE shall provide a Screening Plan for screening vegetation, walls, and fences that reduces visibility and helps the facility blend in with the landscape. The use of berms to facilitate project screening may also be incorporated into the Plan. SCE shall submit the Plan to the BLM for review and approval at least 90 days prior to installing the landscape screening. If the BLM notifies SCE that revisions to the Plan are needed before the Plan can be approved, within 30 days of receiving that notification, SCE shall prepare and submit for review and approval a revised Plan. The plan shall include but not necessarily be limited to:

- An 11"x17" color simulation of the proposed landscaping at 5 years
- A plan view to scale depicting the project and the location of screening elements
- A detailed list of any plants to be used; their size and age at planting; the expected time to maturity, and the expected height at five years and at maturity.

SCE shall complete installation of the screening prior to the start of project operation. SCE shall notify the BLM within seven days after completing installation of the screening, that the screening components are ready for inspection.

V-6c **Reduce night lighting impacts.** SCE shall design and install all permanent lighting such that light bulbs and reflectors are not visible from public viewing areas; lighting does not cause reflected glare; and illumination of the project facilities, vicinity, and nighttime sky is minimized. SCE shall submit a Lighting Mitigation Plan to the BLM and CPUC for review and approval at least 90 days prior to ordering any permanent exterior lighting fixtures or components. SCE shall not order any exterior lighting fixtures or components until the Lighting Mitigation Plan is approved by the BLM and CPUC. The Plan shall include but is not necessarily limited to the following:

- Lighting shall be designed so exterior light fixtures are hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the nighttime sky is mini-

mized. The design of the lighting shall be such that the luminescence or light sources is shielded to prevent light trespass outside the project boundary

- All lighting shall be of minimum necessary brightness consistent with worker safety
- High illumination areas not occupied on a continuous basis shall have switches or motion detectors to light the area only when occupied.

V-35a **Screen alternative switchyard site from Salome Highway views.** This measure is required to augment and not replace Mitigation Measure V-6b in order to provide more detailed direction pertaining to the planting of roadside screening vegetation along Salome Highway. Screening vegetation shall be planted along the east side of Salome Highway between mile markers 39 and 40. Vegetation shall be comprised of native species and shall be selected to achieve heights and screen effectiveness comparable to that shown in Figure D.3-30B (see enclosed CD). SCE shall submit a Screening Plan demonstrating compliance with this measure to the BLM for review and approval at least 90 days prior to installing the landscape screening. If the BLM notifies SCE that revisions to the Plan are needed before the Plan can be approved, within 30 days of receiving that notification, SCE shall prepare and submit for review and approval a revised Plan. The Screening Plan shall include but not necessarily be limited to:

- An 11"x17" color simulation of the proposed landscaping at 5 years
- A plan view to scale depicting the project and the location of screening elements
- A detailed list of any plants to be used; their size and age at planting; the expected time to maturity, and the expected height at five years and at maturity

SCE shall complete installation of the screening prior to the start of project operation. SCE shall notify the CPUC within seven days after completing installation of the screening, that the screening components are ready for inspection.

Rationale for Finding. The visual contrast will be moderate-to-high and the switchyard will appear co-dominant with the existing landscape features. View blockage will be moderate. The mitigation measures will require screening of ancillary facilities and the switchyard, reduction of night lighting, and a plan for surface treatment of the ancillary facilities to reduce glare and minimize visual intrusion and contrast. These measures require plan approval prior to construction to ensure that the regulatory agencies agree with the approach to meeting these mitigation measures prior to the start of construction. Because impacts have been identified as moderate, mitigation measures will effectively reduce the level of impacts associated with the switchyard to a less than significant level.

Reference. Section D.3.8.3 (Harquahala Junction Switchyard Alternative) of the EIR/EIS provides a complete assessment of the visual impacts to this segment of the route.

V.2.3 Land Use

To gather information regarding the effects of the Project on local and regional land uses, the CPUC and BLM contacted representatives from each of the affected jurisdictions in addition to collecting field data. The field data identified existing and sensitive land uses along the route. Sensitive land uses are defined as land uses that are susceptible to disturbances resulting from either construction or operation of a project (e.g., noise, traffic, dust, etc.) (see Section D.4.6 of the EIR/EIS) In general, residences, educational

institutions, recreational facilities, and public facilities (e.g., religious facilities, health care facilities) are considered to be sensitive land uses for purposes of the EIR/EIS. Land uses identified in the analysis include those that are located immediately adjacent to the Project, that will be affected by construction and operation activities, or that have national, regional, or local significance and are within one mile of the route (see Section D.4.2 of the EIR/EIS).

Impact L-1: Construction Would Temporarily Disturb the Land Uses it Traverses or Adjacent Land Uses

As discussed in Section D.4 of the EIR/EIS, the increased construction activity along the entire Project route will temporarily disrupt existing land uses. The construction of the Project will bring traffic and construction noise from heavy construction equipment on temporary and permanent access roads, moving building materials to the tower sites and returning to construction staging areas. The Project will have the potential to impact residences, recreational land uses (parks, wilderness areas), open space, public facilities (schools, memorial parks), and retail and commercial businesses. The Project will also cross the CAP Canal and the I-10 as well as areas managed by resources agencies such as the Kofa National Wildlife Refuge.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact L-1. In addition, the CPUC finds that by requiring Mitigation Measures L-1a, L-1b, L-1c, L-1d, and L-1e land use impacts will be reduced to a less than significant level. These measures are identified below.

L-1a **Prepare Construction Notification Plan.** Forty-five days prior to construction, SCE shall prepare and submit a Construction Notification Plan to the CPUC and the BLM for approval. The Plan shall identify the procedures to ensure that SCE will inform property and business owners of the location and duration of construction, identify approvals that are needed prior to posting or publication of construction notices, and include template copies of public notices and advertisements (i.e., formatted text). To ensure effective notification of construction activities, the plan shall address at a minimum the following components:

- **Public Notice Mailer.** Fifteen days prior to construction, a public notice mailer shall be prepared. The notice shall identify construction activities that would restrict, block, or require a detour to access existing residential properties, retail and commercial businesses, wilderness and recreation facilities, and public facilities (e.g., schools and memorial parks). The notice shall state the type of construction activities that will be conducted, and the location and duration of construction. SCE shall mail the notice to all residents or property owners within 300 feet of the right-of-way and to specific public agencies with facilities that could be impacted by construction. If construction delays of more than seven days occur, an additional notice shall be prepared and distributed.
- **Newspaper Advertisements.** Fifteen days prior to construction, within a route segment, one round of newspaper advertisements shall be placed in local newspapers and bulletins. The advertisement shall state when and where construction will occur and provide information on the public liaison person and hotline identified below. If construction is delayed as noted above, an additional round of newspaper ads shall be placed to discuss the status and schedule of construction.

- **Public Venue Notices.** Thirty days prior to construction, notice of construction shall be posted at public venues such as trail crossings, rest stops, desert centers, resource management offices (e.g., Bureau of Land Management field offices, San Bernardino National Forest Ranger Station), and other public venues to inform residents and visitors to the purpose and schedule of construction activities. For public trail closures, SCE shall post information on the trail detour at applicable resource management offices and post the notice within two miles north and south of the detour. For recreation facilities, the notice shall be posted along the access routes to known recreational destinations that would be restricted, blocked, or detoured and shall provide information on alternative recreation areas that may be used during the closure of these facilities.
- **Public Liaison Person and Toll-Free Information Hotline.** SCE shall identify and provide a public liaison person before and during construction to respond to concerns of neighboring property owners about noise, dust, and other construction disturbance. Procedures for reaching the public liaison officer via telephone or in person shall be included in notices distributed to the public. SCE shall also establish a toll-free telephone number for receiving questions or complaints during construction and shall develop procedures for responding to callers. Procedures for handling and responding to calls shall be addressed in the Construction Notification Plan.

L-1b **Coordinate with the Central Arizona Project regarding canal crossings.** Prior to construction, SCE shall coordinate with the Central Arizona Water Conservation District and the BLM Phoenix Field Office, and shall obtain a license from the Central Arizona Water Conservation District for the areas where the project crosses the Central Arizona Project Canal. SCE shall submit the approved license to the CPUC and the BLM 30 days prior to the start of construction activities. The license or license attachments must identify specific locations where the crossings are permitted and any conditions of approval that have been agreed to by SCE, the Central Arizona Water Conservation District, and the BLM Phoenix Field Office.

L-1c **Provide proof of resolution of land acquisition issues for crossing of Agua Caliente Band of Cahuilla Indians tribal lands.** SCE shall negotiate in good faith to reach a mutually acceptable agreement with the allottee. If an agreement is reached, SCE shall consult and coordinate with the Planning Department of the Agua Caliente to provide the information and/or fees requested by the Planning Department regarding land use matters. If SCE and the allottee reach an agreement then SCE shall notify the Planning Department of the Agua Caliente, and if SCE and the Planning Department agree on the legal requirements, including appropriate waivers, SCE shall notify the BLM and the CPUC of the agreement; however if SCE and the Planning department are unable to reach an agreement, SCE shall notify the CPUC of the inability to reach agreement and the CPUC may hold a hearing within thirty days of notification. SCE reserves the right to institute eminent domain proceedings. SCE believes that a conditional use permit is not required.

L-1d **Coordinate with affected business owners.** Where private parking lots serving businesses would be blocked or partially blocked during construction, SCE shall either make prior arrangements with the business owner(s) to provide alternative parking within a reasonable walking distance (i.e., no more than 1,000 feet), or shall coordinate with affected business owners to arrange the construction schedule to ensure that the functions of the business(es) are not disrupted. Thirty

days prior to construction, SCE shall submit documentation to the CPUC and the BLM that outlines the course of action that was taken to reduce impacts to businesses near construction areas.

L-1e **Coordinate construction schedule with public and community facilities.** SCE shall coordinate with the public and community facilities and services listed below regarding the construction schedule and duration in order to minimize impacts to these land uses. The purpose of this measure is to work with sensitive land uses that would be impacted by construction and to identify construction times/periods that would have the least impact to peak use of these public and community facilities. This coordination could result in limiting or avoiding construction during school sessions, identifying hauling routes that do not conflict with school commute routes, or working with the memorial parks to address funeral procession routes and noise sensitivities. Thirty days prior to construction, SCE shall document its coordination efforts including contact persons, information provided, and comments received, and submit this documentation to the CPUC and BLM.

- Schools near the project route: Beaumont Middle School and High School, Calvary Christian School, Chavez Elementary School, Terrace View Elementary School, public elementary school on East Canyon Vista Drive
- San Gorgonio Memorial Park
- Desert Lawn Memorial Park
- Banning Municipal Airport
- Grandview Baptist Church

Rationale for Finding. Most construction impacts will be addressed by compliance with visual, noise, traffic, air quality, and other environmental mitigation measures as noted above. Notification regarding construction activities and a procedure for responding to construction complaints or questions will further reduce land use impacts along the Project route. Mitigation Measure L-1a (Prepare Construction Notification Plan) is a comprehensive mitigation measure that ensures adequate notification of construction activities and requires a contact person in case residents or landowners have questions or concerns regarding the construction activities. The contact person is especially important as a forum for the public and business owners to voice concerns during the construction process. If issues are raised, then the notification and response process allows for construction nuisances to be addressed. The measures also require coordination of the construction schedule to reduce disruptions to businesses and public facilities along the route to a less than significant level.

Reference. Section D.4 provides a complete assessment of the construction land use impacts of the Project.

Impact L-2: Operation Would Result in Permanent Preclusion of Land Uses It Traverses or Adjacent Land Uses

As discussed in Section D.4 of the EIR/EIS, the transmission line will cross the CAP Canal in two locations, and will parallel the canal at a distance ranging from approximately 2 miles north in some areas to 300 feet south in other areas. The Project has the potential to impact the CAP Canal during maintenance of the transmission line and will impact the maintenance of the canal. To minimize potential land use and other conflicts with operation of the CAP Canal, SCE must coordinate with the Central Arizona Water Conservation District and obtain a license.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact L-2. Specifically, Mitigation Measure L-1b identified above will reduce Impact L-2 to a less than significant level.

Rationale for Finding. Requiring SCE to obtain a license from the Central Arizona Water Conservation District and the BLM (Phoenix Office) will ensure that the project is implemented in a way that least impacts canal operations. In addition, the measure requires that the license be submitted to the CPUC and the BLM 30-days prior to the start of construction. This submittal schedule will ensure that coordination has taken place with these agencies and the project's crossing of the canal.

Reference. Section D.4 provides a complete assessment of the operational land use impacts of the Project.

Cumulative project activities could impact land uses along Project route

New residential and commercial/industrial developments have been proposed or are under construction within two miles of the Project. Some of these new development projects would be traversed by the Project (e.g., Paradise Valley, Noble Creek, and South Hills Open Space Plan). It is likely that construction of some of these projects would overlap with construction of the Project. The construction of multiple projects within the same area would create a significant cumulative construction impact to adjacent residential land uses. Commercial land uses will be cumulatively impacted if access to these businesses was precluded during construction activities.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant cumulative land use effects on the environment from cumulative impacts. The CPUC further finds that by implementing Mitigation Measures L-1a, L-1d, and L-1e, cumulative impacts will be reduced to less than significant..

Rationale for Finding. Construction of the Project will likely occur between the years 2007 to 2009 for the Devers-Harquahala 500 kV line segment and the Devers-Valley No. 2 Alternative. No definitive construction schedule is currently available for the proposed residential and commercial/industrial projects listed in Table F-1 of the EIR/EIS. It is likely that construction of some of these projects would overlap with construction of the Project. The construction of multiple projects within the same area would create significant cumulative construction impact to adjacent residential, commercial, public facilities, and other land uses.

Reference. Section F.3.3 (Land Use) of the EIR/EIS provides a complete assessment of the cumulative land use impacts of the Project.

V.2.4 Wilderness and Recreation

The Project will be located within or pass adjacent to recreation and Wilderness Areas (WAs) under the jurisdiction of the BLM, USFWS, U.S. Department of Agriculture (USDA) Forest Service, National Park Service, State of California, Riverside County, and several cities. In order to gather information regarding the effects of the Project on WAs and recreational facilities, the CPUC and BLM contacted representatives from each of the affected jurisdictions. Field data were also collected June 2005, September 2005, and February 2006 to identify recreation and WAs within one mile of the Project route. Additional recreation and WAs located greater than one mile were identified in the EIREIS for orientation purposes only in the environmental setting sections, but were not considered in impact assessment.

Impact WR-1: Construction activities would temporarily reduce access and visitation to recreation or wilderness areas

Project construction activities will require the use of roads that serve as primary access to the Big Horn Mountains WA, Harquahala Mountains WA, Harquahala Peak Pack Trail, and Smithsonian Observatory. No information regarding the number of annual visitors to Harquahala Peak and the WAs is readily available. However, visitors will access these resources via I-10, frontage roads (i.e., Eagle Eye Road, Palomas-Harquahala Road), and the Harquahala Peak Pack Trail. Harquahala Peak Road (the only road with vehicular access to the Peak) is a very rough, narrow, road that requires the use of 4-wheel drive vehicles. This 10.5-mile road consists of steep, rugged sections, and has a series of switchbacks near the top. Use of the laydown area and access roads for construction activities associated with the telecommunications facility at Harquahala Peak will preclude access for visitors to the WAs and to the recreational facilities at Harquahala Peak.

Project construction activities create a number of temporary nuisances that will diminish the value of the Kofa NWR, Indio Hills Palms State Park, Coachella Valley Preserve, ACECs (Chuckwalla, Alligator Rock, Coachella Valley Fringe-Toed Lizard, Potrero), Santa Rosa and San Jacinto National Monument, San Bernardino National Forest, Pacific Crest Trail, and San Jacinto WA. For example, the noise, dust, and construction traffic generated during construction activities negatively affect a visitor's enjoyment of the recreation area. Recreationists may be less likely to visit this resource during project construction.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact WR-1. The CPUC further finds that Mitigation Measure WR-1a, listed below, and C1-g listed in the Cultural Resources section, impacts will be reduced to less than significant.

WR-1a Coordinate construction schedule and activities with the authorized officer for the recreation area. No less than 40 days prior to construction, SCE shall coordinate construction activities and the project construction schedule with the authorized officer of the recreation areas listed below. SCE shall schedule construction activities to avoid heavy recreational use periods, including major holidays, in coordination with, and at the discretion of the authorized officer. SCE shall locate construction equipment to avoid temporary preclusion of recreation areas per the recommendations of the authorized officer. SCE shall also prepare a public notice of construction activities consistent with Mitigation Measure L-1a (Prepare Construction Notification Plan). SCE shall document its coordination efforts with the authorized officer, and provide this documentation to the CPUC and the BLM 30 days prior to construction.

- Big Horn Mountains Wilderness Area
- Harquahala Mountains Wilderness Area
- Harquahala Peak
- Eagletail Mountains Wilderness Area
- San Jacinto Wilderness Area
- Kofa National Wildlife Refuge
- Santa Rosa & San Jacinto Mountains National Monument
- San Bernardino National Forest
- Pacific Crest National Scenic Trail
- Chuckwalla Valley Dune Thicket Area of Critical Environmental Concern
- Alligator Rock Area of Critical Environmental Concern
- Coachella Valley Preserve and Coachella Valley Fringe-Toed Lizard Area of Critical Environmental Concern
- Potrero Area of Critical Environmental Concern
- BLM off-highway vehicle trails in Shavers Valley
- Indio Hills Palms State Park
- Norton Younglove Reserve
- Noble Creek Park
- Hulda Crooks Park
- Oak Valley Golf Club
- City of Loma Linda riding and hiking trail system
- San Timoteo State Park

Rationale for Finding. The temporary closure of facilities and roads for construction activities will preclude use of recreational resources during construction, Mitigation measures will require coordination of the construction schedule and activities with the authorized officer for the recreation area, minimize impacts to recreationists during peak periods, and ensure that recreational users are informed of scheduled construction activities. In addition, Mitigation Measure C-1g will ensure SCE's extensive consultation with the BLM Phoenix Area Office to define and implement the most effective actions to reduce impacts of the telecommunications tower at Harquahala Peak.

Reference. Section D.5.6 (Wilderness and Recreation) of the EIR/EIS provides a complete assessment of the Wilderness and Recreation impacts of the Project.

Impact WR-3: Operation would permanently preclude recreational activities

The Project will be located adjacent to an existing 500 kV transmission line across the Kofa NWR, Indio Hills Palms State Park, Coachella Valley Preserve, ACECs (Chuckwalla, Alligator Rock, Coachella Valley Fringe-Toed Lizard, Potrero), Santa Rosa and San Jacinto National Monument, San Bernardino National Forest, Pacific Crest Trail, and San Jacinto WA. As the Project will be constructed across a recreation area, impacts will occur to recreational resources located adjacent to the ROW. For example, hiking trails that pass under or along the ROW will be impacted if a new transmission tower were erected on the trail. The construction of new spur roads will also affect recreational resources (e.g., trails, campgrounds) that are traversed by or located adjacent to the Project. As such, the siting of new transmission towers or spur roads will permanently impact existing recreational resources within the refuge and the ACECs.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact WR-3. The CPUC also finds that implementation of Mitigation Measure WR-3a, included below, impacts will be reduced to less than significant.

WR-3a Coordinate tower and road locations with the authorized officer for the recreation area. Where the proposed route crosses the recreation areas listed below, SCE shall coordinate with the authorized officer to determine specific tower site and spur road locations in order to minimize impacts to recreational resources. This coordination shall occur no less than 30 days prior to the start of construction. SCE shall document its coordination with the authorized officer and shall submit this documentation to the CPUC and the BLM prior to initiating project construction.

- Kofa National Wildlife Refuge
- Santa Rosa & San Jacinto Mountains National Monument
- San Bernardino National Forest
- Pacific Crest National Scenic Trail
- San Jacinto Wilderness Area
- Chuckwalla Valley Dune Thicket ACEC
- Alligator Rock ACEC
- Coachella Valley Preserve and Coachella Valley Fringe-Toed Lizard ACEC
- Potrero ACEC
- Norton Younglove Reserve

Rationale for Finding. Impacts to existing recreational resources resulting from siting new towers or roads on or near these resources will preclude recreational and wilderness activities Mitigation Measure WR-3a requires coordination of tower and road locations with the authorized officer for the recreation area. This will ensure that construction activities are carried out to limit disturbance to recreational and wilderness uses.

Reference. Section D.5.6 (Wilderness and Recreation) of the EIR/EIS provides a complete assessment of the Wilderness and Recreation impacts of the Project.

V.2.5 Agriculture

The CPUC and BLM analyzed effects of the Project on agricultural resources using data collected from California Department of Conservation (DOC) and the Natural Resources Conservation Service (NRCS). Agricultural resources that exist along the project route include land designated as important farmland, other agricultural operations, and lands under Williamson Act contracts. For the purposes of the analysis in the EIR/EIS, important farmland is classified as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland, which are collectively referred to as "Farmland", as well as Farmland of Local Importance, and Grazing Land. Additionally, other agricultural operations include active agricultural lands along the Project route that have not been classified as Farmland. Williamson Act lands are important agricultural lands that are voluntarily enrolled in the Williamson Act program, which only exists in California, and restricts land use in exchange for preferential property taxes.

Impact AG-1: Construction Activities Will Temporarily Convert Farmland to Non-Agricultural Use

As discussed in Section D.6 (Agriculture) of the EIR/EIS, construction activities along the Project route will impact Farmland due to the presence and disturbance caused by use of heavy construction equipment, building materials, and workers. The resulting disturbances will temporarily convert approximately 60 acres of Farmland to non-agricultural uses (i.e., construction areas and disturbed lands) where towers are erected, pulling and splicing stations are located, and access roads are built. This impact is significant because the conversion of 60 acres is greater than the threshold set to determine the significance of the conversion of Farmland.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact AG-1 to a less than significant level. This measure is identified as Mitigation Measure AG-1, and is included below.

AG-1a Establish agreement and coordinate construction activities with agricultural landowners. Sixty (60) days prior to the start of project construction, Southern California Edison (SCE) shall secure a signed agreement with property owners of Farmland (Prime Farmland, Farmland of Statewide Importance, Unique Farmland) and Williamson Act lands that will be used for construction and operation of the project, access and spur roads, staging areas, and other project-related activities. The purpose of this agreement will be to set forth the use of Prime Farmland, Farmland of Statewide Importance,

Unique Farmland, and Williamson Act lands during construction in order to: (1) schedule proposed construction activities at a location and time when damage to agricultural operations will be minimized, and (2) ensure that any areas damaged or disturbed by construction are restored to a condition mutually agreed upon by the landowner and SCE.

SCE shall coordinate with the agricultural landowners in the affected areas where Farmland or Williamson Act land will be temporarily disturbed in order to determine when and where construction should occur in order to minimize damage to agricultural operations. This includes avoiding construction during peak planting, growing, and harvest seasons. If damage or destruction does occur, SCE shall perform restoration activities on the disturbed area in order to return the area to a pre-determined condition or the pre-construction condition, whichever option is agreed upon by the landowner and SCE. This could include activities such as soil preparation, regarding, and reseeding. This measure applies to agricultural landowners with land that is impacted by the Project. SCE shall provide proof of the continued use of Farmland and/or Williamson Act lands through the submittal of a signed agreement between an individual property owner and SCE. The signed agreements shall be submitted to the CPUC and BLM for review and approval prior to the start of construction.

Rationale for Finding. Requiring SCE to establish an agreement with agricultural landowners prior to construction will ensure that the least amount of Farmland is temporarily converted to non-agricultural uses, and that any land that is disturbed is restored to a mutually agreed upon condition. Coordination with landowners will allow landowners to convey specific details about their agricultural operations, including type of crop, maintenance requirements, seasonal obligations such as planting or harvesting times, and other appropriate information. Knowledge of each agricultural operation will allow SCE to schedule construction activities so as to minimize damage by avoiding crops by performing construction after harvest season, in a location that is fallow, or during times that will avoid peak growing season. If temporary disturbance does occur, SCE will restore the disturbed area to an agriculturally usable condition (i.e., pre-construction or other condition) agreed upon by the landowner.

Reference. Section D.6 of the EIR/EIS provides a complete assessment of the temporary conversion of Farmland to non-agricultural uses due to the Project.

Impact AG-2: Construction Activities Will Interfere with Agricultural Operations

As discussed in Section D.6 of the EIR/EIS, construction activities and the presence of construction equipment could interfere with agricultural operations by damaging crops or soil, impeding access to certain fields or plots of land, obstructing farm vehicles, or disrupting drainage and irrigation systems. These events could further result in the temporary reduction of agricultural productivity.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact AG-2. Mitigation Measures L-1a identified above in Section IV.2.3, and AG-1a, listed above under Impact AG-1, will reduce Impact AG-2 to a less than significant level.

Rationale for Finding. Most construction impacts to agricultural operations on Farmland will be addressed through Mitigation Measure AG-1a, which requires SCE to coordinate the Project construction activities with agricultural landowners in order to minimize disturbance to agricultural land and interference with

agricultural operations. If disturbance does occur to Farmland, SCE will restore the land to a condition jointly agreed upon by SCE and the landowner. In addition, Mitigation Measure L-1a will provide notification of construction activities and a procedure for responding to construction complaints or questions to landowners in all areas where construction will occur. This provides landowners sufficient notice of upcoming construction activities so that they can make appropriate preparations to their property. Additionally, this measure provides a mechanism to resolve construction-related complaints.

Reference. Section D.6 of the EIR/EIS provides a complete assessment of the impacts to agricultural operations caused by construction of the Project.

Impact AG-4: Operation Will Interfere with Agricultural Operations

As discussed in Section D.6 of the EIR/EIS, the operation of the Project, including the presence of new access or spur roads and new tower structures, could divide farm properties creating an obstacle to farming that impedes access to certain fields or plots, and creates irregularly shaped fields in which it will be difficult to maneuver farm equipment. New roadways could also disrupt drainage and irrigation systems, affect the efficacy of windbreaks, fragment farms, and allow for the introduction of invasive weeds within and around disturbed areas. These interferences could permanently decrease agricultural productivity in the area.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact AG-4. Mitigation Measure AG-4a, listed below, will reduce Impact AG-4 to a less than significant level.

AG-4a Locate transmission towers and pulling/splicing stations to avoid agricultural operations. SCE shall site transmission towers and pulling/splicing stations in locations that minimize impacts to active agricultural operations. Specifically, SCE shall comply with the following measures when siting transmission towers and splicing/pulling stations within areas where active cultivated farmland will be removed through the presence of structures:

- SCE shall avoid orchards, vineyards, row crops, and furrow-irrigated crops where towers will interfere with irrigation and harvest activities.
- SCE shall avoid irrigation canals and ditches.
- SCE shall align towers adjacent to field boundaries and parallel to rows (if located in row crops), and shall avoid diagonal orientations and angular alignments within agricultural land.
- SCE shall match tower spans with existing DPV1 towers within agricultural land.
- SCE shall construct towers with heights and spacing to minimize safety hazards to aerial applicators flying in the Palo Verde Valley (CA) and other agricultural areas.
- SCE shall consult with the Palo Verde Irrigation District (PVID) regarding tower placement to minimize disruption to PVID facilities.

SCE shall document and provide proof of compliance with the above listed items 90 days prior to the start of Project construction. This documentation shall be submitted to the CPUC and the BLM for review and approval prior to the start of construction, and reviewed with affected land-

owners during coordination presented in Mitigation Measure AG-1a (Establish agreement and coordinate construction activities with agricultural landowners).

Rationale for Finding. Most operational impacts to agricultural operations from the Project will be caused by the placement of structures in locations that will not allow existing farming practices, including the use of specialized equipment, to continue in their current manner. Therefore, implementation of Mitigation Measure AG-4a will reduce Impact AG-4 to a less than significant level by requiring SCE to adhere to certain factors when determining the final location of Project structures within agricultural areas. Some of these factors include avoiding orchards, vineyards, row crops, and furrow-irrigated crops due to the density of crops and use of special maintenance equipment. Other factors require SCE to consider existing agriculture-related practices, such as field boundaries, crop alignments, and aerial applicators; and structures, such as irrigation facilities, canals, and ditches, in their final tower locations. Proof of SCE's compliance with this measure will be documented and provided to the CPUC and BLM.

Reference. Section D.6 of the EIR/EIS provides a complete assessment of the impacts to agricultural operations caused by operation of the Project.

Impact AG-5: Construction Activities Will Conflict with a Williamson Act Contract

As discussed in Section D.6 of the EIR/EIS, construction of the Project will occur over 2.4 miles of land under Williamson Act contracts within the Palo Verde Valley in Riverside County, California. These construction activities will temporarily disturb 11.8 acres of Prime (Williamson Act) Agricultural Land. Performing construction activities on lands under Williamson Act contracts will conflict with the objective of each contract, which is to preserve important agricultural land.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact AG-5. Mitigation Measures AG-1a, identified above under Impact AG-1, will reduce Impact AG-5 to a less than significant level.

Rationale for Finding. Requiring SCE to establish an agreement with agricultural landowners prior to construction will ensure that landowners have been consulted and construction activities will create the least amount of disturbance to Williamson Act lands. Coordination with landowners will allow a mutually agreeable construction schedule, which minimizes disturbance, to be developed. If temporary disturbance does occur, SCE will restore the disturbed area to an agriculturally usable condition (i.e., pre-construction or other condition) agreed upon by the landowner.

Reference. Section D.6 of the EIR/EIS provides a complete assessment of the impacts to Williamson Act contracts caused by construction of the Project.

V.2.6 Cultural and Paleontological Resources

As discussed in Section D.7 (Cultural and Paleontological Resources) of the EIR/EIS, record searches were conducted consisting of a review of relevant historic maps, excavation and survey reports, and paleontological data. Abundant cultural and paleontological resources data for the Project were available in archival facilities and in existing reports as a result of previous studies conducted for the adjacent DPV1 Project. Supplemental field surveys were conducted in order to verify the location of any previously identified cultural resources and to cover previously unsurveyed lands within Areas of Potential Effect (APE), which are defined as all acreage that will be affected by new project development

and areas of temporary construction activity. For the purposes of the analysis in the EIR/EIS and based on NEPA and CEQA requirements, cultural resources are defined as places or objects that are important for historical, scientific, and religious reasons and are of concern to cultures, communities, groups, or individuals. These resources may include buildings and architectural remains, archaeological sites and other artifacts that provide evidence of past human activity, human remains, or a traditional cultural property (TCP). Paleontologic resources are a limited, nonrenewable, very sensitive scientific and educational resource and, in California, are afforded protection under federal and State of California environmental legislation.

Impact C-1: Construction of the project could cause an adverse change to known historic properties

As discussed in Section D.7 of the EIR/EIS, any ground-disturbing activity, including tower pad preparation and construction, grading of new access or spur roads, reconductoring activity, tower removal, transportation, storage, and maintenance of construction equipment and supplies, staging area and material yard preparation and use, and use or improvement of existing access roads has the potential to disturb known cultural resources. Impacts could also result from inadvertent trespass out of designated work areas or roads. Adverse effects to individual sites cannot be precisely identified for all project areas until the final tower locations are defined, specific tower locations are determined, detailed engineering plans for all project roads and facilities are completed, and final National Register of Historic Places (NRHP)-eligibility of cultural resources has been assessed. The APEs for these activities have not been determined, thus planning for these activities must account for the sites recommended as eligible.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact C-1 to a less than significant level. These measures identified as C-1a through C-1g are included below.

C-1a **Inventory and evaluate cultural resources in Final APE.** Prior to construction and all other surface disturbing activities, the Applicant shall have conducted and submitted for approval by the BLM and CPUC (and the USFS, on San Bernardino National Forest land and the THPO on Agua Caliente land) an inventory of cultural resources within the project's final Area of Potential Effect. The nature and extent of this inventory shall be determined by the BLM and CPUC in consultation with the appropriate State Historic Preservation Officer (SHPO) and shall be based upon project engineering specifications. Results of this inventory shall also be filed with appropriate State repositories and local governments. As part of the inventory, the Applicant shall conduct field surveys of sufficient nature and extent to identify cultural resources that will be affected by tower pad construction, reconductoring activities, 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, new tower sites, and any other projected areas of potential ground disturbance outside of the previously surveyed potential impact areas. Site-specific field surveys also shall be undertaken at all projected areas of impact within the previously surveyed corridor that coincide with previously recorded resource locations. The selected right-of-way and tower locations shall be staked prior to the cultural resource field surveys. As part of the inventory report, the Applicant shall evaluate the significance of all affected cultural resources on the basis of surface observations and provide recommendations with regard to their eligibility for the National Register of Historic Places (NRHP) or local registers. Preliminary determinations of NRHP eligibility will be made by the BLM, in consultation with the CPUC and appropriate local governments, the USFS (on USFS land), and the appropriate SHPO or THPO.

C-1b **Avoid and protect potentially significant resources.** On the basis of preliminary National Register of Historic Places (NRHP) eligibility assessments (Mitigation Measure C-1a) the BLM and CPUC may require the relocation of the line, ancillary facilities, or temporary facilities or work areas, if any, where relocation will avoid or reduce damage to cultural resource values. Where operationally feasible, potentially NRHP-eligible resources shall be protected from direct project impacts by project redesign.

Where the BLM and CPUC decide that potentially NRHP-eligible cultural resources cannot be protected from direct impacts by project redesign, the Applicant shall undertake additional studies to evaluate the resources' NRHP-eligibility and to recommend further mitigative treatment. The nature and extent of this evaluation shall be determined by the BLM in consultation with the CPUC and the appropriate State Historic Preservation Officer (SHPO) and shall be based on final project engineering specifications. Evaluations will be based on surface remains, subsurface testing, archival and ethnographic resources, and in the framework of the historic context and important research questions of the project area. Results of those evaluation studies and recommendations for mitigation of project effects shall be incorporated into a Historic Properties Treatment Plan consistent with Mitigation Measure C-1c (Develop and implement Historic Properties Treatment Plan).

All potentially NRHP-eligible resources (as determined by the BLM and CPUC) that will not be affected by direct impacts, but are within 50 feet of direct impact areas will be designated as Environmentally Sensitive Areas (ESAs). Protective fencing, or other markers, at the BLM's discretion, shall be erected and maintained to protect ESAs from inadvertent trespass for the duration of construction in the vicinity. Construction personnel and equipment shall be instructed on how to avoid ESAs. ESAs shall not be identified specifically as cultural resources. A monitoring program shall be developed as part of the Historic Properties Treatment Plan and implemented by the Applicant to ensure the effectiveness of ESAs.

C-1c **Develop and implement Historic Properties Treatment Plan.** Upon approval of the inventory report and the National Register of Historic Places (NRHP)-eligibility evaluations by the BLM and CPUC, consistent with Mitigation Measures C-1a (Inventory and evaluate cultural resources in Final APE) and C-1b (Avoid and protect potentially significant resources), the Applicant shall prepare and submit for approval a Historic Properties Treatment Plan (HPTP) for NRHP-eligible cultural resources to mitigate or avoid identified impacts. Treatment of cultural resources shall follow the procedures established by the Advisory Council on Historic Preservation for compliance with Section 106 of the National Historic Preservation Act and other appropriate State and local regulations. Avoidance, recordation, and data recovery will be used as mitigation alternatives. The HPTP shall be submitted to the BLM and CPUC for review and approval.

As part of the HPTP, the Applicant shall prepare a research design and a scope of work for evaluation of cultural resources and for data recovery or additional treatment of NRHP-eligible sites that cannot be avoided. Data recovery on most resources will consist of sample excavation and/or surface artifact collection, and site documentation. A possible exception will be a site where burials, cremations, or sacred features are discovered that cannot be avoided.

The HPTP shall define and map all known NRHP-eligible properties in or within 50 feet of all project APEs and shall identify the cultural values that contribute to their NRHP-eligibility. A cultural resources protection plan shall be included that details how NRHP-eligible properties will be avoided

and protected during construction. Measures shall include, at a minimum, designation and marking of Environmentally Sensitive Areas (ESAs), archaeological monitoring, personnel training, and effectiveness reporting. The plan shall detail: what measures will be used; how, when, and where they will be implemented; and how protective measures and enforcement will be coordinated with construction personnel.

The HPTP shall also define any additional areas that are considered to be of high-sensitivity for discovery of buried NRHP-eligible cultural resources, including burials, cremations, or sacred features. The HPTP shall detail provisions for monitoring construction in these high-sensitivity areas. It shall also detail procedures for halting construction, making appropriate notifications to agencies, officials, and Native Americans, and assessing NRHP-eligibility in the event that unknown cultural resources are discovered during construction. For all unanticipated cultural resource discoveries, the HPTP shall detail the methods, the consultation procedures, and the timelines for assessing NRHP-eligibility, formulating a mitigation plan, and implementing treatment. Mitigation and treatment plans for unanticipated discoveries shall be approved by the BLM and CPUC, appropriate local governments, appropriate Native Americans, and the appropriate State Historic Preservation Officer prior to implementation.

The HPTP shall include provisions for analysis of data in a regional context, reporting of results within one year of completion of field studies, curation of artifacts (except from private land) and data (maps, field notes, archival materials, recordings, reports, photographs, and analysts' data) at a facility that is approved by BLM, and dissemination of reports to local and State repositories, libraries, and interested professionals. The BLM will retain ownership of artifacts collected from BLM managed lands. The Applicant shall attempt to gain permission for artifacts from privately held land to be curated with the other project collections. The HPTP shall specify that archaeologists and other discipline specialists conducting the studies meet the Secretary of the Interior's Standards (per 36 CFR 61).

C-1d **Conduct data recovery to reduce adverse effects.** If National Register of Historic Places (NRHP)-eligible resources, as determined by the BLM and SHPO, cannot be protected from direct impacts of the Project, data-recovery investigations shall be conducted by the Applicant to reduce adverse effects to the characteristics of each property that contribute to its NRHP-eligibility. For sites eligible under Criterion d, significant data will be recovered through excavation and analysis. For properties eligible under Criteria a, b, or c, data recovery may include historical documentation, photography, collection of oral histories, architectural or engineering documentation, preparation of a scholarly work, or some form of public awareness or interpretation. Data gathered during the evaluation phase studies and the research design element of the Historic Properties Treatment Plan (HPTP) shall guide plans and data thresholds for data recovery; treatment will be based on the resource's research potential beyond that realized during resource recordation and evaluation studies. If data recovery is necessary, sampling for data-recovery excavations will follow standard statistical sampling methods, but sampling will be confined, as much as possible, to the direct impact area. Data-recovery methods, sample sizes, and procedures shall be detailed in the HPTP consistent with Mitigation Measure C-1c (Develop and implement Historic Properties Treatment Plan) and implemented by the Applicant only after approval by the BLM and CPUC. Following any field investigations required for data recovery, the Applicant shall document the field studies and findings, including an assessment of whether adequate data were recovered to reduce adverse project effects, in a brief field closure report. The field closure report shall be submitted to the BLM and CPUC for their review and approval, as well as to appropriate State repositories and local

governments. Construction work within 100 feet of cultural resources that require data-recovery fieldwork shall not begin until authorized by the BLM or CPUC, as appropriate.

C-1e **Monitor construction.** The Applicant shall implement archaeological monitoring by a professional archaeologist during subsurface construction disturbance at all locations identified in the Historic Properties Treatment Plan (HPTP). Full-time monitoring shall occur when ground-disturbing activities take place at all archaeological High-Sensitivity Areas described above and at all cultural resource Environmentally Sensitive Areas (ESAs). These locations and their protection boundaries shall be defined and mapped in the HPTP. Intermittent monitoring may occur in areas of moderate archaeological sensitivity at the discretion of the BLM and CPUC. Archaeological monitoring shall be conducted by a qualified archaeologist familiar with the types of historical and prehistoric resources that could be encountered within the project, and under direct supervision of a principal archaeologist. The qualifications of the principal archaeologist and archaeological monitors shall be approved by the BLM and CPUC. A Native American monitor may be required at culturally sensitive locations specified by the BLM following government-to-government consultation with Native American tribes. The monitoring plan in the HPTP shall indicate the locations where Native American monitors will be required and shall specify the tribal affiliation of the required Native American monitor for each location. The Applicant shall retain and schedule any required Native American monitors.

Compliance with and effectiveness of the cultural resources monitoring plan shall be documented by the Applicant in a monthly report to be submitted to the BLM and CPUC, and, on San Bernardino National Forest, to the USFS, and on Agua Caliente land to the THPO, for the duration of project construction. In the event that cultural resources are not properly protected by ESAs, all project work in the immediate vicinity shall be diverted by the archaeological monitor until authorization to resume work has been granted by the BLM and CPUC. The Applicant shall notify the BLM of any damage to cultural resource ESAs. The Applicant shall consult with the BLM and CPUC to mitigate damages and to increase effectiveness of ESAs. At the discretion of the BLM and CPUC, such mitigation may include, but not be limited to modification of protective measures, refinement of monitoring protocols, data-recovery investigations, or payment of compensatory damages in the form of non-destructive cultural resources studies or protection.

C-1f **Train construction personnel.** All construction personnel shall be trained regarding the recognition of possible buried cultural remains and protection of all cultural resources, including prehistoric and historic resources during construction, prior to the initiation of construction or ground-disturbing activities. The Applicant shall complete training for all construction personnel. Training shall inform all construction personnel of the procedures to be followed upon the discovery of archaeological materials, including Native American burials. Training shall inform all construction personnel that Environmentally Sensitive Areas (ESAs) must be avoided and that travel and construction activity must be confined to designated roads and areas. All personnel shall be instructed that unauthorized collection or disturbance of artifacts or other cultural materials on or off the right-of-way by the Applicant, his representatives, or employees will not be allowed. Violators will be subject to prosecution under the appropriate State and federal laws and violations will be grounds for removal from the project. Unauthorized resource collection or disturbance may constitute grounds for the issuance of a stop work order. The following issues shall be addressed in training or in preparation for construction:

- All construction contracts shall include clauses that require construction personnel to attend training so they are aware of the potential for inadvertently exposing buried archaeological deposits, their responsibility to avoid and protect all cultural resources, and the penalties for collection, vandalism, or inadvertent destruction of cultural resources.
- The Applicant shall provide a background briefing for supervisory construction personnel describing the potential for exposing cultural resources, the location of any potential ESA, and procedures and notifications required in the event of discoveries by project personnel or archaeological monitors. Supervisors shall also be briefed on the consequences of intentional or inadvertent damage to cultural resources. Supervisory personnel shall enforce restrictions on collection or disturbance of artifacts or other cultural resources.
- Upon discovery of potential buried cultural materials by archaeologists or construction personnel, or damage to an ESA, work in the immediate area of the find shall be diverted and the Applicant's archaeologist notified. Once the find has been inspected and a preliminary assessment made, the Applicant's archaeologist will consult with the BLM or CPUC, as appropriate, to make the necessary plans for evaluation and treatment of the find(s) or mitigation of adverse effects to ESAs.

C-1g **Minimize impacts at Harquahala Peak**. SCE shall consult with BLM's Phoenix Area Office to define and implement the most effective actions to reduce impacts of the proposed telecommunications tower at Harquahala Peak on cultural, visual, and recreational resources. Options for consideration shall include the following:

- SCE shall work with BLM to evaluate and analyze different locations for the communications facility, and shall document each site as to its adequacy for SCE's needs. If a different site (or sites) appears to be feasible and acceptable to BLM, SCE shall complete biological and cultural resources surveys and provide reports to BLM.
- SCE shall design and finish the tower for the proposed new facility to emulate the existing facilities. In addition, the location of the proposed new tower shall be relocated to the place determined by BLM to minimize effects on the interpretive site.
- SCE shall provide visitor facilities or enhanced historic interpretive information in order to better convey to the public the scientific contributions that the Observatory has made to history, and which make it worthy of NRHP listing under Criterion a.
- SCE shall consult with CAP and BLM to develop a co-located communications facility requiring only one tower to serve both parties.
- Based on consultation with BLM, SCE shall relocate the laydown area to a site that minimizes effects on visitors to Harquahala Peak.

After consultation with BLM on the options defined above, SCE shall submit a revised description of the Harquahala Peak facilities and laydown area along with detailed construction plans for review and approval by BLM's Phoenix Area Office at least 60 days prior to the start of construction.

Rationale for Finding. Direct impacts may be avoided through minor design modifications and Project effects will be reduced to a less than significant level by the avoidance and protection activities listed in the mitigation measures above; this is the preferred treatment for all cultural resources. Once final design is

completed and APE locations have been determined, additional surveys and evaluations must occur as discussed in Mitigation Measure C-1a (Inventory and evaluate cultural resources in Final APE). Using cultural resource studies conducted for this project, as well as past studies, known locations of cultural resources recommended as NRHP-eligible have been determined and should attempt to be avoided by project redesign and engineering modifications as described in Mitigation Measure C-1b (Avoid and protect potentially significant resources). If cultural resources are identified through additional surveys or construction activities, then Mitigation Measures C-1c (Develop and implement Historic Properties Treatment Plan), C-1d (Conduct data recovery to reduce adverse effects), C-1e (Monitor construction), and C-1f (Train construction personnel), are required to be implemented by the SCE to ensure discovery, evaluation, and treatment of unknown buried prehistoric and historical archaeological sites.

Reference. Section D.7 (Cultural Resources) of the EIR/EIS provides a complete assessment of the construction-related impacts of the Project on cultural resources.

Impact C-3: Construction of the project could cause an adverse change to Traditional Cultural Properties (TCP)

As discussed in Section D.7 of the EIR/EIS, any ground-disturbing activity, including tower pad preparation and construction, grading of new access or spur roads, reconductoring activity, tower removal, transportation, storage, and maintenance of construction equipment and supplies, staging area and material yard preparation and use, and use or improvement of existing access roads has the potential to disturb known cultural resources such as TCPs. Impacts could also result from inadvertent trespass out of designated work areas or roads. To date, no TCPs have been identified for the Project. However, there is the possibility of encountering unknown TCPs. Therefore, TCPs will be significantly impacted by the Project if not mitigated to a less than significant level.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact C-3. Specifically, Mitigation Measure C-1c identified above and Mitigation Measure C-3a included below will reduce Impact C-3 to a less than significant level.

C-3a **Complete consultation with Native American and other Traditional Groups.** The Applicant shall provide assistance to the BLM, as requested by the BLM, to complete required government-to-government consultation with interested Native American tribes and individuals (Executive Memorandum of April 29, 1994 and Section 106 of the National Historic Preservation Act) and other Traditional Groups to assess the impact of the Project on Traditional Cultural Properties or other resources of Native American concern. As directed by the BLM, the Applicant shall undertake required treatments, studies, or other actions that result from such consultation. Written documentation of the completion of all pre-construction actions shall be submitted by the Applicant and approved by the BLM at least 30 days before commencement of construction activities. Actions that are required during or after construction shall be defined, detailed, and scheduled in the Historic Properties Treatment Plan and implemented by the Applicant, consistent with Mitigation Measure C-1c (Develop and implement Historic Properties Treatment Plan).

Rationale for Finding. The BLM, as the Federal Lead Agency under NEPA has only recently initiated required government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. Mitigation Measure C-3a ensures

that consultation with Native American and other Traditional Groups are conducted and completed, and that if TCPs or other Native American resources of concern are discovered a Historic Properties Treatment Plan is required to be prepared and implemented.

Reference. Section D.7 (Cultural Resources) of the EIR/EIS provides a complete assessment of the Project impacts on traditional cultural properties.

Impact C-4: Construction of the project could destroy or disturb significant paleontological resources

As shown in Table D.7-7 of Section D.7 (Cultural and Paleontological Resources), paleontological resources within the Project corridor vary in sensitivity from low to high. Paleontologically sensitive resources could be impacted by Project construction. In addition, there is potential to encounter undiscovered paleontological resources during Project construction.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact C-4. These measures are identified as C-4a, C-4b, C-4c, C-4d, and C-4e (included below) will reduce Impact C-4 to less than significant.

C-4a **Inventory paleontological resources in Final APE.** Prior to construction and all other surface-disturbing activities, the Applicant shall have conducted and submitted for approval an inventory of potentially significant paleontological resources, based on field inspection of areas of high or undetermined paleontological sensitivity that will be affected by the project as determined by the BLM and CPUC. As part of the inventory report, the Applicant shall evaluate and refine the paleontological sensitivity modeling of sediments that will be affected.

C-4b **Develop Paleontological Monitoring and Treatment Plan.** The Applicant shall, upon approval of the paleontological inventory report by the BLM and CPUC, prepare and submit for approval a plan to mitigate identified impacts. The Paleontological Monitoring and Treatment Plan shall identify construction impact areas of high sensitivity for encountering significant resources and the depths at which those resources are likely to be discovered. The Plan shall outline a coordination strategy to ensure that all construction disturbance in high sensitivity sediments will be monitored full-time by qualified professionals. Sediments of undetermined sensitivity will be spot-checked. The Plan shall detail the significance criteria to be used to determine which resources will be avoided or recovered for their data potential. The Plan shall also detail methods of recovery, post-excavation preparation and analysis of specimens, final curation of specimens at a federally recognized, accredited facility, data analysis, and reporting. The Plan shall specify that all paleontological work undertaken by the Applicant on public land shall be carried out by qualified professionals on a currently valid Paleontological Collecting Permit for the appropriate State. Notices to proceed will be issued by the BLM and CPUC following approval of the Paleontological Monitoring and Treatment Plan.

C-4c **Monitor construction for paleontology.** Based on the paleontological sensitivity assessment and Monitoring and Treatment Plan consistent with Mitigation Measure C-4b (Develop Paleontological Monitoring and Treatment Plan), the Applicant shall conduct full-time construction monitoring in areas where and when sediments of high paleontological sensitivity will be disturbed. Construction activities shall be diverted when data recovery of significant fossils is warranted.

C-4d **Conduct paleontological data recovery.** If avoidance of significant paleontological resources is not feasible or appropriate, treatment (including recovery, specimen preparation, data analysis, curation, and reporting) shall be carried out by the Applicant, in accordance with the approved Treatment Plan per Mitigation Measure C-4b (Develop Paleontological Monitoring and Treatment Plan).

C-4e **Train construction personnel.** All construction personnel shall be trained regarding the recognition of possible buried paleontological resources and protection of all paleontological resources during construction, prior to the initiation of construction or ground-disturbing activities. The Applicant shall complete training for all construction personnel. Training shall inform all construction personnel of the procedures to be followed upon the discovery of paleontological materials. Training shall inform all construction personnel that Environmentally Sensitive Areas (ESAs) must be avoided and that travel and construction activity must be confined to designated roads and areas. All personnel shall be instructed that unauthorized collection or disturbance of federally protected fossils on or off the right-of-way by the Applicant, his representatives, or employees will not be allowed. Violators will be subject to prosecution under the appropriate State and federal laws and will be grounds for removal from the project. Unauthorized resource collection or disturbance may constitute grounds for the issuance of a stop work order. The following issues shall be addressed in training or in preparation for construction:

- All construction contracts shall include clauses that require construction personnel to attend training so they are aware of the potential for inadvertently exposing buried paleontological deposits, their responsibility to avoid and protect all such resources, and the penalties for collection, vandalism, or inadvertent destruction of paleontological resources.
- The Applicant shall provide a background briefing for supervisory construction personnel describing the potential for exposing paleontological resources, the location of any potential ESA, and procedures and notifications required in the event of discoveries by project personnel or paleontological monitors. Supervisory personnel shall enforce restrictions on collection or disturbance of fossils.
- Upon discovery of potential buried paleontological materials by paleontologists or construction personnel, work in the immediate area of the find shall be diverted and the Applicant's paleontologist notified. Once the find has been inspected and a preliminary assessment made, the Applicant's paleontologist will notify the BLM and CPUC and proceed with data recovery in accordance with the approved Treatment Plan consistent with Mitigation Measure C-4b (Develop Paleontological Monitoring and Treatment Plan).

Rationale for Finding. The mitigation measures require inventory of paleontological resources once a final APE has been established to ensure that paleontological resources are avoided to the greatest extent feasible. However, additional measures allow provisions for the discovery and treatment of significant fossil remains in the event that they are encountered during construction, and will reduce project effects to paleontological resources.

Reference. Section D.7 (Cultural Paleontological Resources) of the EIR/EIS provides a complete assessment of Project impacts on paleontological resources.

Impact C-5: Operation and long-term presence of the project could cause an adverse change to known historic properties

Direct and indirect impacts may occur to historic properties within and in the vicinity of the project area during operation and long-term presence of the Project from Impact C-5. Direct impacts could result from maintenance or repair activities, while increased erosion could result as an indirect project impact.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which miti-ate significant effects on the environment. Impacts are significant, but can be mitigated to a level that is less than significant by implementing site protection measures and monitoring procedures, as detailed in Mitigation Measure C-2 a and C-5a below, in addition to C-3a, above.

C-2a **Consult agencies and Native Americans.** If human remains are discovered during construction, all work will be diverted from the area of the discovery and the BLM authorized officer will be informed immediately. The Applicant shall follow all State and federal laws, statutes, and regulations that govern the treatment of human remains. The Applicant shall assist and support the BLM in all required government-to-government consultations with Native Americans and appropriate agencies and commissions, as requested by the BLM. The Applicant shall comply with and implement all required actions and studies that result from such consultations, as directed by the BLM.

C-5a **Protect and monitor NRHP-eligible properties.** The Applicant shall design and implement a long-term plan to protect National Register of Historic Places (NRHP)-eligible sites from direct impacts of project operation and maintenance and from indirect impacts, such as erosion that result from the presence of the project. The plan shall be developed in consultation with the BLM to design measures that will be effective against project maintenance impacts and project-related vehicular impacts. The plan shall also include protective measures for NRHP-eligible properties within the DPV corridor that will experience operational and access impacts as a result of the Proposed Project. The proposed measures may include restrictive fencing or gates, permanent access road closures, signage, stabilization of erosion, site capping, site patrols, and interpretive/ educational programs, or other measures that will be effective for protecting NRHP-eligible properties. The plan shall be property specific and shall include provisions for monitoring and reporting its effectiveness and for addressing inadequacies or failures that result in damage to NRHP-eligible properties. The plan shall be submitted to the BLM and CPUC for review and approval at least 30 days prior to project operation.

Monitoring of selected sites shall be conducted annually by a professional archaeologist for a period of five years. Monitoring shall include inspection of all site loci and defined surface features, documented by photographs from fixed photomonitoring stations and written observations. A monitoring report shall be submitted to the BLM and CPUC within one month following the annual resource monitoring. The report shall indicate any properties that have been impacted by erosion or vehicle or maintenance impacts. For properties that have been impacted, the Applicant shall provide recommendations for mitigating impacts and for improving protective measures. After the fifth year of resource monitoring, the BLM or CPUC, as appropriate, will evaluate the effectiveness of the protective measures and the monitoring program. Based on that evaluation, the BLM or CPUC may require that the Applicant revise or refine the protective measures, or alter the monitoring protocol or schedule. If the BLM does not authorize alteration of the monitoring protocol or schedule, those shall remain in effect for the duration of project operation.

If the annual monitoring program identifies adverse effects to National Register of Historic Places (NRHP)–eligible properties from operation or long-term presence of the project, or if, at any time, the Applicant, BLM or CPUC become aware of such adverse effects, the Applicant shall notify the BLM and CPUC immediately and implement mitigation for adverse changes, as directed by the BLM and CPUC. At the discretion of the BLM and CPUC, such mitigation may include, but not be limited to modification of protective measures, refinement of monitoring protocols, data-recovery investigations, or payment of compensatory damages in the form of non-destructive cultural resources studies or protection.

Rationale for Finding. Consultation with Native American groups requires SCE to ensure discovery, evaluation, and treatment of unknown buried prehistoric and historical archaeological sites and buried Native American human remains. By requiring SCE to protect and monitor NRHP-eligible properties, ensures that the CPUC and BLM have the option of modifying protective measures during Project operation, refining the monitoring protocols, requiring data-recovery investigations, or requiring the payment of compensatory damages in the form of non-destructive cultural resources studies or protection.

Reference. Section D.7 (Cultural and Paleontological Resources) of the EIR/EIS provides a complete assessment of the operational impacts of the Project on cultural resources.

Cumulative construction project activities could impact unknown cultural and paleontological resources

As described in Table F-1 of Section F (Cumulative Scenario and Impacts) of the EIR/EIS, there are approximately 85 projects in the planning or construction phases within a 5-mile-wide corridor surrounding the Project that have the potential to adversely affect cultural and paleontological resources. However, no cultural resource sites are known to exist within the geographic scope for cumulative analysis. Typically, cultural and paleontological resources are identified as part of the permitting process for individual undertakings, and often are discovered only during ground disturbing activities. Applicable laws and regulations afford specific protections to discovered resources. Unknown, unrecorded cultural or paleontological resources may be found at nearly any development site. Therefore, there is a potential for significant cumulative impacts. APMs C-1 through C-11, P-1, B-3, B-17, W-1, W-3, W-9, G-10, G-11, and L-3 have been incorporated into the Project to reduce Project effects on cultural and paleontological resources.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant cumulative effects of the Project. With implementation of Mitigation Measures C-1a through C-1g, C-2a, C-3a, C-4a through C-4e, and C-5a, cumulative effects on cultural and paleontological resources will be reduced to a less than significant level.

Rationale for Finding. As they are discovered, cultural sites are recorded and information retrieved. If the nature of the resource requires it, the resource is protected. When discovered, cultural and paleontological resources are treated in accordance with applicable federal and State laws and regulations as well as the mitigation measures and permit requirements applicable to a project. Should resources be discovered they will be subject to legal requirements designed to protect them.

Reference. Section F (Cumulative Scenario and Impacts) of the EIR/EIS provides a complete assessment of the cumulative impacts of the Project on cultural and paleontological resources.

V.2.7 Noise

To gather information regarding the noise effects of the Project, applicable noise regulations were collected for each affected jurisdiction. In addition, field surveys were done to identify noise-sensitive receptors along the Project route. Noise-sensitive land uses are defined as land uses that are susceptible to noise disturbances resulting from either construction or operation of the Project. In general, residential, educational institutions, recreational facilities, and public facilities (e.g., religious facilities, health care facilities) are considered to be noise-sensitive receptors uses for purposes of the EIR/EIS. Sensitive receptors identified in the analysis include those that are located immediately adjacent to the Project route that will be affected by construction and operation activities. For the purposes of the analysis in the EIR/EIS and based on NEPA and CEQA requirements, noise impacts are those that exceed local noise regulations for construction noise and any area where operational noise would increase ambient noise conditions more than 3 dBA to a sensitive receptor.

Impact N-1: Construction noise could substantially disturb sensitive receptors or violate local rules, standards, and/or ordinances

As discussed in Section D.8 (Noise) of the EIR/EIS, noise generated by both on-site and mobile construction activities along the entire Project route will temporarily disrupt existing receptors. The construction of the Project will bring traffic and construction noise from heavy construction equipment on temporary and permanent access roads, moving building materials to the tower sites and returning to construction staging areas. This noise will have the potential to impact residences, recreational land uses (parks, wilderness areas), public facilities (schools, memorial parks), and retail and commercial businesses.

Finding. The CPUC finds that Best Management Practices utilized during construction and incorporated into the Project will mitigate significant noise effects on the environment from Impact N-1 to a less than significant level. This measure is identified as N-1a below.

N-1a **Implement best management practices for construction noise.** SCE shall employ the following noise-suppression techniques to minimize the impact of temporary construction noise and avoid possible violations of local rules, standards, and ordinances:

- Construction noise shall be confined to daytime, weekday hours (e.g., 7:00 a.m. to 6:00 p.m.) or an alternative schedule established by the local jurisdiction;
- Construction equipment shall use noise reduction features (e.g., mufflers and engine shrouds) that are no less effective than those originally installed by the manufacturer;
- Construction traffic shall be routed away from residences and schools, where feasible;
- Unnecessary construction vehicle use and idling time shall be minimized to the extent feasible. The ability to limit construction vehicle idling time is dependent upon the sequence of construction activities and when and where vehicles are needed or staged. A "common sense" approach to vehicle use shall be applied; if a vehicle is not required for use immediately or continuously for construction activities, its engine should be shut off. (Note: certain equipment, such as large diesel-powered vehicles, require extended idling for warm-up and repetitive construction tasks.)

Rationale for Finding. Most construction impacts will be addressed by limiting construction hours consistent with local jurisdiction noise ordinances, the use of muffling devices on construction equipment (where applicable), construction vehicle routes avoiding sensitive noise receptors (where feasible), and con-

struction vehicles shutting off engine power to avoid long idling times near receptors. As construction activities are considered short-term and temporary in nature, by instigating the measures outlined in N-1a, construction noise impacts will be reduced.

Reference. Section D.8 (Noise) provides a complete assessment of the construction noise impacts of the Project.

Cumulative construction noise could result in a temporary or permanent increase in ambient noise levels or violate local noise rules, standards, and/or ordinances

As discussed in Section F of the EIR/EIS, there is the possibility that a variety of projects will occur at the same time as project construction. Some will occur within one-quarter mile of project-related construction activities. In the areas where project construction may occur simultaneously with other development, the combined effects of noise generated by the Project and other development will impact sensitive receptors cumulatively.

Finding. The CPUC finds that Best Management Practices utilized during construction and incorporated into the Project will mitigate cumulative noise effects on the environment from to a less than significant level. This measures is identified as N-1a above under the discussion for Impact N-1.

Rationale for Finding. Project specific noise impacts will be addressed by limiting construction hours consistent with local jurisdiction noise ordinances, the use of muffling devices on construction equipment (where applicable), construction vehicle routes avoiding sensitive noise receptors (where feasible), and construction vehicles shutting off engine power to avoid long idling times near receptors. Mitigation Measure N-1a will limit the noise impacts of the Project, and the limited likelihood of project noise impacts occurring simultaneously with other construction will ensure that project construction noise is not cumulatively considerable and less than significant.

Reference. Section F (Cumulative Scenario and Impacts) provides a complete assessment of the cumulative construction noise impacts of the Project.

V.2.8 Transportation and Traffic

To gather information regarding the traffic and transportation effects of the Project, applicable traffic regulations were collected for each affected jurisdiction, including those identified in jurisdictional General Plans and those outlined by the applicable Department of Transportations. In addition, data for the transportation network were collected and analyzed from the following sources: highway maps; route alignment maps obtained from SCE; and other maps from various reports and websites from the affected State and local agencies. Traffic volume data were obtained from agency websites and reports. Lane information was obtained from aerial photographs and field reconnaissance. A complete list of these sources is available in Section D.9, Transportation & Traffic, of the EIR/EIS.

For the purposes of the analysis in the EIR/EIS and based on NEPA and CEQA requirements, transmission line project impacts to the ground transportation system (roads and railroads) during construction could occur during installation of towers and the stringing of conductors, as these activities would interface with the public roadway system at numerous locations along the Project route. In addition, aviation impacts could occur should a project structure, crane, or wires be positioned such that it could adversely affect aviation activities.

Impact T-7: Construction vehicles and equipment will potentially cause physical damage to roads in the project area

As discussed in Section D.9 (Transportation and Traffic) of the EIR/EIS, the use of heavy trucks and other equipment used during construction activities for the project could potentially cause physical damage and/or deterioration of the surface on the roadways that will provide access to the Project alignment.

Finding. The CPUC finds that repairing any damaged roadways or roadway features as a result of construction activities will mitigate significant traffic impacts related to physical roadway damage to the environment from Impact T-7 to a less than significant level. This activity is incorporated into the Project as Mitigation Measure T-7a below.

T-7a **Repair roadways damaged by construction activities.** If roadways, sidewalks, medians, curbs, shoulders, or other such features are damaged by the project's construction activities, as determined by the CPUC Environmental Monitor or the affected public agency, SCE shall coordinate repairs with the affected public agencies and ensure that any such damage is repaired to the pre-construction condition within 60 days from the end of all construction within each affected county.

Rationale for Finding. Most construction activities will be localized at the point of construction, however, construction vehicle use could damage existing roadways and roadway facilities, including sidewalks. During construction, CPUC Environmental Monitors will be located on-site and will report any damage to SCE requiring repair. In addition, local jurisdictions and public agencies can report any damage caused by construction-related use to SCE requiring repair. As construction activities are considered short-term and temporary in nature, by implementing the measures outlined in T-7a, construction impacts related to physical damage to roadways and facilities will be reduced to a less than significant level.

Reference. Section D.9 (Transportation and Traffic) provides a complete assessment of Project construction traffic impacts.

V.2.9 Public Health and Safety

The Public Health and Safety section of the EIR/EIS analyzed the effects of the Project for two issues. First, Sections D.10.6 through D.10.10 examined the potential for environmental contamination and hazardous materials as a result of the Project in Impacts P-1 through P-4. To evaluate the effects of environmental contamination and hazardous materials, the CPUC and BLM examined the existing and past land uses traversed by the project and reviewed environmental databases listing known active hazardous waste sites. Cumulative impacts were found to be the same as the Project impacts and will be reduced to be less than significant through the implementation of mitigation. Second, while not considering electric and magnetic fields in the context of CEQA and NEPA, Sections D.10.11 through D.10.12 provide information about electric and magnetic fields and other electrical field issues in Impacts PS-1 through PS-6. The examination of electric and magnetic fields and other electrical field issues was based on magnetic field computer modeling results for the length of the Project.

Impact P-1: Soil contamination could result from improper handling and/or storage of hazardous materials during construction activities

As discussed in Section D.10 of the EIR/EIS, hazardous materials such as vehicle fuels, oils, and other vehicle maintenance fluids will be used and stored in staging yards during construction. There is potential

for incidents involving release of gasoline, diesel fuel, oil, hydraulic fluid, and lubricants from vehicles or other equipment or the release of solvents, adhesives, or cleaning chemicals from construction activities. Spills and leaks of hazardous materials during construction activities could result in soil contamination.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact P-1. These measures are identified as P-1a, P-1b, P-1c, and P-1d, and are included below.

P-1a **Develop Hazardous Substance Control and Emergency Response Plan.** A Hazardous Substance Control and Emergency Response Plan shall be prepared for the project, and a copy shall be kept on site (or in vehicles) during construction and maintenance of the project. SCE shall document compliance by submitting the plan to the CPUC or BLM or USFWS, as appropriate, for review and approval at least 60 days before the start of construction.

P-1b **Conduct environmental training and monitoring program.** An environmental training program shall be established to communicate environmental concerns and appropriate work practices, including spill prevention, emergency response measures, and proper Best Management Practice (BMP) implementation, to all field personnel prior to the start of construction. The training program shall emphasize site-specific physical conditions to improve hazard prevention (e.g., identification of potentially hazardous substances) and shall include a review of all site-specific plans, including but not limited to, the project's Storm Water Pollution Prevention Plan and the Hazardous Substances Control and Emergency Response Plan. SCE shall document compliance by (a) submitting to the CPUC or BLM or USFWS, as appropriate, for review and approval an outline of the proposed Environmental Training and Monitoring Program, and (b) maintaining for monitor review a list of names of all construction personnel who have completed the training program.

Best Management Practices, as identified in the project Storm Water Pollution Prevention Plan and the Hazardous Substances Control and Emergency Response Plan, shall be implemented during the construction of the project to minimize the risk of an accidental release and provide the necessary information for emergency response.

P-1c **Ensure proper disposal of construction waste.** All non-hazardous construction and demolition waste, including trash and litter, garbage, and other solid waste shall be disposed of properly. Petroleum products and other potentially hazardous materials shall be removed to a hazardous waste facility permitted or otherwise authorized to treat, store, or dispose of such materials.

P-1d **Maintain emergency spill supplies and equipment**. Hazardous material spill kits shall be maintained at all construction sites for small spills. This shall include oil-absorbent material, tarps, and storage drums to be used to contain and control any minor releases. Emergency spill supplies and equipment shall be kept adjacent to all work areas and staging areas, and shall be clearly marked. Detailed information for responding to accidental spills and for handling any resulting hazardous materials shall be provided in the project's Hazardous Substances Control and Emergency Response Plan.

Rationale for Finding. While SCE's Application indicated that they will prepare a Hazardous Substance Control and Emergency Response Plan to reduce impacts to soil contamination, Mitigation Measures P-1a, P-1b, P-1c, and P-1d formalize the preparation of this plan and specify procedures that will reduce the

potential for soil contamination. Additionally, the environmental training and monitoring program described in Mitigation Measure P-1b ensures that all field personnel are aware and trained in the implementation of these procedures. Consequently, if a spill or leak of hazardous materials were to occur, personnel will be able to respond in a manner that will limit soil contamination.

Reference. Section D.10 (Public Health and Safety) of the EIR/EIS provides a complete assessment of the soil contamination impacts of the Project during construction.

Impact P-2: Residual pesticides and/or herbicides could be encountered during grading or excavation in agricultural areas

The presence of residual pesticide and herbicide contamination of the soil and/or groundwater in the agricultural areas along the route represents a potentially significant impact due to the potential health hazards associated with exposure of construction workers and the public to contaminated soil.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact P-2. This measure identified as P-2a is included below.

P-2a **Identify pesticide/herbicide contamination.** Soil samples shall be collected in construction areas where the land has historically or is currently being farmed to identify the possibility of and to delineate the extent of pesticide and/or herbicide contamination. Excavated materials containing elevated levels of pesticide or herbicide will require special handling and disposal procedures. Standard dust suppression procedures (as defined in Mitigation Measure AQ 1a) shall be used in construction areas to reduce airborne emissions of these contaminants and reduce the risk of exposure to workers and the public. Regulatory agencies for the states of Arizona or California (as appropriate) and the appropriate county shall be contacted to provide oversight regarding the handling, treatment, and/or disposal options.

Rationale for Finding. Although SCE identified APMs W-3 and W-11 to incorporate erosion control and hazardous material plans in the construction bidding specifications for the Project, the identification of pesticide and herbicide contamination as required in Mitigation Measure P-2a details procedures that will reduce the impacts of pesticides and/or herbicides on workers associated with the Project or the general public in the vicinity of the Project. The procedures will ensure the compliance of the Project with the appropriate agencies in Arizona and California.

Reference. Section D.10 (Public Health and Safety) of the EIR/EIS provides a complete assessment of the impacts of the Project on residual pesticides and/or herbicides.

Impact P-3: Encountering unknown preexisting contamination during excavation or grading

Previously unknown soil contamination associated with industrial contamination (e.g., solvents, hydrocarbons, heavy metals, etc.) could be encountered during grading or excavation, particularly at or near the Harquahala Generating Station switchyard.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact P-3. This measure identified as P-3a is included below.

P-3a **Observe exposed soil for evidence of contamination.** During grading or excavation work, the construction contractor shall observe the exposed soil for visual evidence of contamination. If visual contamination indicators are observed during construction, the contractor shall stop work until the material is properly characterized and appropriate measures are taken to protect human health and the environment. The contractor shall comply with all local, State, and federal requirements for sampling and testing, and subsequent removal, transport, and disposal of hazardous materials. Additionally, in the event that evidence of contamination is observed, the contractor shall document the exact location of the contamination and shall immediately notify the CPUC or BLM, describing proposed actions. A weekly report listing encounters with contaminated soils and describing actions taken shall be submitted to the CPUC or BLM.

Rationale for Finding. As described above for the identification of pesticides and/or herbicides, requiring SCE to evaluate exposed soils for evidence of contamination will ensure that measures are implemented to protect the health of workers associated with the Project along with the public in the vicinity of construction activities. The submittal of weekly reports to the CPUC and BLM will also ensure the compliance of activities with local, State, and federal requirements.

Reference. Section D.10 (Public Health and Safety) of the EIR/EIS provides a complete assessment of the impacts of the Project on preexisting contamination.

Impact P-4: Soil contamination from accidental spill or release of hazardous materials during project operations and maintenance

Soil contamination could result from accidental spills or releases of hazardous materials at the Harquahala Junction Switchyard and/or the series capacitor bank during facility operations. This could potentially result in exposure of facility and maintenance workers and the public to hazardous materials.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact P-4. This measure identified as P-4a is included below.

P-4a **Prepare Spill Prevention, Countermeasure, and Control Plans.** To minimize, avoid, and/or clean up unforeseen spill of hazardous materials during operation of the proposed facilities, SCE shall update or prepare, if necessary, the Spill Prevention, Countermeasure, and Control plan for each substation, series capacitors, and the switchyard. SCE shall document compliance by providing a copy of the Spill Prevention, Control, and Countermeasures plans to the CPUC or BLM or USFWS, as appropriate, for review and approval at least 60 days before the start of operation.

Rationale for Finding. As described above for Impact P-1, preparation of the Spill Prevention, Countermeasure, and Control Plans formalizes the procedures necessary to limit soil contamination during an accidental spill or release, thereby protecting the health of workers and the general public. Submittal of the plans to the CPUC, BLM, or USFWS, ensures that these agencies know what is required of SCE in case of a spill or release so that they can also prepare accordingly.

Reference. Section D.10 (Public Health and Safety) of the EIR/EIS provides a complete assessment of the soil contamination impacts of the Project while in operation.

Impact PS-1: Radio and Television Interference

Although corona can generate high frequency energy that may interfere with broadcast signals or electronic equipment, this is generally not a problem for transmission lines. Gap discharges or arcs can also be a source of high frequency energy that may interfere with broadcast signals or electronic equipment. Corona or gap discharges related to high frequency radio and television interference impacts are dependent upon several factors including the strength of broadcast signals and are anticipated to be very localized if it occurs.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact PS-1. These measures are identified as PS-1a, PS-1b, and PS-1c and are included below.

PS-1a **Limit the conductor surface electric gradient.** As part of the design and construction process for the Proposed Project, the Applicant shall limit the conductor surface electric gradient in accordance with the IEEE Radio Noise Design Guide

PS-1b **Document and resolve electronic interference complaints.** After energizing the transmission line, SCE shall respond to and document all radio/television/equipment interference complaints received and the responsive action taken. These records shall be made available to the CPUC for review upon request. All unresolved disputes shall be referred by SCE to the CPUC for resolution.

PS-1c **Coordinate with Kofa NWR to prevent radio interference.** Prior to construction, SCE shall coordinate with Kofa National Wildlife Refuge to determine any additional design, planning, or shielding measures that are necessary to prevent radio interference within the Refuge.

Rationale for Finding. By limiting the conductor surface electric gradient as proposed in Mitigation Measure PS-1a, SCE reduces the overall potential for television and radio interference. By recording and responding to complaints about interference, as proscribed in Mitigation Measure PS-1b, SCE can locate and correct individual sources of adverse radio/television interference impacts on the power lines or can shield or correct electronic equipment such as computer monitors can through the use of software. For Kofa NWR, where radio interference from corona or gap discharges could interfere with law enforcement and emergency communications as well as with tracking radio collared animals near the transmission lines, coordination with Kofa NWR will limit radio interference during operation of the Project.

Reference. Section D.10 (Public Health and Safety) of the EIR/EIS provides a complete assessment of the radio and television interference impacts of the Project while in operation.

Impact PS-2: Induced Currents and Shock Hazards in Joint Use Corridors

Induced currents and voltages on conducting objects near the transmission lines represent a potential significant impact that can be mitigated. These impacts do not pose a threat in the environment if the conducting objects are properly grounded.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact PS-2. This measure identified as PS-2a is included below.

PS-2a Implement grounding measures. As part of the siting and construction process for the Proposed Project, SCE shall identify objects (such as fences, metal buildings, and pipelines) within and near the right-of-way that have the potential for induced voltages and shall implement electrical grounding of metallic objects in accordance with SCE's standards. The identification of objects shall document the threshold electric field strength and metallic object size at which grounding becomes necessary.

Rationale for Finding. Mitigation Measure PS-2a requires SCE to implement procedures to identify and properly ground objects near the Project which will prevent shock hazards to workers and the general public in the vicinity of the Project.

Reference. Section D.10 (Public Health and Safety) of the EIR/EIS provides a complete assessment of induced currents and shock hazards associated with the Project while in operation.

V.2.10 Air Quality

As discussed in Section D.11 (Air Quality) of the EIR/EIS, impacts to air quality as a result of Project construction and operation was based on federal, State, and local regulations. Local agencies have regulations for visible emissions, nuisances, and fugitive dust with which all project activities would need to comply, include the Maricopa County Air Quality Department (MCAQMD) and the South Coast Air Quality Management District (SCAQMD). The United States Environmental Protection Agency (U.S. EPA), California Air Resources Board (CARB), and the local air districts classify an area as attainment, unclassified, or nonattainment depending on whether or not the monitored ambient air quality data shows compliance, insufficient data available, or non-compliance with the ambient air quality standards, respectively. Impacts were determined based on activities associated with the Project to generate emissions of air pollutants that would exceed those thresholds identified in Section D.11, Air Quality, of the EIR/EIS. In addition, a land use survey was conducted to identify air quality sensitive receptors (e.g., local residences, schools, hospitals, churches, recreational facilities) in the general vicinity of the Project alignment. Project-generated emissions on these receptors were also analyzed.

Impact AQ-1: Construction will generate dust and exhaust emissions

As discussed in Section D.11 (Air Quality) of the EIR/EIS, dust and exhaust generated during construction will create significant impacts along the entire Project located within air basins managed by the Arizona Department of Environmental Quality (ADEQ). A relatively large construction effort will occur in La Paz County at locations far from paved roads. Daily construction emissions will be potentially significant for PM10 within the ADEQ jurisdiction. The jurisdiction of the ADEQ includes the following project components inside the ADEQ, including all of La Paz County and the following project components:

- Construction of 248 new towers and 75 miles of transmission line
- Construction of a telecommunications facility with an emergency engine on Harquahala Mountain
- Access and spur road construction and repair

In addition, the following Alternative segments will result in construction activities within the ADEQ that will result in potentially significant impacts for PM10 emissions:

- Harquahala Junction Switchyard Alternative
- Desert Southwest Transmission Project Alternative

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact AQ-1a to a less than significant level. Specifically, the following mitigation measures have been incorporated in the Project to address significant air quality emission increases on the environment during construction in the ADEQ jurisdiction:

AQ-1a Develop and Implement a Fugitive Dust Emission Control Plan. SCE shall develop and implement a Fugitive Dust Emission Control Plan (FDECP) for construction work. Measures to be incorporated into the plan include, but are not limited to the APMs (A-1 and A-5 through A-7) and the following, which also incorporate and revise the requirements of APMs A-2 through A-4 to make them definitive and enforceable:

- CARB certified non-toxic soil binders shall be applied to all active unpaved roadways, unpaved staging areas, and unpaved parking area(s) throughout construction (as allowed by responsible agencies such as the BLM or USFWS) in amounts meeting manufacturer's recommendations to meet the CARB certification fugitive dust reduction efficiency of 84 percent.
- Water the disturbed areas of the active construction sites, where CARB certified soil binders have not been applied, at least three times per day.
- Enclose, cover, water three times daily, or apply non-toxic soil binders according to manufacturer's specifications to exposed piles with a 5 percent or greater silt content.
- Install wheel washers/cleaners or wash the wheels of trucks and other heavy equipment where vehicles exit the site or unpaved access roads and sweep paved streets daily with water sweepers if visible soil material from the construction sites or unpaved access roads are carried onto adjacent public streets.
- Establish a vegetative ground cover or allow natural revegetation to occur on temporarily disturbed areas following the completion of construction (in compliance with biological resources impact mitigation measures), or otherwise create stabilized surfaces on all unpaved areas at each of the construction sites within 21 days after active construction operations have ceased.
- Increase the frequency of watering, or implement other additional fugitive dust mitigation measures, to all disturbed fugitive dust emission sources when wind speeds (as instantaneous wind gusts) exceed 25 miles per hour (mph).
- Travel route planning will be completed to identify required travel routes to minimize unpaved road travel to each construction site to the extent feasible.

Rationale for Finding. During construction of the Project within the ADEQ air basins, the maximum daily PM10 emissions will be dominated by the unpaved road dust emissions. As a result, use of CARB certified soil binders on unpaved roads will be necessary to reduce emissions to below the significance criteria of 250 tons per year of PM10. For the potentially significant PM10 emissions within the ADEQ, the use of Mitigation Measure AQ-1a will reduce the construction impact to a less than significant level.

Reference. Section D.11 (Air Quality) provides a complete assessment of the air quality impacts of the Project.

V.2.11 Hydrology and Water Resources

As discussed in Section D.12 (Hydrology and Water Resources), the hydrologic and water resources analysis prepared for the Project was based on data collected from FEMA, U.S. Geologic Survey, State Water Resources Control Board, and the ADEQ, as well as from field visits to the Project route, review of aerial photographs, and review of topographic maps. Surface water crossings were identified using aerial photographs and available topographic maps. Water crossings identified are those that are readily identifiable by these means.

Impact H-2: Degradation of water quality through spill of potentially harmful materials used in construction

Accidental spills or disposal of potentially harmful materials used during construction could occur during refueling or due to equipment damage. Spilled liquids could wash into and pollute surface waters or groundwater resulting in a degradation of water quality.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact H-2 to a less than significant level. These measures are identified as P-1a, P-1b, P-1c, and P-1d, and are included above in Section IV.2.9.

Rationale for Finding. While SCE's APMs W-2 and W-3 were designed in part to reduce the potential for water quality degradation from spills and leaks during construction, Mitigation Measures P-1a, P-1b, P-1c, and P-1d formalize the preparation of a Hazardous Substance Control and Emergency Response Plan and specify procedures that will reduce the potential for soil contamination. Additionally, the environmental training and monitoring program described in Mitigation Measure P-1b ensures that all field personnel are aware and trained in the implementation of these procedures. Consequently, if a spill or leak of harmful materials were to occur, personnel will be able to respond in a manner that will limit degradation of water quality.

Reference. Section D.12 (Hydrology and Water Resources) of the EIR/EIS provides a complete assessment of the potential impacts of Project construction on water quality due to the spill of harmful materials.

Impact H-4: Water quality degradation caused by accidental releases of oil from project facilities

Oil from new electrical equipment at the Harquahala Switchyard and the Arizona series capacitor banks could be released accidentally, contaminating local surface water. Implementation of APM W-3 requires development of hazardous material plans that will minimize the potential for accidental releases to cause water quality degradation.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact H-4 to a less than significant level. This measure identified as P-4a is included above in Section IV.2.9.

Rationale for Finding. As described above for Impact H-2, preparation of the Spill Prevention, Countermeasure, and Control Plans formalizes the procedures necessary to limit soil contamination during an accidental spill or release, thereby protecting the health of workers and the general public. Submittal of the plans to the CPUC, BLM, or USFWS, ensures that these agencies know what is required of SCE in case of a spill or release so that they can also prepare accordingly.

Reference. Section D.12 (Hydrology and Water Resources) of the EIR/EIS provides a complete assessment of the potential impacts of Project operation on water quality due to the spill of harmful materials.

Impact H-6: Encroachment into a floodplain or watercourse by permanent aboveground project features resulting in flooding, flood diversions, or erosion

Encroachment of a project structure into a water flow path could result in erosion damage to the encroaching structure. This impact will likely occur only if transmission line towers or other permanent project features are constructed in or closely adjacent to a watercourse.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact H-6 to a less than significant level. This measure identified as H-6a is included below.

H-6a **Design diversion dikes or other site remediations to avoid damage to adjacent property.** Where diversion dikes are required to protect towers or other project structures from flooding or erosion, these dikes shall be designed to avoid increasing the risk of erosion or flooding onto adjacent areas where life or property could be threatened. Diversion dike designs shall be submitted to the CPUC and BLM for review and approval at least 60 days prior to construction.

Rationale for Finding. SCE's APMs W-4 through W-6 were designed to avoid the adverse local effects related to floodplain encroachment by avoiding watercourses where possible, ensuring foundations are adequate to resist scour, and constructing diversion dikes in severe cases, but they could result in adverse impacts to adjacent property through diversion and concentration of flows. Requiring SCE to submit diversion dike designs to CPUC and BLM will ensure that any floodplain encroachment by project structures will be designed in such manner that adjacent areas are protected from erosion and flooding.

Reference. Section D.12 (Hydrology and Water Resources) of the EIR/EIS provides a complete assessment of the Project's encroachment into floodplains and watercourses.

V.2.12 Geology, Mineral Resources, and Soils

The CPUC and BLM examined the regional topography, geology, seismicity, soils, and mineral resources in the Project area, by collecting baseline geologic information from published and unpublished geologic, seismic, and geotechnical literature. The literature review was supplemented by a field reconnaissance of the routes studied in the EIR/EIS. The literature review and field reconnaissance focused on the identification of specific geologic hazards, mineral resources, and soil conditions.

Impact G-1: Construction could accelerate erosion

Excavation and grading for tower and switchyard foundations, series capacitor banks, work areas, access roads, and spur roads could loosen soil and accelerate erosion, particularly in desert pavement areas. Desert pavement, located in the Project segments from Harquahala to the Colorado River and from Midpoint Substation to Banning, is a unique geologic/soil feature that takes thousands to tens of thousands of years to form and protects the underlying silty and sandy soils from excessive wind and water erosion. Damage to desert pavement could result in an extreme acceleration of erosion.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact G-1 to a less than significant level. This measure identified as G-1a is included below.

G-1a **Protect desert pavement.** Grading for new access roads or work areas in areas covered by desert pavement shall be avoided if possible. If avoidance of these areas is not possible, the desert pavement surface shall be protected from damage or disturbance from construction vehicles by use of temporary mats on the surface. A plan for identification and avoidance or protection of sensitive desert pavement shall be prepared and submitted to the CPUC, BLM, and USFWS for review and approval at least 60 days prior to start of construction.

Rationale for Finding. Implementation of SCE's APMs W-3, W-7 through W-9, W-11, G-10 through G-14, and G-19 as well as a Stormwater Pollution Prevention Plan (SWPPP) will generally limit erosion from construction activities. The APMs do not address the potential disturbance of desert pavement areas, however, and will not sufficiently reduce impacts in these areas. The plan required of SCE by the CPUC, BLM, and USFWS under Mitigation Measure G-1a will ensure that SCE will implement procedures to sufficiently protect desert pavement areas, in addition to the other protections afforded in the APMs and SWPPP.

Reference. Section G.13 (Geology, Mineral Resources, and Soils) of the EIR/EIS provides a complete assessment of the construction impacts of the Project on desert pavement.

Impact G-2: Project structures could be damaged by problematic soils

Corrosive subsurface soils which could have a detrimental effect on concrete and metals may exist in places along the Project route. Expansive soils, such as those found along the Project route, can also cause problems to structures. These soils could result in damage and/or distress of structures, eventually leading to structural failures. Loose sands and other compressible soils could also result in excessive settlement, low foundation-bearing capacity, and limitation of year-round access to Project facilities.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact G-2 to a less than significant level. This measure identified as G-2a is included below.

G-2a **Conduct geotechnical studies for soils to assess characteristics and aid in appropriate foundation design.** Design-level geotechnical studies shall be performed by the Applicant to identify the presence, if any, of potentially detrimental soil chemicals, such as chlorides and sulfates. Appropriate design measures for protection of reinforcement, concrete, and metal-structural components against corrosion shall be utilized, such as use of corrosion-resistant materials and coatings, increased thickness of project components exposed to potentially corrosive conditions, and use of passive and/or active cathodic protection systems. The geotechnical studies shall also identify areas with potentially expansive or collapsible soils and include appropriate design features, including excavation of potentially expansive or collapsible soils during construction and replacement with engineered backfill, ground-treatment processes, and redirection of surface water and drainage away from expansive foundation soils. Study results and proposed solutions shall be provided to the CPUC and BLM, as appropriate, for review and approval at least 60 days before construction.

Rationale for Finding. SCE's application of standard design and construction practices and implementation of APMs G-9 and G-15 will reduce the adverse affects of problematic soils, but Mitigation Measure G-2a formalizes the specific procedures necessary to ensure the protection of the Project structures in a manner sanctioned by the CPUC and BLM.

Reference. Section G.13 (Geology, Mineral Resources, and Soils) of the EIR/EIS provides a complete assessment of the impacts of problematic soils on the Project.

Impact G-3: Excavation or grading during construction could cause slope instability

Construction consisting of grading and excavation along the foothills at the edge of the New Water Mountains and the San Jacinto Mountains could cause slope instability. Excavation operations associated with tower foundation construction and grading operations for temporary and permanent access roads and work areas could result in slope instability, resulting in landslides, soil creep, or debris flows which have the potential to undermine foundations, cause distortion and distress to overlying structures, and displace or destroy project components.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact G-3 to a less than significant level. This measure identified as G-3a is included below.

G-3a **Conduct geotechnical surveys for landslides.** The Applicant shall perform design-level geotechnical surveys in areas crossing and adjacent to hills and mountains. These surveys will acquire data that will allow identification of specific areas with the potential for unstable slopes, landslides, earth flows, and debris flows along the approved transmission line route and in other areas of ground disturbance, such as grading for access and spur roads. The investigations shall include an evaluation of subsurface conditions, identification of potential landslide hazards, and provide information for development of excavation plans and procedures. Where landslide hazard areas cannot be avoided, appropriate engineering design and construction measures shall be incorporated into the project designs to minimize potential for damage to project facilities. A report documenting these surveys and design measures to protect structures shall be submitted to the CPUC and BLM for review and approval at least 60 days before construction.

Rationale for Finding. SCE has proposed APMs G-6, G-7, G-10, and G-18 to reduce impacts related to slope instability. The APMs proposed by SCE, however, do not provide sufficient detail to ensure that their measures will adequately reduce the impacts of the Project. Requiring SCE to submit their geotechnical surveys and design measures to the CPUC and BLM will ensure that impacts will be limited to the extent authorized by the CPUC and BLM.

Reference. Section G.13 (Geology, Mineral Resources, and Soils) of the EIR/EIS provides a complete assessment of the slope instability impacts of the Project.

Impact G-4: Project structures could be damaged by landslides, earthflows, and/or debris flows

Slope instability including landslides, earth flows, and debris flows has the potential to undermine foundations, cause distortion and distress to overlying structures, and displace or destroy project components. The area where landslides will be most likely to occur is the slopes on the southern edge of the New Water Mountains and the San Jacinto Mountains.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact G-4 to a less than significant level. This measure identified as G-3a is described above under Impact G-3.

Rationale for Finding. As with Impact G-3, SCE has proposed APMs G-6 and G-18 to reduce impacts related to landslide hazards during operations of the project, but these APMs do not provide sufficient detail to ensure that their measures will adequately reduce the impacts of the Project. Requiring SCE to submit their geotechnical surveys and design measures to the CPUC and BLM will ensure that impacts will be limited to the extent authorized by the CPUC and BLM.

Reference. Section G.13 (Geology, Mineral Resources, and Soils) of the EIR/EIS provides a complete assessment of the impacts of landslides on the Project.

Impact G-5: Project structures could be damaged by seismically included groundshaking and ground failure

Seismically induced ground failure caused by groundshaking, which includes liquefaction and lateral spreading, could potentially cause damage to project facilities. Liquefaction occurs in low-lying areas where saturated non-cohesive sediments are found, such as the area adjacent to the Colorado River and along portions of the Devers-Valley No. 2 Alternative. Lateral spreading occurs along waterfronts or canals where non-cohesive soils could move out along a free-face.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact G-5 to a less than significant level. This measure identified as G-5a is included below.

G-5a **Design project facilities to avoid impact from ground failure.** Since seismically induced ground failure has the potential to damage or destroy project components, the Applicant shall complete design-level geotechnical investigations at tower locations in areas with potential liquefaction-related impacts. These studies shall specifically assess the potential for liquefaction and lateral spreading hazards to affect the approved project and all associated facilities. Where these hazards are found to exist, appropriate engineering design and construction measures shall be incorporated into the project designs. A report documenting results of the geotechnical surveys shall be submitted to the CPUC and BLM for review and approval at least 60 days before construction.

Rationale for Finding. SCE has proposed APMs G-4 and G-17 to reduce impacts related to seismically included groundshaking. The APMs proposed by SCE, however, do not provide sufficient detail to ensure that their measures will adequately reduce the impacts of the Project. Requiring SCE to submit their geotechnical surveys to the CPUC and BLM will ensure that impacts will be limited to the extent authorized by the CPUC and BLM.

Reference. Section G.13 (Geology, Mineral Resources, and Soils) of the EIR/EIS provides a complete assessment of the impacts of groundshaking on the Project.

Impact G-6: Construction activities will render known mineral resources inaccessible

The Cactus City Rest Area to Devers Substation segment crosses an active sand and gravel quarry in the Indio Hills area called the Indio Pit operated by Granite Construction. The project route will pass through

the site within an existing SCE ROW and will therefore not reduce accessibility to the sand and gravel resources. However, construction operations for the Project could interfere with daily ongoing mining operations at the quarry.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact G-6 to a less than significant level. This measure identified as G-6a is included below.

G-6a **Coordinate with quarry operations.** Operations and management personnel for the Indio Pit quarry shall be consulted regarding locations of active mining and for coordination of construction activities in and through those areas. A plan to avoid or minimize interference with mining operations shall be prepared in conjunction with mine/quarry operators prior to construction. SCE shall document compliance with this measure prior to the start of construction by submitting the plan to the CPUC and BLM for review at least 60 prior to the start of construction.

Rationale for Finding. SCE recommended APMs L-8 and G-1 to reduce this impact, however these APMs lack sufficient detail to ensure that impacts will be reduced. By requiring SCE to coordinate with the Indio Pit quarry and submit its coordination plan with the quarry to the CPUC and BLM, these agencies can ensure that the impacts of SCE's construction operations on mining will be minimized.

Reference. Section G.13 (Geology, Mineral Resources, and Soils) of the EIR/EIS provides a complete assessment of the impacts of the Project on the Indio Pit quarry.

Impact G-7: Project structures could be damaged by surface fault rupture at crossings of active and potentially active faults

Project facilities will be subject to hazards of surface fault rupture at crossings of the active Banning, San Gorgonio, Garnet Hill, San Jacinto, and Casa Loma Faults as well as the potentially active Loma Linda Fault. Hazards will not be as great where the Project route crosses traces of potentially active faults, such as the Mecca Hills Fault. Additionally, while the Devers Substation is not crossed by an active fault, it is located adjacent to two Alquist-Priolo zones. Although unlikely, the substation could potentially be damaged by rupture propagated along unmapped or new shear zones associated with these faults.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant effects on the environment from Impact G-7 to a less than significant level. This measure identified as G-7a is included below.

G-7a **Minimize project structures within active fault zones.** SCE shall perform a geologic/geotechnical study to confirm the location of mapped traces of active and potentially faults crossed by the project route. For crossings of active faults, the towers shall be placed as far as feasible outside the area of mapped fault traces. Compliance with this measure shall be documented to the CPUC and BLM in a report submitted for review and approval at least 60 days prior to the start of construction.

Rationale for Finding. In general, APMs G-2, G-3, and G-8 require that towers be sited so as not to straddle active fault traces and that the route alignment be designed to cross an active fault such that future rupture on the fault will not cause excessive stress on the line or the towers. By requiring SCE to locate towers as far outside of fault areas as possible, this mitigation measure minimizes the length of

transmission line within fault zones and distribute fault displacements over a comparatively long span. With the report submittal to CPUC and BLM, these agencies can ensure that potential impacts will be reduced.

Reference. Section G.13 (Geology, Mineral Resources, and Soils) of the EIR/EIS provides a complete assessment of the impacts of faults on the Project.

V.3 Significant Environmental Impacts That Cannot Be Avoided or Reduced to a Less than Significant Level

Based on the issue area assessment in the EIR/EIS, the Commission has determined that the Project will have significant impacts in the issue areas discussed below, and that these impacts cannot be avoided or reduced. These findings are based on the discussion of impacts in the detailed issue area analyses in Section D of the EIR/EIS, located in Volumes 1 and 2 and the cumulative impacts discussed in Section F (Cumulative Scenario and Impacts) of the EIR/EIS.

V.3.1 Visual Resources

Impact V-48: Inconsistency of the Harquahala Mountain Telecommunication Facility with BLM VRM Class II management objective due to increased structure contrast, industrial character, view blockage, and skylining when viewed from Harquahala Mountains Wilderness and surrounding area

The Harquahala Mountain telecommunication facility will be constructed adjacent to an existing facility on BLM lands designated VRM Class II and in close proximity to the Harquahala Mountains Wilderness Area, which is designated VRM Class I. Although the new structures will be similar to the existing facilities, the new facility will cause an increase in industrial character, structure skylining, and view blockage. Of particular concern are views from the adjacent Harquahala Mountains Wilderness, the Smithsonian Observatory, and the Harquahala Pack Trail.

Finding. The CPUC finds that changes or alternations have been incorporated in the Project to address significant effects on the environment. However, even with implementation of Measure C-1g, significant unavoidable impacts will occur as described above. The CPUC finds that specific economic, legal, social, technological, or other considerations, including those considerations set forth set forth in Sections III.C (Alternatives to DPV2), IV (DPV2 Route Alternatives) and VII (Statement of Overriding Considerations) of the Decision, make infeasible additional mitigation measures or project alternatives identified in the Final EIR/EIS.

Rationale for Finding. The BLM's Visual Resource Management (VRM) Class II objective requires that the existing character of the landscape be retained and that the level of change to the characteristic landscape be low and not attract the attention of the casual observer. The new facility will not repeat the basic elements found in the natural features of the landscape. Therefore, the new facility will not achieve full consistency with the Class II objectives because of the moderate level of visual change. The resulting visual impact will be significant (Class I) and there are no other feasible measures or alternatives that will reduce this impact to less than significant.

Reference. Section D.3.6.1 (Harquahala to Kofa National Wildlife Refuge) of the EIR/EIS provides a complete assessment of the impacts from construction of the Harquahala Mountain Telecommunication Facility.

Impact V-7: Increased visual contrast, view blockage, and skylining when viewed from Key Viewpoint 4 on Crystal Hill Road in Kofa NWR

The DPV2 transmission line towers (F-50 through F-53) will be similar in scale and design to the DPV1 line and conductor spans will generally be matched. The new structures and conductors will cause a noticeable increase in structure prominence and industrial character along the corridor. Additional sky-lining (extending above the horizon line) and view blockage of background sky and the Livingston Hills and Kofa Mountains will also occur.

Finding. The CPUC finds that changes or alternations have been incorporated in the Project to address significant effects on the environment. However, even with implementation of the Mitigation Measure V-3a, significant unavoidable impacts will occur at Key Viewpoint 4. The CPUC finds that specific economic, legal, social, technological, or other considerations, including those considerations set forth in Sections III.C (Alternatives to DPV2), IV (DPV2 Route Alternatives) and VII (Statement of Overriding Considerations) of the Decision, make infeasible additional mitigation measures or project alternatives identified in the Final EIR/EIS.

Rationale for Finding. View blockage of background sky and mountains is a key consideration in the conclusion of overall visual change. In this narrow valley landscape with somewhat confined sightlines, the most notable features are the rugged mountains with jagged ridgelines that form the southern backdrop to the existing corridor. Any additional blockage of these scenic features will substantially compromise overall visual quality within this portion of Kofa. The resulting visual impact will be significant (Class I) and there are no other feasible measures or alternatives that will reduce this impact to less than significant.

Reference. Section D.3.6.2 (Kofa National Wildlife Refuge) of the EIR/EIS provides a complete assessment of the impacts from construction to Key Viewpoint 4.

Impact V-15: Inconsistency with Interim BLM VRM Class II management objective due to increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 10 in the Alligator Rock ACEC

Although the new structures will be of similar design and height as the existing DPV1 structures, the new structures will cause additional skylining and view blockage of the Chuckwalla Mountains in the background. The new line will also increase the structural complexity and industrial character visible from the several access roads within the Alligator Rock ACEC. These visual effects will become more pronounced the closer the viewer is to the transmission line.

Finding. The CPUC finds that changes or alternations have been incorporated in the Project to address significant effects on the environment. However, even with implementation of the Mitigation Measure V-3a, significant unavoidable impacts will occur in the Alligator Rock ACEC. The CPUC finds that specific economic, legal, social, technological, or other considerations, including those considerations set forth in Sections III.C (Alternatives to DPV2), IV (DPV2 Route Alternatives) and VII (Statement of

Overriding Considerations) of the Decision, make infeasible additional mitigation measures or project alternatives identified in the Final EIR/EIS.

Rationale for Finding. The BLM's Visual Resource Management (VRM) Class II objective require that the existing character of the landscape be retained and that the level of change to the characteristic landscape be low and not attract the attention of the casual observer. The new line will not achieve any of the Class II objectives. There is no mitigation available to reduce the significant visual impact to a level that will be less than significant. A new 500 kV transmission line will create change exceeding "moderate" and it will dominate the view. The resulting visual impact will be significant (Class I) and there are no other feasible measures or alternatives that will reduce this impact to less than significant.

Reference. Section D.3.6.6 (Midpoint Substation to Cactus City Rest Area) of the EIR/EIS provides a complete assessment of the impacts from construction to Key Viewpoint 10.

Impact V-37: Inconsistency with Interim BLM VRM Class III management objectives due to the introduction of structure contrast, industrial character, view blockage, and skylining when viewing the Chuckwalla Mountains from Key Viewpoint 31 on southbound Kaiser Road, north of Desert Center

This alternative route will result in the introduction of a new 500 kV transmission line into a rural landscape lacking similar built structures of industrial character. Although other built structures are visible in the Desert Center landscape, only a single telecommunications tower shares the structural complexity or vertical extent of the lattice transmission towers.

Finding. The CPUC finds that changes or alternations have been incorporated in the Project to address significant effects on the environment. However, even with implementation of the Mitigation Measure V03a, significant unavoidable impacts will occur from Key Viewpoint 31. The CPUC finds that specific economic, legal, social, technological, or other considerations, including those considerations set forth in Sections III.C (Alternatives to DPV2), IV (DPV2 Route Alternatives) and VII (Statement of Overriding Considerations) of the Decision, make infeasible additional mitigation measures or project alternatives identified in the Final EIR/EIS.

Rationale for Finding. The new line will not repeat the basic elements of the existing natural features in the landscape and will cause view blockage of sky and portions of the Chuckwalla Mountains and Alligator Rock depending on viewpoint location. The new line will also appear co-dominant to the casual observer. The overall level of change will be moderate-to-high, which will not meet the VRM Class III objective of a moderate degree of visual change. The resulting visual impact will be adverse and significant (Class I). There are no feasible mitigation measures or alternatives available to reduce the significant visual impact to a level that will be less than significant.

Reference. Section D.3.8.5 (Alligator Rock–North of Desert Center Alternative) of the EIR/EIS provides a complete assessment of the impacts from construction to Key Viewpoint 10.

Impact V-40: Increased structure contrast and skylining when viewing the San Jacinto Mountains from Key Viewpoint 33 on the Pacific Crest Trail in the vicinity of the Snow Creek Village residential community

The new and existing towers will appear similar in design and height and will be paired up. The new structures will cause a noticeable increase in structure prominence and industrial character within the

corridor. Additional skylining and view blockage of background sky and mountain ridges will also occur. Additional visual contrast will be caused by the highlighting of the conductors by the afternoon sun. Although the additional towers will appear similar in design and height to that of the existing towers, the additional skylining, view blockage, and increased structural prominence will result in a moderate degree of visual contrast.

Finding. The CPUC finds that changes or alternations have been incorporated in the Project to address significant effects on the environment. However, even with implementation of the measures presented below, significant unavoidable impacts will occur to Key Viewpoint 33 on the Pacific Crest Trail. The CPUC finds that specific economic, legal, social, technological, or other considerations, including those considerations set forth in Sections III.C (Alternatives to DPV2), IV (DPV2 Route Alternatives) and VII (Statement of Overriding Considerations) of the Decision, make infeasible additional mitigation measures or project alternatives identified in the Final EIR/EIS.

V-40a Reduce visual contrast of towers and conductors. The following design measures are to be applied to all new structures and conductors in order to reduce the degree of visual contrast caused by the new facilities: **(a)** all new structures are to as closely as possible match the design of the existing structures with which they will be seen; **(b)** all new structures are to be paired as closely as possible with the existing structure(s) in the corridor in order to avoid or reduce the number of off-setting (from existing structures) tower placements; **(c)** all new structures are to match the heights of the existing D-V1 structures to the extent possible as dictated by variation in terrain; **(d)** all new spans are to match existing conductor spans as closely as possible in order to avoid or reduce the occurrence of unnecessary visual complexity associated with asynchronous conductor spans, particularly at sensitive crossings such as SR 62, I-10, SR 111, SR 243, SR 79, Gilman Springs Road, Ramona Expressway, Menifee Road, and SR 74; **(e)** all new conductors are to be non-specular in design in order to reduce conductor visibility and visual contrast, and **(f)** no new access roads are to be constructed downhill from existing or towers to reduce the potential for skylining. SCE shall provide to the CPUC, BLM, and Forest Service a Project Design Plan demonstrating implementation of this measure at least 90 days prior to the start of construction, and shall not commence construction until the Project Design Plan has been approved by the CPUC, BLM, and Forest Service.

V-40b Reduce visual contrast of towers and conductors on San Bernardino National Forest land. The following design measures are to be applied to all new structures and conductors on SBNF land based on SCE's consultation with SBNF staff prior to completion of final design. The details of these measures shall be developed:

In all areas:

- Transmission lines should have a permanent coloring of dark gray.
- All towers not back-dropped on mid-slope should have permanent coloring of cool mid-gray (battleship gray).

In mid-slope areas (as defined by SBNF):

- All towers and concrete bases on slopes which could serve as backdrops (mid-slope) should be painted olive drab.
- Tower pads should be left uneven without leveling.
- No construction roads shall be built.
- Towers shall be constructed by air support.

At ridge crossing and mid-slope (as defined by SBNF):

- Towers should be constructed of lower profile to more closely "hug" the top of the ridge to avoid tower silhouetting.
- Graphic studies from dominant view sites should be used to best place towers where they would be best back-dropped from expected viewing points.
- All towers and concrete bases on slopes which could serve as backdrops (mid-slope) should be painted olive drab.
- Tower pads should be left uneven without leveling.
- No construction roads shall be built.
- Towers should be constructed by air support.

V-40c Reduce visual contrast of towers and conductors near the Pacific Crest Trail. For towers located south of I-10 and outside of the SBNF, the following provisions apply:

- Where towers could be practicably back-dropped, utilize mitigation suggested for mid-slope and Ridge Crossing on SBNF lands (as defined in Mitigation Measure V-40b).
- The PCT shall not be crossed with construction roads.
- Locate towers so that the PCT is in the middle of the span (if this does not involve placement of extra or taller span towers to accomplish such action).

Rationale for Finding. The overall visual change will be moderate and in the context of the existing landscape's overall moderate-to-high visual sensitivity, the resulting visual impact will be significant (Class I). This conclusion is substantially influenced by the high sensitivity of the Pacific Crest Trail (that is in close proximity to both the lower and upper elevations of route) and the adjacent residential community. The San Bernardino National Forest Land Management Plan (Part II, page 100) states that the scenic value of the trail should be protected and where practicable, unconforming land uses within the viewshed of the trail should be avoided. The Plan furthers states that the trail should be managed as a Sensitivity Level 1 and with the Visual Quality Objective of Retention (comparable to the SIO of High). Based on the policies regarding the management of the Pacific Crest Trail and the overall visual change, the resulting visual impact will be significant and unavoidable (Class I). There are no other feasible mitigation measures or alternatives available to reduce the significant visual impact to a level that will be less than significant.

Reference. Section D.3.9 (Devers-Valley No. 2 Alternative) of the EIR/EIS provides a complete assessment of the impacts from construction to Key Viewpoint 33.

Impact V-41: Inconsistency with BLM VRM Class II management objective due to introduction of structure contrast and industrial character when viewing the San Jacinto Mountains from BLM-managed lands within the Santa Rosa and San Jacinto Mountains National Monument (in the vicinity of KVP 33)

The D-V2 route will introduce a new 500 kV transmission line adjacent to the existing D-V1 transmission line. The visual change associated with this route segment will be similar to that described for Impact V-40, above, though the visual impacts will be somewhat more pronounced because of the closer proximity of the route to the BLM-managed lands.

Finding. The CPUC finds that changes or alternations have been incorporated in the Project to address significant effects on the environment. However, even with implementation of Mitigation Measure V-40a,

significant unavoidable impacts will occur in the vicinity of Key Viewpoint 33. The EIR/EIS did not identify any feasible mitigation measures that will this visual impact to less-than-significant levels. The significant unavoidable visual effect is overridden as set forth in Section VII of the Decision - Statement of Overriding Considerations.

Rationale for Finding. Although the new structures will be of similar design and height as the existing D-V1 structures, the new structures will cause additional skylining and view blockage of the San Jacinto Mountains. The new line will also increase the structural complexity and industrial character visible from Monument lands. These visual effects will become more pronounced the closer the viewer is to the transmission line. The resulting visual contrast for structural form and line will be moderate, while color and texture contrast will be weak. The new line will not repeat the basic elements of the existing natural features in the landscape and will cause view blockage of sky and the San Jacinto Mountains. The new line will also appear co-dominant to the casual observer on the San Jacinto National Monument lands. The resulting visual impact will be significant and unavoidable (Class I). There are no other feasible mitigation measures or alternatives available to reduce the significant visual impact to a level that will be less than significant.

Reference. Section D.3.9 (Devers-Valley No. 2 Alternative) of the EIR/EIS provides a complete assessment of the impacts from construction to Key Viewpoint 33.

Impact V-42: Inconsistency with U.S. Forest Service Scenic Integrity Objective (SIO) due to introduction of structure contrast and industrial character

The D-V2 route will result in the introduction of additional energy infrastructure onto approximately 1.4 miles of public lands administered by the U.S. Forest Service. The increased industrial character and structural complexity and prominence imparted by the towers and conductors will result in levels of visual contrast that will be inconsistent with the *VERY HIGH* Scenic Integrity Objective assigned to the Forest Service lands. A *VERY HIGH* Scenic Integrity Objective means the "valued" landscape character "is" intact with only minute if any deviations. Minor adjustments are allowed with Forest Supervisor approval or for temporary drops in the Scenic Integrity Objective.

Finding. The CPUC finds that changes or alternations have been incorporated in the Project to address significant effects on the environment. However, even with implementation of Mitigation Measure V-40a, significant unavoidable impacts will occur to Forest Service lands. The CPUC finds that specific economic, legal, social, technological, or other considerations, including those considerations set forth in Sections III.C (Alternatives to DPV2), IV (DPV2 Route Alternatives) and VII (Statement of Overriding Considerations) of the Decision, make infeasible additional mitigation measures or project alternatives identified in the Final EIR/EIS.

Rationale for Finding. The DV-2 route will cause the scenic integrity value to at least two levels to *MODERATE* or possibly three levels to *LOW*. The increased visual contrast associated with the additional transmission line will cause the landscape character to appear at least slightly altered which is a characteristic of *MODERATE* scenic integrity. Since the project-induced changes will be essentially permanent or at least long-term (greater than three years), the impact will exceed the exception allowed under Aesthetic Management Standard S10. There are no other feasible mitigation measures or alternatives available to reduce the significant visual impact to a level that will be less than significant.

Reference. Section D.3.9 (Devers-Valley No. 2 Alternative) of the EIR/EIS provides a complete assessment of the visual impacts from construction of the Project on Forest Service lands.

Impact V-43: Increased structure contrast, skylining, and view blockage when viewed from Key Viewpoint 34 in the residential community in Cabazon

The new and existing towers will appear similar in design and height and will be paired up. The new structures will cause a substantial increase in structure prominence and industrial character within the corridor, which is located within the immediate foreground, of views from nearby residences. Additional skylining and view blockage of background sky and mountain ridges will also occur.

Finding. The CPUC finds that changes or alternations have been incorporated in the Project to address significant effects on the environment. However, even with implementation of Mitigation Measure V-40a, significant unavoidable visual impacts will occur to the residential community in Cabazon. The CPUC finds that specific economic, legal, social, technological, or other considerations, including those considerations set forth in Sections III.C (Alternatives to DPV2), IV (DPV2 Route Alternatives) and VII (Statement of Overriding Considerations) of the Decision, make infeasible additional mitigation measures or project alternatives identified in the Final EIR/EIS.

Rationale for Finding. Although the additional towers will appear similar in design and height to that of the existing towers, the additional skylining, view blockage, and increased structural prominence will result in a moderate-to-high degree of visual contrast due to their close proximity to residential views. The D-V2 alternative will appear co-dominant with the existing transmission line and landforms of the San Jacinto Mountains. View blockage of background sky and mountains will be moderate-to-high. The significant impact conclusion is substantially influenced by the high sensitivity of the adjacent residential community and the close proximity of the structures to those residences. There are no other feasible mitigation measures or alternatives available to reduce the significant visual impact to a level that will be less than significant.

Reference. Section D.3.9 (Devers-Valley No. 2 Alternative) of the EIR/EIS provides a complete assessment of the visual impacts from construction of the Project near the Cabazon residential community.

Impact V-44: Increased structure contrast and skylining when viewing the San Jacinto Mountains and San Gorgonio Pass from Key Viewpoint 35 on southbound State Route 243

The new and existing structures will be paired and will appear similar in design and height but will be offset in elevation due to the slope and variation in terrain. The new structures will cause a substantial increase in structure prominence and industrial character within the corridor as viewed from SR 243.

Finding. The CPUC finds that changes or alternations have been incorporated in the Project to address significant effects on the environment. However, even with implementation of Mitigation Measure V-40a, significant unavoidable visual impacts will occur at SR 243. The CPUC finds that specific economic, legal, social, technological, or other considerations, including those considerations set forth in Sections III.C (Alternatives to DPV2), IV (DPV2 Route Alternatives) and VII (Statement of Overriding Considerations) of the Decision, make infeasible additional mitigation measures or project alternatives identified in the Final EIR/EIS.

Rationale for Finding. The new transmission line will appear co-dominant compared to the existing line and the northern ridges of the San Jacinto Mountains and view blockage of higher value landscape features (sky, ridges, and the Pass) will be moderate. The overall visual change will be moderate and in the context of the existing landscape's moderate-to-high visual sensitivity, the resulting visual impact will be significant (Class I). This conclusion is substantially influenced by the high sensitivity imparted to a State-designated scenic highway. There are no other feasible mitigation measures or alternatives available to reduce the significant visual impact to a level that will be less than significant.

Reference. Section D.3.9 (Devers-Valley No. 2 Alternative) of the EIR/EIS provides a complete assessment of the visual impacts from construction of the Project at SR 243.

Impact V-45: Increased structure contrast, skylining, and view blockage when viewed from residential areas in southern Banning and Beaumont

The new and existing towers will appear similar in design and height and will be paired up. The new structures will cause a substantial increase in structure prominence and industrial character within the corridor, which is located within the foreground, of views from nearby residences. Additional skylining and view blockage of background sky and mountain ridges will also occur.

Finding. The CPUC finds that changes or alternations have been incorporated in the Project to address significant effects on the environment. However, even with implementation of Mitigation Measure V-40a, significant unavoidable visual impacts will occur in southern Banning and Beaumont. The CPUC finds that specific economic, legal, social, technological, or other considerations, including those considerations set forth in Sections III.C (Alternatives to DPV2), IV (DPV2 Route Alternatives) and VII (Statement of Overriding Considerations) of the Decision, make infeasible additional mitigation measures or project alternatives identified in the Final EIR/EIS.

Rationale for Finding. Although the additional towers will appear similar in design and height to that of the existing towers, the additional skylining, view blockage, and increased structural prominence will result in a moderate-to-high degree of visual contrast due to their close proximity to residential views. The D-V2 Alternative will appear co-dominant with the existing transmission line and background landforms. View blockage of background sky and mountains will range from moderate to moderate-to-high depending on the viewpoint. This conclusion is substantially influenced by the high sensitivity of the adjacent residences and the relatively close proximity of the structures to those residences. There are no other feasible mitigation measures or alternatives available to reduce the significant visual impact to a level that will be less than significant.

Reference. Section D.3.9 (Devers-Valley No. 2 Alternative) of the EIR/EIS provides a complete assessment of these visual impacts.

Impact V-46: Inconsistency with BLM VRM Class II management objective due to introduction of structure contrast and industrial character when viewing from BLM-managed lands within the Potrero ACEC

Although the new structures will be of similar design and height as the existing D-V1 structures, the new structures will cause additional skylining and view blockage of sky and mountains. The new line will also increase the structural complexity and industrial character visible from within the ACEC. These visual effects will become more pronounced the closer the viewer is to the transmission line.

Finding. The CPUC finds that changes or alternations have been incorporated in the Project to address significant effects on the environment. However, even with implementation of Mitigation Measure V-40a, significant unavoidable visual impacts will occur in southern Banning and Beaumont. The CPUC finds that specific economic, legal, social, technological, or other considerations, including those considerations set forth in Sections III.C (Alternatives to DPV2), IV (DPV2 Route Alternatives) and VII (Statement of Overriding Considerations) of the Decision, make infeasible additional mitigation measures or project alternatives identified in the Final EIR/EIS.

Rationale for Finding. Lands administered by the BLM within the Potrero ACEC will be subject to Visual Resource Management (VRM) Class II management objective. The VRM Class II objective requires that the existing character of the landscape be retained and that the level of change to the characteristic landscape be low and not attract the attention of the casual observer. Also, any changes to the landscape must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the landscape. The new line will not achieve any of the Class II objectives. There are no other feasible mitigation measures or alternatives available to reduce the significant visual impact to a level that will be less than significant.

Reference. Section D.3.9 (Devers-Valley No. 2 Alternative) of the EIR/EIS provides a complete assessment of the visual impacts to the Potrero ACEC.

Impact V-47: Increased structure contrast, skylining, and view blockage when viewed from Key Viewpoint 36 on Mapes Road

The new and existing towers will appear similar in design and height and will be paired up. The new structures will cause a substantial increase in structure prominence and industrial character within the corridor, which is located within the immediate foreground, of views from numerous nearby residences. Additional skylining and view blockage of background sky, hills, and mountain ridges will also occur.

Finding. The CPUC finds that changes or alternations have been incorporated in the Project to address significant effects on the environment. However, even with implementation of Mitigation Measure V-40a, significant unavoidable visual impacts will occur on Mapes Road. The CPUC finds that specific economic, legal, social, technological, or other considerations, including those considerations set forth in Sections III.C (Alternatives to DPV2), IV (DPV2 Route Alternatives) and VII (Statement of Overriding Considerations) of the Decision, make infeasible additional mitigation measures or project alternatives identified in the Final EIR/EIS.

Rationale for Finding. Although the additional towers will appear similar in design and height to that of the existing towers, the additional skylining, view blockage, and increased structural prominence will result in a moderate-to-high degree of visual contrast due to their close proximity to residential views and views from local roads. The D-V2 route will appear co-dominant with the existing transmission line. View blockage of background sky and mountains will be moderate-to-high. This significant impact conclusion is substantially influenced by the high sensitivity of the adjacent residences and the close proximity of the structures to those residences. There are no other feasible mitigation measures or alternatives available to reduce the significant visual impact to a level that will be less than significant.

Reference. Section D.3.9 (Devers-Valley No. 2 Alternative) of the EIR/EIS provides a complete assessment of the visual impacts to Key Viewpoint 36.

Cumulative project activities could impact visual resources along Project route

There are six cumulative energy infrastructure projects (see Section F of the EIR/EIS) that would share many of the same characteristics of the Project, and may be within the same field of view. These cumulative projects exhibit similar vertical structural form, structural complexity, and industrial character as the Project. In each case, the Project and the cumulative projects combined will result in a perceived increase in industrialization of the landscape, diminution of visual quality, and increase in visual contrast. Also, in the cases where there appear to be multiple corridors due to greater separation between facilities, the projects would contribute to a sense of proliferation of energy infrastructure within the I-10 corridor.

Finding. The CPUC finds that changes or alternations have been incorporated in the Project to address significant cumulative effects on the environment. However, even with implementation of Mitigation Measures V-3a and V-3b, significant unavoidable visual impacts will occur for operation of the Project. The CPUC finds that specific economic, legal, social, technological, or other considerations, including those considerations set forth in Sections III.C (Alternatives to DPV2), IV (DPV2 Route Alternatives) and VII (Statement of Overriding Considerations) of the Decision, make infeasible additional mitigation measures or project alternatives identified in the Final EIR/EIS.

Rationale for Finding. The resulting cumulative visual impacts would be substantially greater than those that would occur with the Project alone and they would be significant. For example, within Kofa National Wildlife Refuge, the DPV2 line would result in a considerable cumulative visual impact when viewed in the context of the existing DPV1 line. When placed adjacent to DPV1, the visual effects of the DPV2 line (increased visual contrast, structural prominence and, view blockage) would substantially exacerbate the existing adverse visual impacts of the existing DPV1 line, resulting in a considerable cumulative visual impact. There are no other feasible mitigation measures or alternatives available to reduce the significant visual impact to a level that will be less than significant.

Reference. Section F.3.2 (Visual Resources) of the EIR/EIS provides a complete assessment of the cumulative impact on visual resources.

V.3.2 Wilderness and Recreation

Impact WR-2: Operation would change the character of a recreation or wilderness area, diminishing its recreational value

The telecommunications component will require the construction of an approximately 400-square-foot facility in addition to an 110-foot radio tower on a total of 0.25 acres. Construction of this facility will increase the total amount of industrial development on the Harquahala Mountain. As the Harquahala Mountains WA is located a few feet to the east and extends north to south across the summit of the mountain, visitors to the WA will be able to see this increase in development from vantage points within the WA (see Section D.3.6.1, Visual Resources). In addition, the telecommunication facility will have a significant indirect effect on the Solar Observatory as a visual intrusion.

The Project will create a new 500 kV transmission line across the Kofa NWR, Indio Hills Palms State Park, Coachella Valley Preserve, ACECs (Chuckwalla, Alligator Rock, Coachella Valley Fringe-Toed Lizard, Potrero), Santa Rosa and San Jacinto National Monument, San Bernardino National Forest, Pacific Crest Trail, and San Jacinto WA. Although the Project will be located adjacent to an existing 500 kV line

(DPV1), the amount of industrial development will be intensified as a result of the Project by siting a new 500 kV transmission line next to an existing 500 kV transmission line.

Finding. The CPUC finds that changes or alternations have been incorporated in the Project to address significant effects on the environment, except that no measures were identified to reduce impacts to the ACECs. However, even with implementation of measure C-1g (noted in Cultural Resources) and measure WR-2a below, significant unavoidable impacts will occur along the Harquahala to Kofa NWR segment, within Kofa NWR, within the Chuckwalla ACEC and within Alligator Rock ACEC. The CPUC finds that specific economic, legal, social, technological, or other considerations, including those considerations set forth in Sections III.C (Alternatives to DPV2), IV (DPV2 Route Alternatives) and VII (Statement of Overriding Considerations) of the Decision, make infeasible additional mitigation measures or project alternatives identified in the Final EIR/EIS.

WR-2a Coordinate with USFWS to improve impacted areas within Kofa National Wildlife Refuge. SCE shall coordinate with the USFWS to improve impacted areas within the Kofa National Wildlife Refuge (NWR). The implementation of improvements would be conducted at the discretion of the authorized officer for the Kofa NWR, and may include the acquisition of private land inholdings from willing sellers within the refuge boundaries, and the rehabilitation of abandoned mine sites and old roads within the refuge. SCE shall document its coordination with the authorized officer of the Kofa NWR, and must demonstrate that negotiations and subsequent improvements have been conducted to the satisfaction of the USFWS. Documentation shall be submitted to the CPUC and the BLM at least 30 days prior to operation of the project.

Rationale for Finding. Implementation of the telecommunications facility resulting from operation of the Project will permanently diminish the character of Harquahala Peak and the Harquahala Mountains WA. Overall, Project operation will significantly change the character of recreational resources along the Harquahala to Kofa NWR segment and diminish their recreational value.

While the Project will not introduce a new industrial use across an undeveloped recreation area, it will intensify the industrial nature of the ROW through the construction and operation of new towers and spur roads. Transmission towers are large structures, approximately 150 feet in height. Given the substantial size of these structures and their industrial appearance, the transmission towers will contrast with the natural landscape of wilderness and recreation resources. The Project will significantly increase the total amount of industrial development within the wilderness and recreational resources traversed by the transmission line, further degrading its landscape and character. Overall, development and operation of the project will change the character of wilderness and recreation resources and will significantly diminish their recreational value.

There are no other feasible mitigation measures or alternatives available to reduce the significant impact to wilderness and recreation to a level that will be less than significant.

Reference. Section D.5.6 (Wilderness and Recreation) of the EIR/EIS provides a complete assessment of the wilderness and recreation impacts.

Cumulative project activities could impact Wilderness and Recreation along Project route

It is likely that construction of some of the cumulative projects would overlap with construction of the Project. The construction of multiple projects within the same area will create a significant cumulative construction impact to wilderness and recreation areas.

Cumulatively considerable impacts will also occur with the implementation or operation of the Project and cumulative projects. For example, east of the Devers Substation, the Project would be constructed adjacent to the existing DPV1 transmission line. The DPV1 transmission line was constructed across or adjacent to recreation areas in La Paz and Maricopa Counties in Arizona, and Riverside County in California, including the Kofa NWR, Chuckwalla Valley Dune Thicket ACEC, Alligator Rock ACEC, and the Coachella Valley Preserve and Coachella Valley Fringe-Toed Lizard ACEC. Adding the Project to this existing corridor and the cumulative projects will intensify the industrial development that crosses wilderness and recreational resources.

Finding. The CPUC finds that changes or alternations have been incorporated in the Project to address significant effects on the environment. However, even with implementation of measures WR-3a, significant unavoidable impacts will occur to wilderness and recreational resources. The CPUC finds that specific economic, legal, social, technological, or other considerations, including those considerations set forth in Sections III.C (Alternatives to DPV2), IV (DPV2 Route Alternatives) and VII (Statement of Overriding Considerations) of the Decision, make infeasible additional mitigation measures or project alternatives identified in the Final EIR/EIS.

Rationale for Finding. Any additional projects that may traverse wilderness and recreational areas along the Project route will further increase the industrial development and further reduce the undeveloped, natural landscape of these areas. As significant impacts have already occurred to the character and recreational value of the recreation areas located along the DPV1 line (BLM, 1979), operation of the Project, alone or in conjunction with other projects, would contribute to a significant, cumulative effect to established recreation areas. There are no other feasible mitigation measures or alternatives available to reduce the significant impact to wilderness and recreation to a level that will be less than significant.

Reference. Section F3.4 (Wilderness and Recreation) of the EIR/EIS provides a complete assessment of the cumulative wilderness and recreation impacts of the Project.

V.3.3 Agriculture

Impact AG-3: Operation Will Permanently Convert Farmland to Non-Agricultural Use

Discussed in Section D.6 (Agriculture) of the EIR/EIS, the Project will significantly impact agriculture along the Project route. The Project will create significant and unmitigable impacts to approximately 16 acres of Farmland, of which 13.6 acres will be Prime Farmland. The operation or presence of Project components will impact Farmland through the permanent removal and conversion of agricultural land to non-agricultural uses, such as from the siting of roadways or tower structures. Therefore, the Project will cause the loss of 16 acres of Farmland.

Finding. The CPUC finds that specific economic, legal, social, technological, or other considerations, including those considerations set forth in Sections III.C (Alternatives to DPV2), IV (DPV2 Route

Alternatives) and VII (Statement of Overriding Considerations) of the Decision, make infeasible additional mitigation measures or project alternatives identified in the Final EIR/EIS.

Rationale for Finding. This impact is significant because operation of the Project, or presence of Project structures, will permanently remove agriculture land, thereby converting it to use as locations for towers structures, roadways, and other Project components. There is no known mitigation for the loss of designated Farmland as the only option to mitigate or avoid the Project's contribution to removing Farmland will be to not construct the Project. There are no other feasible mitigation measures or alternatives available to reduce the significant impact to agriculture to a level that will be less than significant.

Reference. Section D.6 of the EIR/EIS provides a complete assessment of the operational impacts of the Project on the conversion of Farmland to non-agricultural uses.

Construction and Operation of Cumulative Projects Could Impact Agricultural Resources

As described in Section F (Cumulative Scenario and Impacts) of the EIR/EIS, other proposed or ongoing projects within five miles of the Project will disturb more than 11,500 acres. Due to the quantity and location of these projects and the wide distribution of agricultural resources, it is likely these projects will remove Farmland and Williamson Act land and interfere with agricultural operations. Therefore, there is a potential for significant cumulative impacts to agricultural resources.

Finding. The CPUC finds that changes or alterations have been incorporated into the Project which mitigate significant cumulative effects of the Project. With the incorporation of APMs L-4 and L-5, and the implementation of Mitigation Measures AG-1a, AG-4a, and L-1a effects on most agricultural resources will be reduced to a less than significant level. However, these measures will not reduce the cumulative effects to a less than significant level. The CPUC finds that specific economic, legal, social, technological, or other considerations, including those considerations set forth in Sections III.C (Alternatives to DPV2), IV (DPV2 Route Alternatives) and VII (Statement of Overriding Considerations) of the Decision, make infeasible additional mitigation measures or project alternatives identified in the Final EIR/EIS.

Rationale for Finding. The specific plans of the cumulative projects are unknown, however it is likely that these projects will remove significant amounts of Farmland, and significantly interfere with agricultural operations. Therefore, the addition of the Project will be cumulatively considerable and add significant construction and operational impacts. There are no other feasible mitigation measures or alternatives available to reduce the significant impact to agriculture to a level that will be less than significant.

Reference. Section F of the EIR/EIS provides a complete assessment of the cumulative impacts of the Project on Farmland.

V.3.4 Cultural and Paleontological Resources

Impact C-1: Construction of the project could cause an adverse change to known historic properties

As described in Section F (Cultural and Paleontological Resources), for the portions of the Project that lie within Arizona, the basis for determining significance of cultural resources is driven by the National Historic Preservation Act (NHPA) (36 CRF Part 60.6). Any action, as part of an undertaking, that could affect a "significant" cultural resource is subject to review and comment under Section 106 of the NHPA of 1966. Cultural resources that retain integrity and meet one or more of the criteria of significance [36 CFR

60.4] qualify as significant and are eligible for listing on the NRHP; such resources must be managed in compliance with the Advisory Council's regulations (36 CFR 800). The criteria used in the evaluation process involve districts, sites, buildings, structures, or objects that possess integrity of location, design, setting, material, workmanship, feeling, and association. Criterion d is most frequently applied to prehistoric sites, and often applied to historical–period sites as well.

Finding. The CPUC finds that changes or alternations have been incorporated in the Project to address significant effects on historic resources. However, even with implementation of the measures presented in the EIR/EIS and above (Mitigation Measures C-1a through C-1g), significant unavoidable impacts will occur. The CPUC finds that specific economic, legal, social, technological, or other considerations, including those considerations set forth in Sections III.C (Alternatives to DPV2), IV (DPV2 Route Alternatives) and VII (Statement of Overriding Considerations) of the Decision, make infeasible additional mitigation measures or project alternatives identified in the Final EIR/EIS.

Rationale for Finding. It is important to note that if direct impacts to NRHP properties eligible under Criterion d (significant data potential) are unavoidable, mitigation through data recovery will reduce impacts, but, under the NHPA regulations, effects will still be considered significant. Likewise, for properties eligible for the NRHP under Criteria a, b, or c data recovery could not reduce impacts to a less than significant level and effects will be remain significant. There are no other feasible mitigation measures or alternatives available to reduce the significant impact to cultural and paleontological resources to a level that will be less than significant.

Reference. Section D.7 (Cultural and Paleontological Resources) of the EIR/EIS provides a complete assessment of the cultural resources impacts of the Project.

Impact C-2: Construction of the project could cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains

The potential to discover unanticipated cultural resources during construction exists throughout the Project and could result in adverse effects to cultural resources. If unanticipated sites, features, and/or artifacts were discovered as a result of construction, and those are determined to be NRHP-eligible at the time of discovery, there will be an adverse effect. The potential to discover unknown buried Native American human remains or sacred features, in the form of primary inhumations, cremations, ceremonial bundles, or mourning ceremony features during construction could exist, resulting in adverse effects.

Finding. The CPUC finds that changes or alternations have been incorporated in the Project to address significant effects on cultural resources. However, even with implementation of the measures presented in the EIR/EIS and above (Mitigation Measures C-1c through C-1f, and C-2a), significant unavoidable impacts will occur. The CPUC finds that specific economic, legal, social, technological, or other considerations, including those considerations set forth in Sections III.C (Alternatives to DPV2), IV (DPV2 Route Alternatives) and VII (Statement of Overriding Considerations) of the Decision, make infeasible additional mitigation measures or project alternatives identified in the Final EIR/EIS.

Rationale for Finding. Adverse effects could be reduced by data-recovery investigations, but by virtue of the fact that such resources will be discovered after final project design and engineering, avoidance and protection of such resources will be infeasible. Therefore, if NRHP-eligible resources are impacted during construction, even after data recovery, effects will be significant, under the regulations in the NHPA. In addition, if unanticipated buried Native American human remains or sacred features were discovered as a

result of construction, then there will be a significant and unavoidable impact to the remains, an adverse effect under the regulations in the NHPA. There are no other feasible mitigation measures or alternatives available to reduce the significant impact to cultural and paleontological resources to a level that will be less than significant.

Reference. Section D.7 (Cultural and Paleontological Resources) of the EIR/EIS provides a complete assessment of the cultural resources impacts of the Project.

V.3.5 Noise

Impact N-2: Permanent noise levels along the ROW will increase due to corona noise from operation of the transmission lines

As discussed in Section D.8 (Noise) of the EIR/EIS, noise generated by operation of the Project will create Corona Noise along the entire Project route. Some segments of the Project will create a permanent increase in ambient noise to nearby residential receptors. Along the route, residential receptors at the following locations will incur permanent noise increases as a result of the Project:

- Two to three residences at State Route 78 (MP E108.4) within 25 feet of the Project ROW will increase noise levels in excess of 65 Ldn.
- Residences of unincorporated Riverside County (Thousand Palms and North Palm Springs) within 25 feet of the Project ROW.
- Residences within 25 feet of the corridor of the Devers-Valley No. 2 Alternative

Operational noise at these locations will have the potential to permanently increase existing ambient noise conditions.

Finding. The CPUC finds that changes or alternations have been incorporated in the Project to address significant permanent noise increases on the environment. However, even with implementation of the APMs incorporated into the project (see APM L-7 which applies to this impact in Table B-10 of Section B.5 of the EIR/EIS), significant unavoidable impacts will occur at those specific locations identified above. The CPUC finds that specific economic, legal, social, technological, or other considerations, including those considerations set forth in Sections III.C (Alternatives to DPV2), IV (DPV2 Route Alternatives) and VII (Statement of Overriding Considerations) of the Decision, make infeasible additional mitigation measures or project alternatives identified in the Final EIR/EIS.

Rationale for Finding. For the impacted residences identified at State Route 78 (MP E108.4) within 25 feet of the Project ROW, SCE hopes to relocate the homes, as proposed in APM L-7; however, SCE has provided no details on whether the proposed relocation of the homes or the lines can feasibly be implemented. If implementation of APM L-7 proves problematic, the operation of the Project will create an infrequent, but significant, impact for residential land uses within 25 feet of the ROW (as identified above) that will remain unavoidable. There are no other feasible mitigation measures or alternatives available to reduce the significant noise impact to a level that will be less than significant.

Reference. Section D.8 (Noise) of the EIR/EIS provides a complete assessment of the operational noise impacts of the Project.

V.3.6 Air Quality

Impact AQ-1: Construction will generate dust and exhaust emissions

As discussed in Section D.11 (Air Quality) of the EIR/EIS, dust and exhaust generated during construction of the Project will create significant impacts to the segments along the entire Project route and alternatives located within air basins managed by the South Coast Air Quality Management District (SCAQMD). Daily construction emissions will be potentially significant for NOx, VOC, and PM10 within the SCAQMD jurisdiction. The jurisdiction of the SCAQMD includes the following project components inside the SCAQMD boundary, east of the Devers Substation:

- Construction of 349 new towers and 105 miles of transmission line
- Construction of upgrades at the Devers Substation
- Access and spur road construction and repair

In addition, the following Alternative route segments will result in construction activities within the SCAQMD that will result in potentially significant impacts for NOx, VOC, and PM10 emissions:

- Alligator Rock–North of Desert Center Alternative
- Devers-Valley No. 2 Alternative
- Desert Southwest Transmission Project Alternative

Finding. The CPUC finds that the mitigation measures listed below (and Mitigation Measure AQ-1a from Section IV-2.10 above) have been incorporated in the Project to address significant air quality emission increases on the environment during construction in the SCAQMD jurisdiction. The VOC emissions estimates calculated in the EIS/EIR Section D.11, Air Quality, will exceed the SCAQMD daily regional significance criteria. The Project's NOx and PM10 emissions, even after implementation of these feasible mitigation measures, will remain above the SCAQMD daily significance threshold values. In addition, even with implementation of the proposed fugitive dust Mitigation Measures presented above, significant unavoidable localized PM10 impacts for nearby sensitive receptors (only those limited sensitive receptors located closer than 50 meters to new tower sites) within SCAQMD jurisdiction will still occur. The CPUC finds that specific economic, legal, social, technological, or other considerations, including those considerations set forth in Sections III.C (Alternatives to DPV2), IV (DPV2 Route Alternatives) and VII (Statement of Overriding Considerations) of the Decision, make infeasible additional mitigation measures or project alternatives identified in the Final EIR/EIS.

AQ-1b Use ultra low-sulfur diesel fuel. CARB-certified ultra low-sulfur diesel (ULSD) fuel containing 15 ppm sulfur or less shall be used in all diesel-powered construction equipment.

AQ-1c Restrict engine idling. Diesel engine idle time shall be restricted to no more than a 10 minutes duration.

AQ-1d Use lower emitting offroad diesel-fueled equipment. All offroad construction diesel engines not registered under CARB's Statewide Portable Equipment Registration Program, which have a rating of 50 hp or more, shall meet, at a minimum, the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, section 2423(b)(1) unless that such engine is not available for a particular item of equipment. In the event a Tier 2 engine is not available for any offroad engine larger than 100 hp, that engine shall

be equipped with a Tier 1 engine. In the event a Tier 1 engine is not available for any offroad engine larger than 100 hp, that engine shall be equipped with a catalyzed diesel particulate filter (soot filter), unless certified by engine manufacturers that the use of such devices is not practical for specific engine types. Equipment properly registered under and in compliance with CARB's Statewide Portable Equipment Registration Program are considered to comply with this mitigation measure.

AQ-1e Use onroad vehicles that meet California onroad standards. All onroad construction vehicles working within California shall meet all applicable California onroad emission standards and shall be licensed in the State of California. This does not apply to construction worker personal vehicles.

AQ-1f Use lower emitting offroad gasoline-fueled equipment. All offroad stationary and portable gasoline-powered equipment shall have EPA Phase 1/Phase 2 compliant engines, where the specific engine requirement shall be based on the new engine standard in effect two years prior to the initiating project construction.

AQ-1g Reduce helicopter use during construction. Helicopter use in California shall be limited to that necessary for conductor installation, using helicopters of the smallest practical size; and helicopters shall not be used for delivering supplies or personnel within California federal or State ozone nonattainment areas except as specifically excepted by the CPUC due to limitations in road access and/or to reduce other adverse environmental impacts associated with road construction/travel (such as to biological resources or cultural resources).

AQ-1h Schedule deliveries outside of peak hours. For marshalling and construction yards west of the eastern border of the City of Indio, all material deliveries to the yards and from the yards to the construction sites shall be scheduled to occur outside of peak "rush hour" traffic hours (7:00 to 10:00 a.m. and 4:00 to 7:00 p.m.) to the extent feasible, and other truck trips during peak traffic hours shall be minimized to the extent feasible.

AQ-1i Obtain NOx emission offsets. SCE shall obtain NOx emission reduction credits or offsets in sufficient quantities to offset construction emissions of NOx that exceed the South Coast Air Basin ozone nonattainment area federal General Conformity Rule applicability threshold as determined in the General Conformity analysis for the project. The emission offset method shall comply with SCAQMD rules and regulations, and offsets shall be obtained by SCE prior to construction.

Rationale for Finding. During construction of the Project within the SCAQMD, construction emissions will create a short-term, but significant, impact by exceeding the daily NOx, VOC, and PM10 thresholds within the SCAQMD jurisdiction. This impact will remain unavoidable. There are no other feasible mitigation measures or alternatives available to reduce the significant air quality impact to a level that will be less than significant.

Reference. Section D.11 (Air Quality) provides a complete assessment of the air quality impacts of the Project.

Cumulative construction air quality impacts could result in a temporary or permanent increase in pollutant levels or violate local air quality rules, standards, and/or ordinances

As discussed in Section F (Cumulative Scenario and Impacts) of the EIR/EIS, there is the possibility that a variety of projects will occur at the same time as Project construction. A number of projects were identified in California in both the MDAQMD and SCAQMD jurisdiction. In the areas where Project construction may occur simultaneously with future and proposed construction projects within one mile of the Project, the combined effects of air quality pollutants generated by the Project and other development will result in cumulative impacts.

Finding. The CPUC finds that mitigation measures identified for the Project will remain applicable (AQ-1a through AQ-1i listed above). Other cumulative projects will also need to comply with local ordinances prohibiting nuisances or requiring dust control. Section D.11 (Air Quality) of the EIR/EIS provides a detailed description of the effects of the Project on air quality and the MDAQMD and SCAQMD CEQA significance determination methodologies. The CPUC finds that specific economic, legal, social, technological, or other considerations, including those considerations set forth in Sections III.C (Alternatives to DPV2), IV (DPV2 Route Alternatives) and VII (Statement of Overriding Considerations) of the Decision, make infeasible additional mitigation measures or project alternatives identified in the Final EIR/EIS.

Rationale for Finding. There is the possibility that a variety of projects, mainly roadway improvements or local residential development, will occur at the same time as construction of the Project. Pollutants generated from construction of these projects could result in an impact on ambient air quality that will overlap with those of the Project, if the construction work occurs in close proximity as well as at the same time. Construction of the cumulative projects could further exacerbate the potentially significant project-related construction impacts (Impact A-1). Mitigation measures identified for the Project will remain applicable. Other cumulative projects will also need to comply with local ordinances prohibiting nuisances or requiring dust control. The APMs for air quality and air quality mitigation measures recommended for the Project will reduce cumulative construction impacts to a less than significant level within MDAQMD jurisdiction, but impacts will remain significant after mitigation within SCAQMD jurisdiction. There are no other feasible mitigation measures or alternatives available to reduce the significant air quality impact to a level that will be less than significant.

Reference. Section F (Cumulative Scenario and Impacts) provides a complete assessment of the air quality impacts of the Project.

VI. Finding on the "West Of Devers" Portion of the Proposed Project

As described in Section II.1 (Project Description Summary), at the time of SCE's Application to the CPUC for the DPV2 project, the Project included upgrades to an additional 50 miles of 230 kV transmission lines west of the Devers Substation, called the "West of Devers" portion of the Project. The CPUC has decided to implement the Devers-Valley No. 2 Alternative route instead of the West of Devers upgrades due to the legal infeasibility of the West of Devers segment that would cross over Morongo tribal lands.

Finding/Rationale: The CPUC finds that the West of Devers portion of the proposed Project is less desirable than the adopted Project (including implementation of the Devers-Valley No. 2 Alternative) and rejects this portion of the proposed Project as legally infeasible as a result of the segment which would cross over Morongo tribal lands. Specific economic, legal, social, technological, and other consider-

ations, including those considerations set forth in Sections III.C (Alternatives to DPV2), IV (DPV2 Route Alternatives) and VII (Statement of Overriding Considerations) of the Decision, make this alternative less desirable than the adopted Project.

VII. Alternatives to the Project

In total, the alternatives screening process culminated in the identification and preliminary screening of 35 potential alternatives or combinations of alternatives. These alternatives ranged from minor routing adjustments to SCE's proposed 500 kV project route, to entirely different transmission line routes, to alternate system voltages, and system designs. Renewable resource technologies, distributed generation, and demand-side management were also considered. The alternatives that were eliminated either did not meet project objectives, did not meet legal, regulatory, and technical feasibility criteria, and/or did not avoid or reduce environmental effects of the Project.

For example, three alternative routes that will avoid Kofa National Wildlife Refuge (SCE North of Kofa NWR–South of I-10 Alternative, SCE North of Kofa NWR–North of I-10 Alternative, North of Kofa Alternative) were developed. All three alternatives will meet project objectives, but all will also be outside of BLM-designated utility corridors. As a result of greater impacts to recreation, visual, and biological resources, and the challenges in obtaining regulatory approvals, all three alternatives that will avoid Kofa NWR were eliminated from full consideration and the route through the wildlife refuge was found to be the most environmentally preferred.

VII.1 Transmission Line Route Alternatives: Devers-Harquahala

VII.1.1 SCE Harquahala-West Alternative

The "Harquahala-West Subalternate Route" will begin at the Harquahala Generating Station Switchyard. Rather than departing the Harquahala Switchyard to the east paralleling the existing Harquahala-Hassayampa 500 kV towers, the Harquahala-West Alternative will depart the Harquahala Generating Station Switchyard to the west and follow section lines due west for approximately 12 miles through private and State lands to the El Paso Natural Gas Pipeline corridor. This portion of the route parallels Courthouse Road approximately one mile to the north along section lines to the pipeline corridor. At the pipeline corridor, the transmission line will proceed northwesterly along the pipeline corridor for approximately 9 miles to the intersection with the DPV1 transmission line, immediately north of the El Paso Wendon Pump Station. The length of the Harquahala-West Alternative between the Harquahala Switchyard and the junction with the DPV1 line and the proposed route is 21 miles.

Finding/Rationale. The CPUC finds that the SCE Harquahala-West Alternative is less desirable than the adopted Project and rejects this alternative because it will result in greater environmental impacts due to its creation of a new transmission corridor and effects on agricultural land (Permanent conversion of 23.4 acres of Prime Farmland to non-agricultural use and 35.7 acres of temporary agricultural land disturbance). Specific economic, legal, social, technological, and other considerations, including those considerations set forth in Sections III.C (Alternatives to DPV2), IV (DPV2 Route Alternatives) and VII (Statement of Overriding Considerations) of the Decision, make this alternative less desirable than the adopted Project.

VII.1.2 SCE Palo Verde Alternative

Under the Palo Verde Alternative, the DPV2 line will terminate at the Palo Verde Nuclear Generating Station (PVNGS) Switchyard instead of Harquahala Generating Station switchyard as is currently proposed. As presented in the 2005 PEA, the Palo Verde Alternative will require construction of a new 500 kV transmission line parallel to the DPV1 transmission line for an additional approximately 14.7 miles to the PVNGS Switchyard. Rather than leave the existing DPV1 transmission corridor and follow the existing Harquahala-Hassayampa 500 kV transmission line west to the Harquahala Switchyard, this alternative route will cross from the western side of the DPV1 transmission line to the east, and continue south, parallel to the existing DPV1 and Harquahala-Hassayampa 500 kV lines. This alternative will avoid the need to construct the proposed 5-mile segment from the Harquahala Generating Station Switchyard to the Harquahala Junction. This route will serve as a backup if SCE's contract to use Harquahala Generating Station as the termination point and acquire the existing Harquahala-Hassayampa 500 kV transmission line falls through and SCE has to build a new line to the PVNGS Switchyard.

Finding/Rationale. The CPUC finds that this alternative is less desirable than the adopted Project and rejects this alternative because it will have greater environmental impacts, because the route will be approximately 9.7 miles longer than the proposed route. Longer length will affect the length and intensity of short-term construction impacts and ground disturbance, affecting air quality, noise, transportation and traffic, hazardous materials related to environmental contamination, water use for dust suppression, and geologic resources related to soil erosion. The potential to disturb unknown cultural resources and impact vegetation and wildlife is also increased with greater ground disturbance. In addition, there will be the potential for adverse visual impacts on views of Saddle Mountain from westbound Salome Highway and to approximately eight residences along the east-west portion of DPV2 route in the vicinity of Elliot Avenue and west of PVNGS. Specific economic, legal, social, technological or other considerations including those identified in Sections III.C (Alternatives to DPV2), IV (DPV2 Route Alternatives) and VII (Statement of Overriding Considerations) of the Decision, make this alternative less desirable as identified in the EIR/EIS.

VII.1.3 Alligator Rock Alternatives

In addition to the Alligator Rock–North of Desert Center Alternative described in detail in Section II.1 (above), there are two other potential reroutes around the Alligator Rock area that were developed to reduce impacts to cultural and biological resources. A route south of the proposed route was eliminated after preliminary screening due to much greater environmental impacts to all issue areas except visual resources.

Alligator Rock–Blythe Energy Transmission Route Alternative. This route would diverge from the Project route approximately 3.5 miles east of Desert Center and would avoid much of the Alligator Rock ACEC by following its northern edge near I-10. This alternative would follow the proposed Blythe Energy Project Transmission Line Project (BEPTL) by diverging from DPV1 to the north bringing this new alignment close to Aztec Avenue, an existing El Paso Natural Gas Pipeline/access road, which would be used for construction access. Because the proposed new alignment would be close to the pipeline access road, each of the spur roads to the tower sites would be from this existing access road. The alternative route would be approximately 4.6 miles long and the Project would be approximately 3.95 miles long in the same segment.

Alligator Rock–South of I-10 Frontage Alternative. This alternative route is the same as the route proposed for the Desert Southwest Transmission Project (see below). The South of I-10 Frontage Alternative would diverge from the Project approximately 3.5 miles east of Desert Center and would follow the Alligator Rock–Blythe Energy Transmission Route Alternative route for 3.25 miles to the point at which the BEPTL Alternative turns southwest, just east of Alligator Rock. After passing between the northern end of Alligator Rock and the I-10 itself, this alternative would continue in a westerly direction, immediately south of I-10 and Aztec Avenue for 6.5 miles. It would rejoin the Project route between MPs 160 and 161. The Alligator Rock–South of I-10 Frontage Alternative would be 9.77 miles long and the proposed route would be 9.2 miles long in the equivalent segment.

Finding/Rationale. Because it is likely that the Alligator Rock–North of Desert Center Alternative will be selected, these other two route alternatives intended to avoid the impact to the Alligator Rock portion of the route proposed by SCE are not necessary. Therefore, the CPUC finds that these alternative routes are less desirable than the adopted Project and are rejected.

The Alligator Rock–Blythe Energy Project Alternative is 0.65 miles longer than the proposed route. It will have the same Class I impacts in air quality and cultural resources, although the cultural resources potentially affect will likely have less value than those in the heart of the ACEC. The alternative will create a different Class I visual impact, Impact V-38, resulting from inconsistency with Interim BLM VRM Class II management objective when viewing Alligator Rock from westbound I-10, east of Desert Center.

The Alligator Rock–South of I-10 Frontage Alternative is 0.57 miles longer than the proposed route. It will have the same Class I impacts in air quality and cultural resources, although the cultural resources potentially affect will have less value than those in the heart of the ACEC. The alternative will create a different Class I visual impact, Impact V-39 (inconsistency with Interim BLM VRM Class II management objective when viewing Alligator Rock from eastbound I-10.

The CPUC finds that specific economic, legal, social, technological or other considerations have including those identified in Sections III.C (Alternatives to DPV2), IV (DPV2 Route Alternatives) and VII (Statement of Overriding Considerations) of the Decision make these route alternatives less desirable as identified in the EIR/EIS.

VII.2 Other Project Alternatives

VII.2.1 Desert Southwest Transmission Project Alternative

The Desert Southwest Transmission Line Project (DSWTP) Final EIS/EIR, published by the Imperial Irrigation District (IID) and BLM in October 2005, analyzes a proposed new 118-mile 500 kV line between Blythe and SCE's Devers Substation. The BLM issued a Record of Decision on the project on September 15, 2006. The line will originate at a new 25-acre Keim Substation/Switching Station east of the center of Blythe near the Blythe Energy Project power plant. In addition, the DSWTP will include a new Midpoint Substation/Switching Station, located at the eastern intersection of the proposed line with the existing DPV1 line. The new line from the new Keim Substation/Switching Station to the new Midpoint Substation/Switching Station will be constructed as a double-circuit line or two parallel lines. Also, in the future, a new substation could be built near Indio west of Dillon Road, adjacent to the existing transmission line facilities, to connect the proposed transmission line to IID's existing Coachella Substation.

Much of this alternative route will be in the same corridor as SCE's DPV1 transmission line, the proposed DPV2 line, and the proposed Blythe Energy Project Transmission Line Modifications (BEPTL). For the purposes of this alternatives analysis, the DSWTP differs from the Project in the following respects:

- DSWTP includes the construction of three new substation/switching stations (Keim, Midpoint, and on Dillon Road) that will not be required with the DPV2 Project (although DPV2 includes an option to construct the Midpoint Substation).
- DSWTP requires construction of one double-circuit 500 kV line or two parallel 500 kV transmission lines for 8.8 miles from Keim Substation to Midpoint Substation.
- DSWTP will diverge from the DPV1 corridor to the north (closer to I-10) in the vicinity of Alligator Rock for approximately 9.5 miles.

Finding/Rationale. The CPUC finds that this alternative project will meet project objectives and will be feasible. Overall, the impacts will be very similar to those of the proposed DPV2 Project. The DSWTP route will reduce impacts to biological and cultural resources in the vicinity of Alligator Rock ACEC. However, the Project is preferred over the DSWTP because it will require less ground disturbance and construction of fewer substations. Specific economic, legal, social, technological and other considerations have been identified in Section VII of the Decision (Statement of Overriding Considerations) that make the DSWTP Alternative less desirable than the adopted Project.

VII.3 No Project Alternative

Under the No Project Alternative, construction and operation of DPV2 will not occur. The baseline environmental conditions for the No Project Alternatives are the same as for the Project. The baseline conditions will continue to occur into the future, undisturbed, in the absence of project-related construction activities.

The objectives of the Project will remain unfulfilled under the No Project Alternative. For example, 1,200 MW of transmission import capability into California will not be added, and the additional market competition and improved system reliability and operating flexibility associated with the Project will not occur.

The absence of the Project may lead SCE or other developers to pursue other actions to achieve the objectives of the Project. The events or actions that are reasonably expected to occur in the foreseeable future without DPV2 include the following:

- The existing transmission grid and power generating facilities will continue to operate.
- Continued growth in electricity consumption and peak demand within California is expected. To serve this growth, additional electricity will need to be internally generated or imported into California by existing facilities.
- A continuation of baseline *demand-side* or *supply-side* actions may be expected to occur. *Demand-side* actions include additional energy conservation or load management. *Supply-side* actions can include accelerated development of generation, such as conventional, renewable, and distributed generation, or other major transmission projects.

Finding/Rationale. The environmental impacts of the No Project Alternative will primarily result from operation of gas-fired turbine generators and new transmission lines. These long-term operational impacts include substantial air emissions and ongoing noise near the generators, as well as visual impacts of the new transmission lines and generators depending on their locations. Therefore, because the No Project Alternative could also require construction of transmission lines with impacts similar to those described for the Project, as well as impacts of generation sources, the CPUC finds that the No Project Alternative is not superior to the Environmentally Superior Alternative. Specific economic, legal, social, technological or other considerations have been identified in Section VII of the Decision (Statement of Overriding Considerations) that make the No Project Alternative less desirable than the adopted Project.

VIII. Findings Regarding Other CEQA Considerations

VIII.1 Growth Inducing Impacts

The growth-inducing potential of a project will be significant if it fosters growth or a concentration of population above what is assumed in local and regional land use plans, or in projections made by regional planning authorities. Significant growth impacts could also occur if a project provides infrastructure or service capacity to accommodate growth levels beyond those permitted by local or regional plans and policies.

Finding/Rationale. Both locally and regionally, the Project area is experiencing substantial population growth, which is reflected in a large number of proposed and planned future residential development projects. The Project is not intended to supply power related to growth for any particular development, either directly or indirectly. The transmission line will be built so that as power loads increase, future overloading of transmission facilities will be avoided. By increasing capacity and reducing generation outages, the Project will increase power reliability. The Project will increase capacity and reduce generation outages, increasing power reliability, and could therefore be seen as indirectly inducing growth. However, the Project will not result in growth inducing impacts as it will not remove any substantial impediments to growth nor will it cause economic expansion or growth in excess of the projected rates of growth in the Project area. Additionally, the Project will not introduce power into undeveloped areas or development into open space as the Project will largely follow existing utility corridors.

VIII.2 Significant Irreversible Environmental Changes

Irreversible and irretrievable environmental changes caused by a Project include uses of nonrenewable resources during construction and operation, long-term or permanent access to previously inaccessible areas, and irreversible damages that may result from project-related accidents.

Finding/Rationale. The Project will result in a number of irreversible and irretrievable commitments of resources. Implementation of the Project will result in the consumption of energy as it relates to the fuel needed for construction-related activities. Construction will require the manufacture of new materials, some of which will not be recyclable at the end of the Project's lifetime, and the energy required for the production of these materials, which will also result in an irretrievable commitment of natural resources. The consumption of nonrenewable resources during maintenance and inspection of the Project will not change appreciably from SCE's existing activities in the project area. Although the Project will result in the permanent loss of approximately 160.1 acres of vegetation and habitat, more than 892 acres will be restored to their previous condition after construction. As this new disturbance will be in existing utility

corridors, access to previously inaccessible areas will be minimal. During the operation of the Project, the transport of electrical power generated from nonrenewable resources (e.g., natural gas, nuclear) will continue. However, these resources are available and will be available in the reasonably foreseeable future.

The CPUC finds that specific economic, legal, social, technological, or other considerations, including those considerations set forth in Sections III.C (Alternatives to DPV2), IV (DPV2 Route Alternatives) and VII (Statement of Overriding Considerations) of the Decision, make infeasible additional mitigation measures or project alternatives identified in the Final EIR/EIS.

VIII.3 Responses to Comments on the Draft EIR/EIS and Revisions to the Final EIR/EIS

Volume 3 of the EIR/EIS includes the comments received on the Draft EIR/EIS and responses to those comments. The focus of the responses to comments is on the disposition of significant environmental issues as raised in the comments, as specified by Section 15088(b) of the State CEQA Guidelines and 40 CFR 1503.4 under NEPA.

As noted above, the CPUC has deleted Section H.1.3 of the Final EIR/EIS.

Finding/Rationale. Responses to comments made on the Draft EIR/EIS and the above-referenced revision to the Final EIR/EIS merely clarify and amplify the analysis presented in the document and do not trigger the need to recirculate per CEQA Guidelines §15088.5(b).

IX. Adoption of a Monitoring and Reporting Program for the CEQA Mitigation Measures

Section 21081.6 of the Public Resources Code requires this Commission to adopt a monitoring or reporting program regarding the changes in the project and mitigation measures imposed to lessen or avoid significant effects on the environment. The Mitigation Monitoring Program is adopted because it fulfills the CEQA mitigation monitoring requirements:

- The Mitigation Monitoring and Reporting Program is designed to ensure compliance with the changes in the project and mitigation measures imposed on the project during project implementation.
- Measures to mitigate or avoid significant effects on the environment are fully enforceable through permit conditions, agreements, or other measures.

The Devers–Palo Verde No. 2 Transmission Line Project Mitigation Monitoring and Reporting Program is included as Section H of the Final EIR/EIS (Section X).

X. Mitigation Monitoring and Reporting

The following is from EIR/EIS Section H, as modified in Section I of these Findings.

This EIR/EIS includes a proposed Mitigation Monitoring, Compliance, and Reporting Program (MMCRP) for the mitigation measures proposed herein for the Devers–Palo Verde No. 2 Transmission Line Project

(DPV2). An MMCRP table for the Proposed Project and the alternatives is provided at the end of each issue area's environmental analysis in Section D (D.2 through D.14). This section herein provides the recommended framework for the implementation of the MMCRP by the CEQA Lead Agency, the California Public Utilities Commission (CPUC), and the NEPA Lead Agency, the Bureau of Land Management (BLM), and describes the roles and responsibilities of government agencies in implementing and enforcing adopted mitigation.

H.1 Authority for the Mitigation Monitoring, Compliance, and Reporting Program

H.1.1 California Public Utilities Commission

The California Public Utilities Code in numerous places confers authority upon the CPUC to regulate the terms of service and the safety, practices and equipment of utilities subject to its jurisdiction. It is the standard practice of the CPUC, pursuant to its statutory responsibility to protect the environment, to require that mitigation measures stipulated as conditions of approval be implemented properly, monitored, and reported on. In 1989, this requirement was codified statewide as Section 21081.6 of the Public Resources Code. Section 21081.6 requires a public agency to adopt a Mitigation Monitoring, Compliance, and Reporting Program when it approves a project that is subject to preparation of an EIR and where the EIR for the project identifies significant adverse environmental effects. *CEQA Guidelines* Section 15097 was added in 1999 to further clarify agency requirements for mitigation monitoring or reporting.

The purpose of a MMCRP is to ensure that measures adopted to mitigate or avoid significant impacts of a project are implemented. The CPUC views the MMCRP as a working guide to facilitate not only the implementation of mitigation measures by the project proponent, but also the monitoring, compliance and reporting activities of the CPUC and any monitors it may designate.

The CPUC will address its responsibility under Public Resources Code Section 21081.6 when it takes action on SCE's application for a Certificate of Public Convenience and Necessity. If the Commission approves the application, it will also adopt a Mitigation Monitoring, Compliance, and Reporting Program that includes the mitigation measures ultimately made a condition of approval by the Commission.

H.1.2 Bureau of Land Management and Other Federal Lands

BLM is the federal Lead Agency for the preparation of this EIR/EIS in compliance with NEPA, the Council on Environmental Quality (CEQ) regulation for implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508), and the BLM NEPA guidance handbook (H-1790-1). As the Lead Agency, BLM is also responsible for ensuring that mitigation measures are implemented on its land. BLM intends to work with the CPUC in implementation of mitigation monitoring during construction of the DPV2 project, and will likely use the CPUC's environmental contractor for monitoring on its lands.

For portions of the project on federal lands owned or managed by other federal agencies (e.g., Kofa National Wildlife Refuge or Yuma Proving Grounds), BLM will consult with these agencies to determine whether they would like the same contractors who are monitoring for BLM to monitor construction on these lands.

H.2 Organization of the Final Mitigation Monitoring Plan

If the project or an alternative to the project is approved, the MMCRP should serve as a self-contained general reference for the Mitigation Monitoring Program adopted by the CPUC and BLM for the DPV2 Project. To accomplish this, the Final Mitigation Monitoring Plan should contain seven elements (as indicated below). If and when a project has been approved by the Commission and BLM, the CPUC and BLM will compile the Final Plan from the Mitigation Monitoring Program in the Final EIR/EIS, as adopted. The elements of the Mitigation Monitoring Plan are as follows:

MMCRP Introduction

- Authority and Purpose of the Program
- Program Adoption Process
- Organization of the MMCRP

Roles and Responsibilities

- Monitoring Responsibility
- Enforcement Responsibility
- Mitigation Compliance Responsibility
- Dispute Resolution

General Monitoring Procedures

- Environmental Monitor
- Construction Personnel
- General Reporting Requirements
- Public Access to Records

In the Final MMCRP, this section will contain a concise overview and reference description of the approved project that clearly outlines its physical locations and timetable, including construction spreads. This section will also specify the "master" reference(s) which the monitors and the Applicant will use in carrying out the Program, e.g., the Final EIR/EIS, but also more detailed working maps and plans. The Applicant Proposed Measures, to which SCE has committed to reduce potential impacts, will also be listed in this section.

In the Final Plan, this section will include the list of agencies with jurisdiction over the project (from EIR/EIS Table A-4), and a description of where their respective jurisdictions exist. For example, for a given construction spread, state what region of the California Department of Fish and Game has jurisdiction, provide the name of the regional manager, the address, telephone and fax numbers.

H.3 Roles and Responsibilities

As the lead agencies under CEQA and NEPA, the CPUC and BLM, respectively, are required to monitor this project to ensure that the required mitigation measures and Applicant Proposed Measures are implemented. The CPUC and BLM will be responsible for ensuring full compliance with the provisions of this

monitoring program and has primary responsibility for implementation of the monitoring program. The purpose of the monitoring program is to document that the mitigation measures required by the CPUC and BLM are implemented and that mitigated environmental impacts are reduced to the level identified in the Program.

The CPUC and/or BLM may delegate duties and responsibilities for monitoring to other environmental monitors or consultants as deemed necessary, and some monitoring responsibilities may be assumed by responsible agencies, such as affected jurisdictions and cities. The number of construction monitors assigned to the project will depend on the number of concurrent construction activities and their locations. The CPUC and BLM, however, will ensure that each person delegated any duties or responsibilities is qualified to monitor compliance.

Any mitigation measure study or plan that requires the approval of the CPUC and BLM must allow at least 60 days for adequate review time. When a mitigation measure requires that a mitigation program be developed during the design phase of the project, the Applicant must submit the final program to CPUC and BLM for review and approval for at least 60 days before construction begins. Other agencies and jurisdictions may require additional review time. It is the responsibility of the environmental monitor assigned to each spread to ensure that appropriate agency reviews and approvals are obtained.

The CPUC and BLM along with its environmental monitors will also ensure that any variance process or deviation from the procedures identified under the monitoring program is consistent with CEQA and NEPA requirements; no project variance will be approved by the CPUC and BLM if it creates new significant impacts. As defined in this section, a variance should be strictly limited to minor project changes that will not trigger other permit requirements, that does not increase the severity of an impact or create a new impact, and that clearly and strictly complies with the intent of the mitigation measure. A Proposed Project change that has the potential for creating significant environmental effects will be evaluated to determine whether supplemental CEQA and/or NEPA review is required. Any proposed deviation from the approved project, adopted mitigation measures, and Applicant Proposed Measures, and correction of such deviation, shall be reported immediately to the CPUC, the BLM, and the environmental monitor assigned to the construction spread for their review and approval. In some cases, a variance may also require approval by a CEQA or NEPA responsible agency.

H.4 Enforcement Responsibility

The CPUC and BLM are responsible for enforcing the procedures adopted for monitoring through the environmental monitor assigned to each construction spread. The environmental monitor shall note problems with monitoring, notify appropriate agencies or individuals about any problems, and report the problems to the CPUC and BLM.

The CPUC and , BLM, and USFWS (within Kofa NWR and Coachella NWR lands) have the authority to halt any construction, operation, or maintenance activity associated with the Devers–Palo Verde No. 2 Transmission Line Project if the activity is determined to be a deviation from the approved project or adopted mitigation measures. The CPUC and/or BLM may assign this authority to the environmental monitor for each construction spread.

H.5 Mitigation Compliance Responsibility

The Applicant, SCE, is responsible for successfully implementing all the adopted mitigation measures in the MMCRP. The MMCRP will contain criteria that define whether mitigation is successful. Standards for successful mitigation also are implicit in many mitigation measures that include such requirements as obtaining permits or avoiding a specific impact entirely. Other mitigation measures include success criteria that are listed in table at the end of each issue area section. Additional mitigation success thresholds will be established by applicable agencies with jurisdiction through the permit process and through the review and approval of specific plans for the implementation of mitigation measures.

The Applicant shall inform the CPUC, the BLM, and their monitors in writing of any mitigation measures that are not or cannot be successfully implemented. The CPUC and BLM in coordination with their monitors will assess whether alternative mitigation is appropriate and specify to SCE the subsequent actions required.

H.6 Dispute Resolution

It is expected that the Final MMCRP will reduce or eliminate many potential disputes. However, even with the best preparation, disputes may occur. In such event, the following procedure will be observed:

- **Step 1.** Disputes and complaints (including those of the public) should be directed first to the CPUC and/or BLM's designated Project Manager, as appropriate, for resolution. The Project Manager will attempt to resolve the dispute.
- **Step 2.** Should this informal process fail, the CPUC and/or BLM Project Manager may initiate enforcement or compliance action to address deviations from the Proposed Project or adopted Mitigation Monitoring Program.

The following steps apply to the CPUC only:

- **Step 3.** If a dispute or complaint regarding the implementation or evaluation of the Program or the mitigation measures cannot be resolved informally or through enforcement or compliance action by the CPUC, any affected participant in the dispute or complaint may file a written "notice of dispute" with the CPUC's Executive Director. This notice should be filed in order to resolve the dispute in a timely manner, with copies concurrently served on other affected participants. Within 10 days of receipt, the Executive Director or designee(s) shall meet or confer with the filer and other affected participants for purposes of resolving the dispute. The Executive Director shall issue an Executive Resolution describing his/her decision, and serve it on the filer and other affected participants.
- **Step 4.** If one or more of the affected parties is not satisfied with the decision as described in the Resolution, such party(ies) may appeal it to the Commission via a procedure to be specified by the Commission.

Parties may also seek review by the Commission through existing procedures specified in the Commission's Rules of Practice and Procedure for formal and expedited dispute resolution, although a good faith effort should first be made to use the foregoing procedure.

H.7 General Monitoring Procedures

H.7.1 Environmental Monitor

Many of the monitoring procedures will be conducted during the construction phase of the project. The CPUC, the BLM, and the environmental monitor(s) are responsible for integrating the mitigation monitoring procedures into the construction process in coordination with SCE. To oversee the monitoring procedures and to ensure success, the environmental monitor assigned to each construction spread must be onsite during that portion of construction that has the potential to create a significant environmental impact or other impact for which mitigation is required. The environmental monitor is responsible for ensuring that all procedures specified in the monitoring program are followed.

H.7.2 Construction Personnel

A key feature contributing to the success of mitigation monitoring will be obtaining the full cooperation of construction personnel and supervisors. Many of the mitigation measures require action on the part of the construction supervisors or crews for successful implementation. To ensure success, the following actions, detailed in specific mitigation measures included in the Final Implementation Plan, will be taken:

- Procedures to be followed by construction companies hired to do the work will be written into contracts between SCE and any construction contractors. Procedures to be followed by construction crews will be written into a separate agreement that all construction personnel will be asked to sign, denoting consent to the procedures.
- One or more pre-construction meetings will be held to inform all and train construction personnel about the requirements of the monitoring program (as detailed in the Final Implementation Plan).
- A written summary of mitigation monitoring procedures will be provided to construction supervisors for all mitigation measures requiring their attention.

H.7.3 General Reporting Procedures

Site visits and specified monitoring procedures performed by other individuals will be reported to the environmental monitor assigned to the relevant construction spread. A monitoring record form will be submitted to the environmental monitor by the individual conducting the visit or procedure so that details of the visit can be recorded and progress tracked by the environmental monitor. A checklist will be developed and maintained by the environmental monitor to track all procedures required for each mitigation measure and to ensure that the timing specified for the procedures is adhered to. The environmental monitor will note any problems that may occur and take appropriate action to rectify the problems. The Applicant shall provide the CPUC and , BLM, and USFWS with written quarterly reports of the project, which shall include progress of construction, resulting impacts, mitigation implemented, and all other noteworthy elements of the project. Quarterly reports shall be required as long as mitigation measures are applicable.

H.7.4 Public Access to Records

The public is allowed access to records and reports used to track the monitoring program. Monitoring records and reports will be made available for public inspection by the CPUC and BLM on request. The CPUC, the BLM, and the Applicant will develop a filing and tracking system. For additional information on mitigation monitoring and reporting for the Devers–Palo Verde No. 2 Transmission Line Project, the Energy Division of the CPUC will maintain an Internet website, accessible at the CPUC website at http://www.cpuc.ca.gov/environment/info/aspen/dpv2/dpv2.htm and at the BLM website at http://www.ca.blm.gov/palmsprings/devers_paloverde.html. In order to facilitate the public's awareness, the CPUC will make weekly reports available on the website.

H.8 Condition Effectiveness Review

As required by CEQA, the CPUC must evaluate the effectiveness of the mitigation measures that are implemented. In order to fulfill its statutory mandates to mitigate or avoid significant effects on the environment and to design a Mitigation Monitoring Program to ensure compliance during project implementation (CEQA 21081.6):

- The CPUC may conduct a comprehensive review of conditions which are not effectively mitigating impacts at any time it deems appropriate, including as a result of the Dispute Resolution procedure outlined in H.6; and
- If in either review, the Commission determines that any conditions are not adequately mitigating significant environmental impacts caused by the project, or that recent proven technological advances could provide more effective mitigation, then the Commission may impose additional reasonable conditions to effectively mitigate these impacts.

These reviews will be conducted in a manner consistent with the Commission's rules and practices.

H.9 Mitigation Monitoring Program Tables

Mitigation Monitoring Program tables are presented at the end of each issue area section (Sections D.2 through D.14). These tables, along with the full text of the mitigation measures themselves, will form the basis for implementation of the Mitigation Monitoring Program.

(END OF ATTACHMENT B)

ATTACHMENT C

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ATTACHMENT C

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(END OF ATTACHMENT C)

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AZ CORP COMMISSION
DOCUMENT CONTROL

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 GENERATING STATION SWITCHYARD IN WESTERN MARICOPA COUNTY AND TERMINATING AT THE DEVERS SUBSTATION IN RIVERSIDE COUNTY, CALIFORNIA	Docket No. L-00000A-06-0295-00130 Case No. 130

SOUTHERN CALIFORNIA EDISON COMPANY'S RESPONSE TO AGENCY COMMENT AND QUESTIONS

On December 22, 2006, Arizona Power Plant and Transmission Line Siting Committee ("Line Siting Committee") Chairman Laurie Woodall filed the comments and questions of the Arizona Department of Environmental Quality ("ADEQ") in the above referenced case.

Southern California Edison Company ("SCE") appreciates the opportunity to submit the following response, as requested by ADEQ.

EXHIBIT
A-34
admitted

RESPECTFULLY SUBMITTED this 7th day of February, 2007.

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ORIGINAL and twenty-five (25) copies
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The Arizona Corporation Commission
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COPY of the foregoing hand-delivered
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SPECIFIC QUESTION

1. What will be the regional haze impacts of this project?

RESPONSE

The scope of the Devers-Palo Verde No. 2 Transmission Line Project ("DPV2" or "Project") in Arizona is the construction and operation of a 500 kV alternating current transmission line and related facilities in Maricopa County and La Paz County, from the Palo Verde hub area to the California border.

During construction, the Project will use mitigation measures that will be very effective in reducing dust emissions so that the overall effect on the environment will be insignificant.[1] As stated in the Final Environmental Impact Statement ("FEIS"), for construction in La Paz County, "the use of mitigation Measure AQ-1a would reduce the construction impact to a less than significant level (Class II)."[2] In Maricopa County, "the level of construction activity … would be relatively minor resulting in emissions well below the applicable thresholds."[3] Moreover, in Maricopa County, Project construction will be subject to the most stringent measures in the country for regulating fugitive dust.[4] The Project will comply with all fugitive dust control requirements and mitigation measures established by ADEQ and other agencies.[5]

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[1] *See* Arizona Power Plant and Transmission Line Siting Committee Case No. 130 Transcript ("Tr.") vol. 9, 1943:17-1944:6
[2] FEIS Section D.11 Air Quality, p. 11-30
[3] FEIS Section D.11 Air Quality, p. 11-28
[4] *Id.;* fn. 1
[5] *Id.*

Power plant emissions are not directly associated with the Project. However, because construction and operation of this Project will lead to increased utilization of newer, cleaner, and more efficient plants, and decreased use of older and less efficient plants, regional power plant emissions will be reduced.[6] Regionally, emissions of carbon dioxide, a greenhouse gas associated with global warming, will decrease by 350,000 tons per year.[7] Governor Napolitano's Executive Order 2006-13, recognizing that greenhouse gas emissions are a regional and global issue, directs ADEQ to work with other western states to establish a greenhouse gas registry to enable tracking, management, crediting and baseline protection. (Attached as Exhibit A)

Additionally, the estimated increases in Arizona emissions (estimated at 0.05% for nitrogen oxides ("NOx")) resulting from increased generation from Arizona plants will be well within the air emission limits that the Line Siting Committee, the Arizona Corporation Commission ("ACC") and pertinent environmental agencies, including ADEQ, have determined are environmentally compatible.[8] As stated in the FEIS:

> The additional power plant emissions aggregate from small increases at several facilities in locations around the State, within existing permit limits, that would not significantly impact any single attainment or non-attainment area in Arizona. Therefore, the Proposed Project's direct and indirect project emissions would be consistent with the local air quality rules, regulations, and attainment plans, and no cumulatively considerable air quality impacts would occur. [FEIS, Section F. Cumulative Impacts, p. F-43]

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[6] *See* Tr. vol. 4, 787:14-788:2 (Aug. 22, 2006); Tr. vol. 5, 1109:15-16 (Sep. 11, 2006); Tr. vol. 5, 1141:7-17 (Sep. 11, 2006); Tr. vol. 5, 1142:3-24 (Sep. 11, 2006); Tr. vol. 5, 1143:24-1144:13 (Sep. 11, 2006); Tr. vol. 5, 1162:17-1163:6 (Sep. 11, 2006); Tr. vol. 5, 1167:19-1168:8 (Sep. 11, 2006); Tr. vol. 6, 1313:17-25 (Sep. 12, 2006); Tr. vol. 14, 2814:23-2815:25 (Oct. 31, 2006); Tr. vol. 14, 2849:14-22 (Oct. 31, 2006).

[7] *Id.*

[8] *See* Tr. vol. 4, 787:14-788:2 (Aug. 22, 2006); Tr. vol. 5, 1167:19-1168:8 (Sep. 11, 2006); Tr. vol. 14, 2814:23-2815:25 (Oct. 31, 2006); Tr. vol. 14, 2849:14-22 (Oct. 31, 2006).

SPECIFIC QUESTION

2. How are the secondary impacts on Arizona's air and water resources, arising from this project's accelerated consumption of existing electricity generation capacity, to be quantified?

RESPONSE

The responses to questions 1 and 4 provide additional information concerning the quantification of air and water secondary impacts.

Please note, DPV2 will not materially accelerate consumption of existing electricity generation. DPV2's indirect impact on Arizona generation is minimal, because exports to California will occur mostly during off-peak hours and off-peak season when their capacity is not needed to supply Arizona load.[9] During peak hours and peak season, i.e., the summer daytime, the project is expected to increase Arizona generation on average only by about 50 megawatts.[10] 50 megawatts represents only one month of Arizona utilities' load growth.[11]

DPV2 will provide the opportunity for transmission-constrained, underutilized, existing generation resources to sell additional power, particularly during off-peak seasons and off-peak hours.[12] This will encourage investment in, and help defray costs of, new resources that will be needed in Arizona to serve Arizona's growing population, regardless of DPV2.[13]

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[9] *See* Tr. vol. 5, 1000:18-1001:2 (Sep. 11, 2006); Tr. vol. 5, 1151:5-23 (Sep. 11, 2006); Tr. vol. 14, 2797:12-2798:5 (Oct. 31, 2006).
[10] *Id.*
[11] *Id.*
[12] *See* Ex. A-8, Tab 1, Slide 46; Tr. vol. 5, 1114:7-15 (Sep. 11, 2006); Tr. vol. 5, 1115:20-1116:24 (Sep. 11, 2006); Tr. vol. 5, 1123:23-1124:20 (Sep. 11, 2006); Tr. vol. 5, 1153:20-25 (Sep. 11, 2006); Tr. vol. 6, 1192:16-23 (Sep. 12, 2006); Tr. vol. 12, 2450:2-4 (Oct. 17, 2006).
[13] *See* Ex. A-8, Tab 1, Slides 43-44; Tr. vol. 5, 999:18-1000:4 (Sep. 11, 2006); Tr. vol. 5, 1044:25-1045:1 (Sep. 11, 2006); Tr. vol. 5, 1114:2-1115:1 (Sep. 11, 2006); Tr. vol. 5, 1115:25-1116:5 (Sep. 11, 2006); Tr. vol. 5, 1116:8-24

SPECIFIC QUESTION

3. What additional capacity will be added to utilize the new transmission line; i.e., what additional generation capacity will be needed to serve both California and Arizona?

RESPONSE

DPV2 does not include a new generation component.

Although there is currently excess generation in the Palo Verde area year-round, Arizona utilities believe the current peak excess may be utilized as soon as 2011, even without DPV2.[14] Arizona's current load growth is about 500 to 600 megawatts a year, which requires the addition of a large power plant annually in order to keep up with the load growth.[15] Even when the current peak excess is utilized, there will continue to be excess merchant and utility generation during the off-peak hours and seasons.[16]

In order to meet the growing demand for generation capacity in California, numerous power plants have been built between 2001 and 2005 totaling over 13,000 MW of new generation.[17] A significant number of new generating plants are expected to be built in California in the near future.[18]

(Sep. 11, 2006); Tr. vol. 5, 1118:2-6 (Sep. 11, 2006); Tr. vol. 5, 1151:12-23 (Sep. 11, 2006); Tr. vol. 13, 2723:17-2724:9 (Oct. 30, 2006).

[14] *See* Ex. COM-1; Tr. vol. 5, 1120:5-7 (Sep. 11, 2006).

[15] *See* Tr. vol. 5, 1120:1-4 (Sep. 11, 2006).

[16] *See* Ex. A-8, Tab 1, Slides 60-62; Tr. vol. 5, 1058:18-25 (Sep. 11, 2006); Tr. vol. 5, 1115:20-22 (Sep. 11, 2006); Tr. vol. 14, 2797:25-2798:5 (Oct. 31, 2006).

[17] *See* Ex. A-2, Slide G; Ex. A-15; Ex. A-18; Tr. vol. 1, 96:18-97:14 (June 26, 2006); Tr. vol. 5, 1017:15-22 (Sep. 11, 2006); Tr. vol. 6, 1282:1-18 (Sep. 12, 2006); Tr. vol. 6, 1342:9-25 (Sep. 12, 2006); Tr. vol. 6, 1343:2-15 (Sep. 12, 2006); Tr. vol. 13, 2688:18-2689:12 (Oct. 30, 2006).

[18] *See* Ex. A-2, Slide G; Ex. S-9; Ex. S-19; Tr. vol. 1, 97:6-14 (June 26, 2006); Tr. vol. 5, 1017:15-22 (Sep. 11, 2006); Tr. vol. 6, 1347:1-5 (Sep. 12, 2006); Tr. vol. 6, 1348:3-8 (Sep. 12, 2006); Tr. vol. 6, 1350:19-1351:2 (Sep. 12, 2006); Tr. vol. 6, 1355:23-1356:14 (Sep. 12, 2006); Tr. vol. 13, 2691:8-25 (Oct. 30, 2006).

SPECIFIC QUESTION

4. What permanent commitment of Arizona's resources, particularly water, will result?

RESPONSE

The Project will not have any direct effects on water usage.[19]

For every thousand megawatts of generation requiring wet cooling, there is an average of 5,000 acre feet of water used per year.[20] Operation of the Project will increase utilization of Arizona generation, leading to an average incremental increase in Arizona generation of 230 megawatts of generation.[21] Therefore, the Project will result indirectly in an estimated increase of 1150 acre feet of water use per year.[22] The estimated increase in water usage is less than 0.2% of the total industrial water use in the Phoenix Active Management Area, or less than 0.02% of Arizona's total water use (i.e., over 7 million acre-feet/year).[23] The incremental change resulting from increased generation from Arizona plants will be well within the water use limits that the ACC, Line Siting Committee, and pertinent environmental agencies have determined are environmentally compatible.[24]

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[19] *See* Tr. vol. 14, 2851:18-24 (Oct. 31, 2006).
[20] *See* Tr. vol. 14, 2816:6-2817:18 (Oct. 31, 2006).
[21] *Id.*
[22] *Id.*
[23] *Id.*
[24] *Id.*

SPECIFIC QUESTION

5. What additional risks to Arizona will be posed by expansion of nuclear generation capacity?

RESPONSE

The Project does not encompass any plans to expand nuclear generation capacity. DPV2 will provide access to underutilized, existing, lower cost resources in the Southwest, including highly efficient natural gas-fired plants near the Palo Verde hub.[25] Overall, the project will provide transmission access to more different types of power plants, using more diverse fuel sources. Ultimately, less new generation capacity would be needed.[26]

Before any nuclear generation facilities that may be contemplated in the future are permitted and constructed in Arizona, multiple authorities, including ADEQ and the Nuclear Regulatory Commission, would analyze and address risks in the licensing process under federal, state, and local agency regulations.

[25] *See* Fn. 6.
[26] *See* Tr. Vol. 5 1109:10-1110:3 (Sep. 11, 2006)

SPECIFIC QUESTION

6. What are the expected impacts of additional air pollution from fossil-fuel powered generation, including compliance with ambient air quality standards, regional haze impacts, and deposition of acid, nitrogen and mercury?

RESPONSE

In accordance with the goals of Governor Napolitano's Executive Order 2006-13, the Project reduces emissions regionally, because newer, cleaner, and more efficient plants will be utilized more, and older and less efficient plants will be used less.[27] Regional carbon dioxide emissions will decrease approximately 350,000 tons per year.[28]

The estimated increases in Arizona NOx emissions (0.05%) resulting from increased generation from Arizona plants will be well within the air emission limits that the Line Siting Committee, ACC and pertinent environmental agencies, including ADEQ, have determined are environmentally compatible.[29]

Additionally, the Project will improve Arizona's and the region's access to renewable resources, which will alleviate Arizona's dependence upon fossil fuel-powered generation in the future.[30]

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[27] *See* Tr. vol. 4, 787:14-788:2 (Aug. 22, 2006); Tr. vol. 5, 1109:15-16 (Sep. 11, 2006); Tr. vol. 5, 1141:7-17 (Sep. 11, 2006); Tr. vol. 5, 1142:3-24 (Sep. 11, 2006); Tr. vol. 5, 1143:24-1144:13 (Sep. 11, 2006); Tr. vol. 5, 1162:17-1163:6 (Sep. 11, 2006); Tr. vol. 5, 1167:19-1168:8 (Sep. 11, 2006); Tr. vol. 6, 1313:17-25 (Sep. 12, 2006); Tr. vol. 14, 2814:23-2815:25 (Oct. 31, 2006); Tr. vol. 14, 2849:14-22 (Oct. 31, 2006).

[28] *Id.*

[29] *See* Tr. vol. 4, 787:14-788:2 (Aug. 22, 2006); Tr. vol. 5, 1167:19-1168:8 (Sep. 11, 2006); Tr. vol. 14, 2814:23-2815:25 (Oct. 31, 2006); Tr. vol. 14, 2849:14-22 (Oct. 31, 2006).

[30] *See* Ex. A-8, Tab 1, Slides 53-56; Tr. vol. 4, 848:3-10 (Aug. 22, 2006); Tr. vol. 4, 854:16-25 (Aug. 22, 2006); Tr. vol. 4, 877:8-11 (Aug. 22, 2006); Tr. vol. 5, 1000:5-11 (Sep. 11, 2006); Tr. vol. 5, 1045:4-7 (Sep. 11, 2006); Tr. vol. 5, 1113:1-7 (Sep. 11, 2006); Tr. vol. 5, 1132:21-1137:20 (Sep. 11, 2006); Tr. vol. 5, 1165:18-1166:1 (Sep. 11, 2006); Tr. vol. 6, 1202:22-1203:4 (Sep. 12, 2006); Tr. vol. 6, 1285:23-24 (Sep. 12, 2006); Tr. vol. 6, 1290:6-11 (Sep. 12, 2006); Tr. vol. 13, 2720:25-2721:13 (Oct. 30, 2006).

SPECIFIC QUESTION

7. What are expected conventional waste management impacts, particularly ash and cooling water (including salinity increases)?

RESPONSE

Increased utilization of Arizona generation that will occur as a result of operation of the Project will result in only a nominal increase in cooling water use.[31] Cooling water use will be within the limits established by the ACC, the Line Siting Committee, and the Arizona Department of Water Resources.

There will be no ash generated by the construction and operation of the proposed DPV2 transmission line. Disposal of ash and spent cooling water at existing permitted generating plants is regulated by state or federal agencies. Typically, in water-cooled generating plants, the water is recycled through closed circuit cooling systems and stored in evaporation ponds until salts are removed in solid form.

During Project construction activities and operation, mitigation measures specified in the FEIS will ensure the proper handling and/or storage of hazardous materials, prevent potential contamination, and address any preexisting contamination, pesticides, or herbicides encountered. The mitigation measures include the following:

P-1a **Develop Hazardous Substance Control and Emergency Response Plan.** A Hazardous Substance Control and Emergency Response Plan shall be prepared for the project, and a copy shall be kept on site (or in vehicles) during construction and maintenance of the project. SCE shall document compliance by submitting the plan to the CPUC or BLM or USFWS, as appropriate, for review and approval at least 60 days before the start of construction.

[31] *See* Tr. vol. 14, 2816:2-2817:18 (Oct. 31, 2006).

P-1b **Conduct environmental training and monitoring program.** An environmental training program shall be established to communicate environmental concerns and appropriate work practices, including spill prevention, emergency response measures, and proper Best Management Practice (BMP) implementation, to all field personnel prior to the start of construction. The training program shall emphasize site-specific physical conditions to improve hazard prevention (e.g., identification of potentially hazardous substances) and shall include a review of all site-specific plans, including but not limited to, the project's Storm Water Pollution Prevention Plan and the Hazardous Substances Control and Emergency Response Plan. SCE shall document compliance by (a) submitting to the CPUC or BLM or USFWS, as appropriate, for review and approval an outline of the proposed Environmental Training and Monitoring Program, and (b) maintaining for monitor review a list of names of all construction personnel who have completed the training program.

Best Management Practices, as identified in the project Storm Water Pollution Prevention Plan and the Hazardous Substances Control and Emergency Response Plan, shall be implemented during the construction of the project to minimize the risk of an accidental release and provide the necessary information for emergency response.

P-1c **Ensure proper disposal of construction waste.** All non-hazardous construction and demolition waste, including trash and litter, garbage, and other solid waste shall be disposed of properly. Petroleum products and other potentially hazardous materials shall be removed to a hazardous waste facility permitted or otherwise authorized to treat, store, or dispose of such materials.

P-1d **Maintain emergency spill supplies and equipment.** Hazardous material spill kits shall be maintained at all construction sites for small spills. This shall include oil-absorbent material, tarps, and storage drums to be used to contain and control any minor releases. Emergency spill supplies and equipment shall be kept adjacent to all work areas and staging areas, and shall be clearly marked. Detailed information for responding to accidental spills and for handling any resulting hazardous materials shall be provided in the project's Hazardous Substances Control and Emergency Response Plan.

P-2a **Identify pesticide/herbicide contamination.** Soil samples shall be collected in construction areas where the land has historically or is currently being farmed to identify the possibility of and to delineate the

extent of pesticide and/or herbicide contamination. Excavated materials containing elevated levels of pesticide or herbicide will require special handling and disposal procedures. Standard dust suppression procedures (as defined in Mitigation Measure AQ-1a) shall be used in construction areas to reduce airborne emissions of these contaminants and reduce the risk of exposure to workers and the public. Regulatory agencies for the states of Arizona or California (as appropriate) and the appropriate county shall be contacted to provide oversight regarding the handling, treatment, and/or disposal options.

P-3a **Observe exposed soil for evidence of contamination.** During grading or excavation work, the construction contractor shall observe the exposed soil for visual evidence of contamination. If visual contamination indicators are observed during construction, the contractor shall stop work until the material is properly characterized and appropriate measures are taken to protect human health and the environment. The contractor shall comply with all local, State, and federal requirements for sampling and testing, and subsequent removal, transport, and disposal of hazardous materials. Additionally, in the event that evidence of contamination is observed, the contractor shall document the exact location of the contamination and shall immediately notify the CPUC or BLM, describing proposed actions. A weekly report listing encounters with contaminated soils and describing actions taken shall be submitted to the CPUC or BLM.

P-4a **Prepare Spill Prevention, Countermeasure, and Control Plans.** To minimize, avoid, and/or clean up unforeseen spill of hazardous materials during operation of the proposed facilities, SCE shall update or prepare, if necessary, the Spill Prevention, Countermeasure, and Control plan for each substation, series capacitors, and the switchyard. SCE shall document compliance by providing a copy of the Spill Prevention, Control, and Countermeasures plans to the CPUC or BLM or USFWS, as appropriate, for review and approval at least 60 days before the start of operation. [FEIS Section D.10, Public Health and Safety, pp. D.10-12 – 10-15.]

SPECIFIC QUESTION

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8. What additional transmission lines will be needed to serve Arizona's electricity demand?

RESPONSE

Many future transmission projects are planned or proposed to meet Arizona's electricity demand.[32] The ACC's Draft Fourth Biennial Transmission Assessment ("BTA") 2006 Report summarizes all planned Arizona transmission additions.[33] (BTA Appendices F and G attached as Exhibit B.)

[32] *See* Ex. COM-2, Slides 51-53; Tr. vol. 7, 1627:18-1630:19 (Sep. 25, 2006).
[33] *See* BTA, 60:Fig. 10, 76:§ 5.11, 139: Appendix F, 143: Appendix G (Doc. No. E-00000D-05-0040 Oct. 2, 2006).

SPECIFIC QUESTION

9. What environmental mitigation conditions to the ACC approval or independent commitments of the Applicant could be technically and economically implemented?

RESPONSE

SCE's proposed Certificate of Environmental Compatibility ("CEC"), filed November 29, 2006, contains many technically and economically feasible conditions designed to minimize environmental, natural resource, and land use impacts. (Attached as Exhibit C)

For example, the proposed CEC would require SCE to obtain all necessary approvals and comply with all existing applicable air and water pollution control standards and regulations. SCE also would be required to develop a construction mitigation and reclamation plan to avoid impacts where practical, minimize unavoidable impacts, and focus onsite preparations to facilitate natural processes of re-vegetation and drainage. Proposed Condition 17 would require SCE to comply with the environmental mitigation measures of the Bureau of Land Management right-of-way grant and Plan of Development, the Kofa National Wildlife Refuge right-of-way grant, and the U.S. Army Proving Ground right-of-way grant. Other conditions also would ensure impacts to wildlife, native plants, cultural resources, and visual resources are minimized.

EXHIBIT A

Executive Order 2006-13
Climate Change Action

WHEREAS, Executive Order 2005-02 recognized that a scientific consensus has developed that increasing emissions of carbon dioxide (CO2), methane and other greenhouse gases (GHGs) released to the atmosphere are affecting the Earth's climate; and

WHEREAS, between 1990 and 2005 Arizona's GHG emissions increased by an estimated 56 percent; and

WHEREAS, GHG emissions in Arizona are projected to increase by an estimated 148 percent over 1990 levels by 2020; and

WHEREAS, Arizona and other Western States are experiencing the effects of a hotter, drier climate, including prolonged drought, excessive heat waves, reduced snow pack, increased snowmelt, decreased spring runoff, altered precipitation patterns, more severe forest and rangeland fires, widespread forest diseases and other serious impacts; and

WHEREAS, the Western Governors Association has declared that climate change could have severe economic and environmental impacts on Arizona and the West in coming decades; and

WHEREAS, the Western Governors Association also has declared that action to reduce GHG emissions can have significant economic and environmental benefits for Arizona and other Western States, including increased energy efficiency, improved air quality, cost savings, job growth, increased revenues, and reduced water pollution; and

WHEREAS, the Climate Change Advisory Group (CCAG), established by Executive Order 2005-02, has submitted a Climate Change Action Plan to the Governor that contains numerous recommendations for addressing and reducing GHG emissions in Arizona; and

WHEREAS, in addition to substantially reducing Arizona's GHG emissions, it is estimated that the CCAG's recommendations could result in overall net economic cost savings in Arizona of more than $5.5 billion between 2007 and 2020, with additional significant cost savings between 2020 and 2040;

NOW THEREFORE, I, Janet Napolitano, Governor of the State of Arizona, by virtue of the powers vested in me by the Constitution and laws of this State, do hereby order:

1. As recommended by the CCAG, it shall be the goal of the State of Arizona to reduce GHG emissions in Arizona to its 2000 emissions level by 2020 and to 50 percent below its 2000 emissions level by 2040. Furthermore, I direct the Climate Change Executive Committee to explore reaching 2000 emissions level by the Arizona Centennial, 2012.

2. The Climate Change Executive Committee is hereby established and charged with recommending strategies to the Governor for implementing recommendations in the Climate Change Action Plan in consultation with the Governor's Office.

3. The Climate Change Executive Committee shall be organized and coordinated by the Arizona Department of Environmental Quality (ADEQ) and shall be chaired by the Director of ADEQ.

4. The Climate Change Executive Committee shall be appointed by, and serve without compensation at the pleasure of, the Governor and shall consist of the following individuals or their designees:

    a. The Director of Arizona Department of Administration;
    b. The Director of the Department of Agriculture;
    c. The Director of the Department of Commerce;
    d. The Director of ADEQ;
    e. The Director of the Department of Housing;
    f. The Director of the Department of Insurance;
    g. The Director of the Department of Real Estate;
    h. The Director of Arizona Department of Transportation;
    i. The Director of the Department of Water Resources;
    j. The Director of Arizona Department of Weights and Measures;
    k. The Director of the Residential Utility Consumer Office;
    l. The Director of Arizona Game and Fish;
    m. The Commissioner of the State Land Department;
    n. The State Forester;
    o. The Director of the Arizona Department of Revenue;
    p. The Director of the Office of Strategic Planning and Budgeting;
    q. One Representative from the Arizona Corporation Commission; and
    r. Other members as the Governor may hereafter appoint.

5. State Executive Branch agencies shall endeavor to assist the State in reducing its GHG emissions, including by doing the following (notations refer to specific CCAG recommendations):

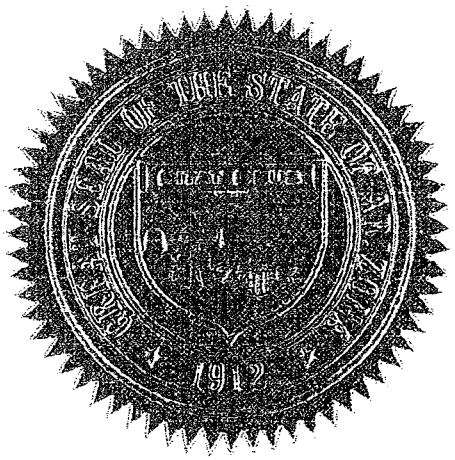
    a. The Arizona Department of Environmental Quality (ADEQ) shall develop a GHG emissions reporting mechanism (CC-2) and shall work with other Western states to establish a GHG registry to enable tracking, management, crediting and baseline protection for entities in Arizona that reduce GHG emissions (CC-3);

    b. In consultation with the Arizona Department of Transportation (ADOT), ADEQ shall adopt and implement the Clean Car Program to reduce GHG emissions from passenger vehicles (TLU-1);

c. The Arizona Department of Weights and Measures (ADWM) and ADEQ shall develop standards for neat biodiesel (B100), biodiesel blends, and ethanol blends sold in Arizona (TLU-5);

d. In consultation with ADEQ, ADOT shall implement a pilot program to allow designated hybrid motor vehicles to drive in high-occupancy-vehicle lanes on roadways, consistent with the provisions of A.R.S. § 28-737 and § 28-2416 (TLU-7);

e. In compliance with requirements to be developed by the Arizona Department of Administration (ADOA) in consultation with ADEQ, beginning January 1, 2007, all state agencies, boards and commissions shall purchase only vehicles that are hybrids, meet low-GHG emissions standards, or use E-85 fuel, biofuels or other low-GHG alternative fuels (TLU-13), with the goal that by January 1, 2010, all State vehicles shall be hybrids, meet low-GHG emissions standards, or use E-85 fuel, biofuels or other low-GHG alternative fuels (TLU-13). Certain state law enforcement vehicles, including "pursuit-rated" and covert vehicles, shall be exempt from these requirements.



IN WITNESS WHEREOF, I have hereunto set my hand and caused to be affixed the Great Seal of the State of Arizona.

Jan Napolitano
GOVERNOR

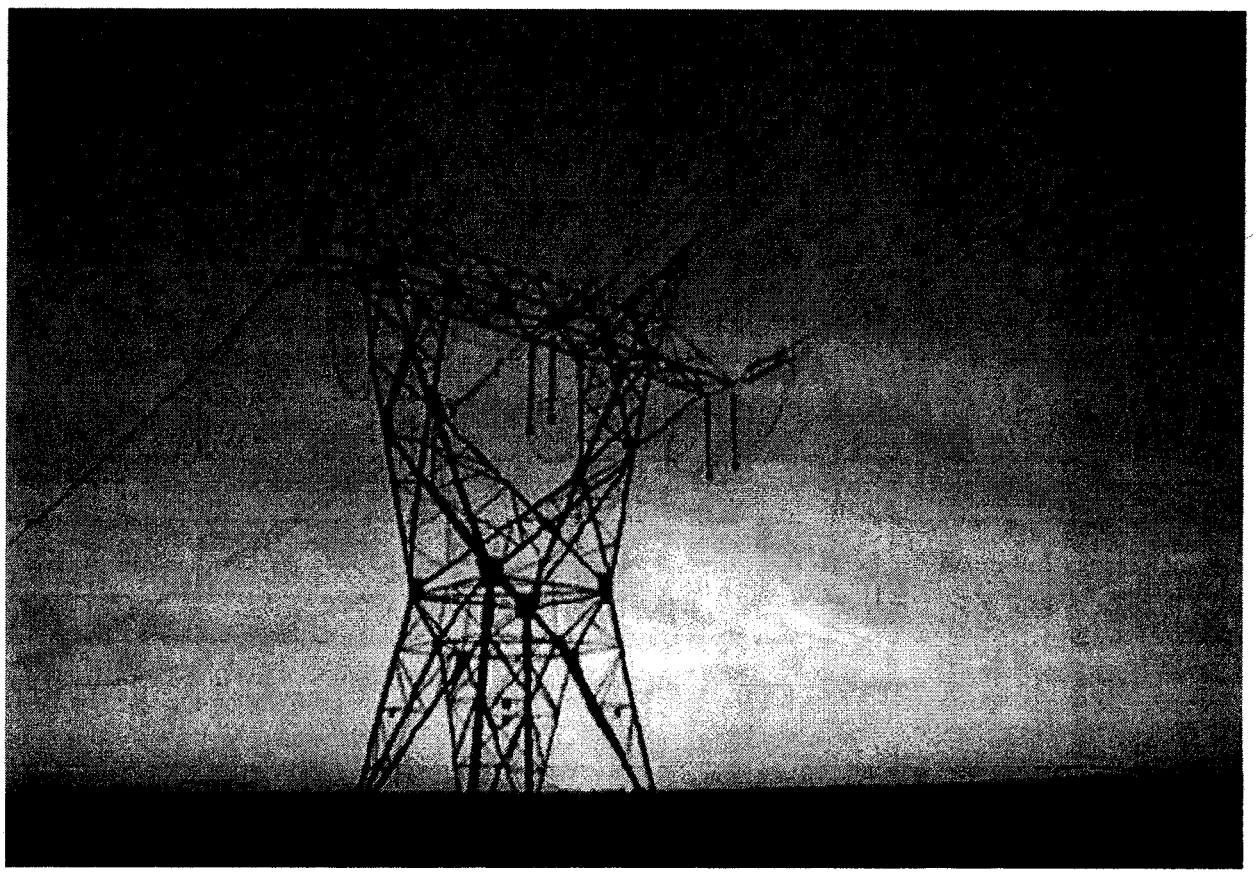
DONE at the Capitol in Phoenix on this 7th day of September in the Year Two Thousand and Six and of the Independence of the United States of America the Two Hundred and Thirty-First.

ATTEST:

Janice K. Brewer
SECRETARY OF STATE

EXHIBIT B

Arizona Corporation Commission Fourth Biennial Transmission Assessment – 2006-2015



Arizona Corporation Commission Fourth Biennial Transmission Assessment for 2006-2015,
Docket No. E-00000D-05-0040

Arizona Corporation Commission Utilities Division

KEMA, Inc.

Appendix F: Arizona planned EHV transmission additions

Status	Project	Justification	CEC needed
2006 completion			
2005 construction start	Palo Verde-Devers and Hassayampa–North Gilla 500 kV line upgrades	The upgrading of the series capacitors allows for the increase in transfer capability among Arizona, Southern Nevada and Southern California and has an economic value from an adequacy stand point.	No information filed
2008 completion			
2007 construction start	Hassayampa-Pinal West 500kV line	To accommodate load growth and access to energy sources in the central Arizona area.	Siting Case #124, issued May 2004
2007 construction start	Interconnection of Westwing - South 345 kV via new Pinal West 500/345 kV Substation	To reinforce Tucson Electric Power Company's EHV system and to provide a higher capacity link for the flow of power from the Palo Verde area into TEP's service territory. SWTC, ED2, ED3, and ED4 are also participants.	Included in Siting Case #124
2007 construction start	EOR 9300MW Upgrade Project	To increase East of River (Path 49) transfer capability by 1250MW by upgrading series compensation on Mead-Perkins & Navajo-Crystal 500kV lines, by-passing Perkins phase-shifting transformer, etc. SRP is project sponsor representing 16 owners.	Not required
2007 construction start	Palo Verde-Pinal West 500kV	To provide access to resources from the Palo Verde area generation to the Pinal West Substation	CEC Ordered in Case 124, Issued May 24, 2004
2007 construction start	Pinal West-Santa Rosa 500kV	To provide access to resources from the Palo Verde area generation to the Santa Rosa Substation	CEC Ordered in Case 126, Issued August 25, 2005
2007 construction start	Palo Verde - Pinal West 500 kV (Reference SRP Ten-Year Plan 2006 filing)	To provide access to resources from the Palo Verde area generation to the future (beyond this Ten-Year Plan) 500/69 kV station located at the Pinal West substation.	CEC Ordered in Case 124, Issued May 24, 2004
2007 construction start	Pinal West - Southeast Valley 500 kV (Reference SRP Ten-Year Plan 2006 filing)	To Palo Verde area generation to the Santa Rosa 500 / 230 kV Substation	CEC Ordered in Case 126, Issued August 25,2005
2009 completion			
2008 construction start	Flagstaff 345/69kV Interconnection	This project will serve projected need for electric energy in APS' northern service area. The project will improve reliability and continuity of service for the growing communities in northern Arizona.	A Certificate of Environmental Compatibility is not needed for this project.
2009 construction start	Palo Verde-TS5 500kV line	This line will serve projected need for electric energy in the area immediately north and west of the Phoenix Metropolitan area. It will increase the import capability to the Phoenix Metropolitan area as well as increase the export capability from the Palo Verde hub. This is a joint participation project with APS as the project manager.	Certificate of Environmental Compatibility issued 8/17/05 (Case No. 128, Decision No. 68063, Palo Verde Hub to TS5 500kV Transmission project). APS, as project manager, holds the CEC.
2009 construction start	Second Knoll loop-in of Coronado-Cholla 500kV line	This project will be needed to serve projected need for electric energy in Show Low and the surrounding communities.	A Certificate of Environmental Compatibility is not needed for this project.

Status	Project	Justification	CEC needed
2009 construction start	VV1 loop-in of Navajo-Westwing 500kV line	This project will serve projected electrical needs and provide support to the existing subtransmission system in the Verde Valley and Prescott areas.	A Certificate of Environmental Compatibility is not needed for this project.
2009 construction start	Devers-Palo Verde No. 2 500 kV Line	This 500 kV line will increase transfer capability between Arizona and Southern California.	No information filed
2008 construction start	Upgrade Coronado 500kV Transmission System	Add series compensation to Coronado-Silverking 500kV line.	Not required
2010 completion			
2008 construction start	Raceway-Pinnacle Peak 500kV line	This line is a result ofjoint planning through the SWAT forum. The project is needed to increase the import capability to the Phoenix Metropolitan area and strengthen the transmission system on the east side of the Phoenix Metropolitan valley. This will be a joint participation project with APS as the project manager. The loop-in of a Navajo-Westwing 500kV transmission line into the Raceway 500kV substation will be part of this project.	An application for a Certficate of Environmental Compatibility is expected to be filed in 2006.
2008 construction start	Series Capacitor Upgrade Project on Navajo Southern 500 kV Transmission System	The upgrading of the series capacitors allows for the increase in transfer capability from northern Arizona to central Arizonaa and has an economic value from an adequacy stand point. APS, SROP, TEP, BOR/Western are participating.	No information filed
2011 completion			
2009 construction start	Pinal West - Southeast Valley/Browning 500 kV line (Reference SRP Ten-Year Plan 2006 filing)	To deliver Palo Verde area generation to the Santa Rosa 500 / 230 kV Substation	CEC Ordered in Case 126, Issued August 25,2005
2010 construction start	Mazatzal loop-in of Cholla-Pinnacle Peak 345kV line	This substation will serve projected need for electric energy in the area of Payson and the surrounding communities. Additionally, improved reliability and continuity of service will result for the growing communities in the Payson area.	A Certficate of Environmental Compatibility is not needed for this project.
2012 completion			
2008 construction start	Palo Verde-North Gila 500kV	This line is expected to be an APS/SRP joint project. As a new transmission path to Yuma area, this 500kV line will provide transmission capacity required to supplement limited transmission and generation resources in the Yuma area.	An application for a Certficate of Environmental Compatibility has not yet been filed.

Status	Project	Justification	CEC needed
2010 construction start	TS5-Raceway 500kV line	This line will be needed to serve projected need for electric energy in the area immediately north and west of the Phoenix Metropolitan area. It will increase the import capability to the Phoenix Metropolitan area as well as increase the export capability from the Palo Verde hub and provide support for multiple Westwing 500/230kV transformer outages. This will be a joint participation project with APS as the project manager.	An application for a Certficate of Environmental Compatibility has not yet been filed.
Undetermined during 2006-2015 period			
Dependent upon permitting	TEP-Unisource Energy Services 345 kV Interconnection Line--South Substation to future Gateway Substation (2 ckts.)	To provide an alternate transmission path to Unisource Energy Services in Nogales, Arizona pursuant to ACC order.	Siting Case #111
Dependent upon permitting	Gateway Substation to Comision Federal de Electricidad (CFE) (2 ckts.) 345 kV	To interconnect to the Comision Federal de Electricidad in Sonora, Mexico.	Siting Case #111
Postponed indefinitely	Greenlee Switching Station through Hidalgo to Luna (Deming area) 345 kV	To provide additional interconnection with the Arizona Utilities and into southern New Mexico	Yes; Issued in October, 1975
TBD	Palo Verde-Saguaro 500kV line	This line is the result of the joint participation CATS study. The line will be needed to increase the adequacy of the existing EHV transmission system and permit increased power delivery throughout the state. It is anticipated the line will be a joint participation project.	Certficate of Environmental Compatibility issued 01/23/1976 (Case No. 24, Decision No. 46802).
Under Review	Pinal West Substation to Tortolita Substation 500 kV	To reinforce Tucson Electric Power Company's EHV system and to provide a higher capacity link for the flow of power from the Palo Verde area into TEP's northern service territory.	Yes
Under Review	Pinal South Substation to Tortolita Substation 500 kV	To reinforce Tucson Electric Power Company's EHV system and to provide a higher capacity link for the flow of power from the Palo Verde area into TErs northern service territory.	Yes
Under Review	Tortolita Station to Winchester Station 500 kV	To reinforce Tucson Electric Power Company's EHV system and to provide a higher capacity link for the flow of power from the Palo Verde area into TEPs eastern transmission system.	Siting Case No. 23
Under Review	Winchester Substation to Vail Substation - 2nd circuit 345 kV	To reinforce Tucson Electric Power Company's EHV system and to provide additional transmission capacity from the future Winchester Station into Tucson	Yes
Under Review	Vail Station to South Station - 2nd circuit 345 kV	To reinforce Tucson Electric Power Company's EHV system and to provide additional transmission capacity between Vail and South Substations	No
Under Review	Springerville Substation to Greenlee Substation - 2nd circuit 345 kV	To deliver power and energy from major TEP interconnections in the Four Corners and Eastern Arizona regions.	Issued in 1975,1977,1982 and 1986
Under Review	Tortolita Substation to South Substation.	To reinforce Tucson Electric Power Company's EHV system and to provide a high capacity link for the flow of power in Southern Arizona.	Siting Case #50

Status	Project	Justification	CEC needed
Under Review	Westwing Substation to South Substation (2nd circuit) 345 kV	To deliver power and energy from major TEP interconnections in the Northwest Phoenix region.	Siting Case # 15
Under Review	Gateway 345/115 kV Substation	The proposed substation facilities provide an interconnection and source for UNS Electric's second transmission line to UNS Electric's Santa Cruz Service Area and a future distribution substation as provided for in CEC.	

Appendix G: Arizona planned HV transmission additions

Status	Project	Justification	CEC needed
2006 completion			
Construction start 2005	Sandario Substation loop-in of Avra Valley to Three Points 115 kV line	To provide for anticipated load growth in the certificated service area of Trico Electric Cooperative, Inc. in Northwest Tucson	Yes. The Commission in Case 125 issued a Certificate of Environmental Compatibility for the project (Decision No. 67432) on December 3, 2004
Construction start 2006	Saddlebrooke Ranch 115 kV Substation	To provide for anticipated load growth in the certificated service area of Trico Electric Cooperative, Inc. in Southern Pinal County	No
2007 completion			
Construction start 2006	Browning-Dinosaur 230kV line	Serves new substation at Dinosaur, a key source to new load development in the Apache Junction area. Line will be installed in the extra conductor position on Pinal West-Browning 500/230kV towers.	Siting Case #124
Construction start 2006	Orme-Anderson 230kV line	Reconfigure existing parallel-circuit tower line into a double-circuit arrangement to relieve 230kV transmission overloads.	Not required. Original construction of this line predates the siting statute
Construction start 2006	Loop-in of Liberty-Orme 230kV line into Rudd Substation	Loop-in of Libert-Orme into existing Rudd Substation to relieve 230kV transmission overloads.	Not required. Predates siting statute and loop-in is contained within the station site.
Construction start 2006	Loop existing West Ina Substation to Tucson Station line through Del Cerro (formerly Sweetwater) Substation. 138 kV	To provide additional electric service to the western part of Tucson Electric Power Company's service area and to reinforce the local distribution system.	Siting Case #62
Construction start 2006	Hackberry 230/69 kV Substation	To provide transmission service to PD's Safford mining operations in Graham County and to provide for enhanced service reliability to the existing Graham County 69 kV system.	No
Construction start 2007	Rudd-Palm Valley-TS4 230kV line	This project will provide a source for the Palm Valley 230/69 kV substation and 69 kV substations planned in the western and southwestern Phoenix Metropolitan area to accommodate the growing need for electric energy in the area. Increased reliability and quality of service will result for customers served by the 230/69 kV substation.	Certificate of Environmental Compatibility issued 2/12/02 (Case No. 11 5, Decision No. 64473, Southwest Valley Project). Revised on 4/9/02, Decision No. 64704. This CEC is for the 230kV line, Rudd-Liberty, running east and west on the same poles as the Palo Verde-Rudd 5OOkV line. The portion of line running from the existing Rudd-Liberty line to the Palm Valley substation and Project and a Certificate of Environmental Compatibility was issued 12/24/03 (Case No. 122, Decision No. 66646, West Valley South 230kV Transmission Line Project).

Status	Project	Justification	CEC needed
Construction start 2007	Marana 115 kV Line Upgrade	To mitigate various thermal overloads and/or voltage criteria violations due to n-1outages on the 115 kV system between Bicknell and Marana and to provide for anticipated load growth in the certificated service area of Trico Electric Cooperative, Inc.	No
Construction start 2006 (Phase II, Phase I completed)	Loop existing Vail Substation to East Loop Substation line through future Pantano and Los Reales Substations. 138 kV	To provide additional electric service to the eastern part of Tucson Electric Power Company's service area and to reinforce the local distribution system.	No
2008 completion			
Construction start 2007	Naviska to Saguaro 115 kV	To provide for anticipated load growth in the certificated service area of Trico Electric Cooperative, Inc. in Northern Pima and Southern Pinal Counties	Yes
Construction start 2008	Valencia to CAP Black Mountain 115 kV Line	To provide an additional source to the SWTC 115 kV system and for the Valencia Substation which is currently served by a radial 115 kV line from Three Points Substation	Yes
Construction start 2008	Gordon Sloan 230/69 kV Substation	To provide for anticipated load growth in the certificated service area of Sulphur Springs Valley Electric Cooperative, Inc	No
Construction start 2008	Apache to Hayden 115 kV line to APS San Manual Substation	Provide for increased transfer capability and voltage support in Southern Pinal County and to provide for anticipated load growth in the certificated service area of Trico Electric Cooperative, Inc.	Yes
Construction start 2009	Naviska to Thornydale 115 kV Line	Provide for increased transfer capability and voltage support in Southern Pima County and to provide for anticipated load growth in the certificated service area of Trico Electric Cooperative, Inc.	Yes
2009 completion			
Construction start 2007	TS5-TS1 230kV line	This project is required to serve the increasing need for electric energy in the western Phoenix Metropolitan area, providing more capability to import power into the Phoenix Metropolitan area along with improved reliability and continuity of service for growing communities such as El Mirage, Surprise, Youngtown, and Buckeye. The first circuit is scheduled to be in-service for the summer of 2009 and the in-service date for the second circuit will be evaluated in fbture planning studies.	Certificate of Environmental Compatibility issued 5/5/05 (Case No. 12 7, Decision No. 67828, West Valley North 230kV Transmission Line project).

Status	Project	Justification	CEC needed
Construction start 2008	Raceway-Avery 230kV line	This line will serve projected need for electric energy in the area immediately north of the Phoenix Metropolitan area. Additionally, improved reliability and continuity of service will result for the area's growing communities such as Anthem, Desert Hills and New River. The first circuit is scheduled to be in-service for the summer of 2009 and the inservice date for the second circuit will be evaluated in future planning studies by SRP as part of their planned Westwing-Pinnacle Peak 230kV project.	Certificate of Environmental Compatibility issued 6/18/03 (Case No. 120, Decision No. 64473, North Valley Project).
Construction start 2008	Rancho Vistoso Substation to future Catalina Substation 138 kV	To provide additional electric service to the south-central part of Tucson Electric Power Company's service area.	Under Review
Construction start 2008	Valencia to San Joaquin 115 kV Line	Provide for increased transfer capability and voltage support in Southern Pima County and to provide for anticipated load growth in the certificated service area of Trico Electric Cooperative, Inc.	Yes
2010 completion			
Construction start 2004	Pinnacle Peak-TS6-Avery 230kV line	This project will serve projected need for electric energy in the area immediately north of the Phoenix Metropolitan area. Additionally, improved reliability and continuity of service will result for the growing communities in the areas of Anthem, Desert Hills, New River, and north Phoenix. The first circuit is scheduled to be in-service for the summer of 2010 and the in-service date for the second circuit will be evaluated in hture planning studies by SRP as part of their planned Westwing-Pinnacle Peak 230kV project.	Certificate of Environmental Compatibility issued 6/18/03 (Case No. 120, Decision No. 64473, North Valley Project).
Construction start 2008	Palm Valley-TS2-TS1 230kV line	This project is required to serve the increasing need for electric energy in the western Phoenix Metropolitan area, providing more capability to import power into the Phoenix Metropolitan area along with improved reliability and continuity of service for growing communities such as El Mirage, Surprise, Youngtown, and Buckeye. The first circuit is scheduled to be in-service for the summer of 2010 and the in-service date for the second circuit will be evaluated in future planning studies.	The Palm Valley-TS2 230kV line portion was sited aspart of the West Valley South 230kV Transmission Line project and a Certificate of Environmental Compatibility was issued 12/24/03 (Case No. 122, Decision No. 66646). The TSI -TS2 230kV line portion was sited as part of the West Valley North 230kV Transmission Line project and a Certificate of Environmental Compatibility was issued 5/5/05 (Case No. 127, Decision No. 67828).
Construction start 2009	Raceway 500kV to 230kV substation 230kV line	The Raceway 500kV substation will be located north of the existing Raceway 230kV substation due to physical/geographic constraints. The 500/230kV transformers will be located at the Raceway 500kV substation, therefore 230kV lines are needed between the 500/230kV transformers and the Raceway 230kV substation.	An application for a Certificate of Environmental Compatibility has not yet been filed. It is anticipated that this project will be filed with the Raceway-Pinnacle Peak 500kV Transmission project.

Status	Project	Justification	CEC needed
Construction start 2010	Vail - Wentworth 138 kV - two circuits	Required to serve load at the new Wentworth 138/13.8 kV Substation locate approximately 7.5 miles due east of the Vail Substation Circuit 1: utilize conductor that was installed in the past but left de-energized, install - 3.0 miles of new conductor east from Vail on existing structures to make connection to this existing conductor Circuit 2: tap the existing Vail-Fort Huachuca or Vail-Spanish Trail line	Yes
2011 completion			
Construction start 2009	Desert Basin-Pinal South 230kV line	Will provide capacity for the delivery of Desert Basin power plant output to the valley and allow for possible capacity expansion at the plant. Majority of line to be strung in vacant position of 500kV towers.	SRP will file a CEC application in Fall 2006 fort the tap or loop-in Desert Basin, but the authority for the portion of the line strung on the 500kV structures is provided for in Case No. 126 granted in 2005.
Construction start 2008	Western Parker-Davis 115 kV Upgrades to 230 kV (Reference Western Ten-Year Plan 2003 filing)	Expected to deliver lower cost energy via additional capacity over the upgraded 230 kV System, and to provide redundancy to bulk receiving stations.	No. Western will upgrade existing 115 kV facilities to 230 kV.
Construction start 2010	Jojoba loop-in of TS4-Panda 230kV line	This substation will be needed to serve projected need for electric energy for the growing communities in the areas of Buckeye, Goodyear, and Gila Bend.	Certificate of Environmental Compatibility issued 1 0/16/00 (Case No. 102, Decision No. 62960, Gila River Transmission Project).
Construction start 2010	Loop existing Irvington Station to Vail Substation #2 line through future University of Arizona Tech Park Substation.	To provide additional electric service to the south-central part of Tucson Electric Power Company's service area.	Yes
Construction start 2011	Thornydale to CAP Twin Peaks 115 kV Line	Provide for increased transfer capability and voltage support in Southern Pima County and to provide for anticipated load growth in the certificated service area of Trico Electric Cooperative, Inc.	Yes
2012 completion			
Construction start 2009	Upgrade existing 115kV transmission line to Nogales	The upgrade of the transmission line increases transmission system reliability and provides additional load serving capacity to UNS Electric Santa Cruz Service Area.	
Construction start 2010	North Gila-TS8 230kV line	This project is required to serve the increasing need for electric energy in the city of Yuma. Additionally, improved reliability and continuity of service will result for the fast growing Yuma County.	An application for a Certificate of Environmental Compatibility has not yet been filed.

Status	Project	Justification	CEC needed
Construction start 2010	Sandario to San Joaquin 115 kV Line	Provide for increased transfer capability and voltage support in Southern Pima County and to provide for anticipated load growth in the certificated service area of Trico Electric Cooperative, Inc.	Yes
Construction start 2011	Picture Rocks to CAP Twin Peaks 115 kV Line	Provide for increased transfer capability and voltage support in Southern Pima County and to provide for anticipated load growth in the certificated service area of Trico Electric Cooperative, Inc.	Yes
Construction start 2011	Sandario to CAP Brawley 115 kV Line	Provide for increased transfer capability and voltage support in Southern Pima County and to provide for anticipated load growth in the certificated service area of Trico Electric Cooperative, Inc.	Yes
2013 completion			
Construction start 2012	Adonis 115/24.9 kV Substation	Provide for increased transfer capability and voltage support in Southern Pima County and to provide for anticipated load growth in the certificated service area of Trico Electric Cooperative, Inc.	No
2014 completion			
Construction start 2013	New Tucson 230/24.9 kV Substation	Provide for increased transfer capability and voltage support in Southern Pima County and to provide for anticipated load growth in the certificated service area of Trico Electric Cooperative, Inc.	No
2015 completion			
Construction start 2014	Camino de Manana 115/24.9 kV Substation	Provide for increased transfer capability and voltage support in Southern Pima County and to provide for anticipated load growth in the certificated service area of Trico Electric Cooperative, Inc.	No
Construction start 2015	Upgrade of Marana to Avra Valley 115 kV Line	To mitigate various thermal overloads and/or voltage criteria violations due to n-1 outages on the 115 kV system between Bicknell and Marana and to provide for anticipated load growth in the certificated service area of Trico Electric Cooperative, Inc.	Yes
Undetermined			
Construction started 1985 Phase 1 - 1994 (Completed) Phase 2 - 2000 (Completed)	Irvington Substation to East Loop Substation (through 22nd Street Substation).	To provide additional electric service to the central area of Tucson Electric Power Company's service area and to reinforce the local transmission system.	Siting Case #66

Status	Project	Justification	CEC needed
Construction started 1985 Phase 1 - 1987 (Completed)	East Loop Substation to Northeast Substation (through Snyder Substation)	To provide additional electric service to the northeastern area of Tucson Electric Power Company's service area.	Siting Case #47
Construction started 1976 Phase 1 - 1977 (Completed) Phase 2 - 1983 (Completed)	Vail Substation to East Loop Substation (through Houghton Loop Switching Station*, Spanish Trail and Roberts Substations).	To provide additional electric service to the eastern portion of Tucson Electric Power Company's service area and to reinforce the local transmission system.	Siting Case #8
TBD	Santa Rosa-Pinal South 230kV line	This line will serve increasing loads in Pinal County and will improve reliability and continuity of service for the rapidly growing communities.	Authority for the 230kV line strung on the 500kV structures was granted in the Certificate of Environmental Compatibility issued in 2005, Case No. 126, Decision Nos. 68093 and 68291.
TBD	Westwing-El Sol 230kV line	This line will increase system capacity to serve growing demand for electric energy in the Phoenix Metropolitan area, while maintaining system reliability and integrity for delivery of bulk power from Westwing south into the APS Phoenix Metropolitan area 230kV transmission system.	Certificate of Environmental Compatibility issued 7/26/73 (Case No. 9, docket No. U-1345). Note that this Certificate authorizes two double-circuit lines. Construction of the first double circuit line was completed in March 1975. Construction of the second line, planned to be built with double-circuit capability but initially operated with a single circuit, is described above.
TBD	Westwing-Raceway 230kV line	This line will serve increasing loads in the far north and northwest parts of the Phoenix Metropolitan area and provide contingency support for multiple Westwing 500/230kV transformer outages. The in-service date for the first circuit will continue to be evaluated in future planning studies by APS and the in-service date for the second circuit will be evaluated in future planning studies by SRP.	Certificate of Environmental Compatibility issued 6/18/03 (Case No. 120, Decision No. 64473, North Valley 230kV Transmission Line Project).
TBD	Yucca-TS8 230kV line	This project would serve the increasing need for electric energy in the city of Yuma. Additionally, improved reliability and continuity of service will result for the fast growing Yuma County.	An application for a Certificate of Environmental Compatibility has not yet been filed.
Under Review	Extend 138-kV line from Midvale Substation through future Spencer Switchyard to future San Joaquin Substation.	To provide additional electrical service to the far western portion of Tucson Electric Power Company's service area and to reinforce the local distribution system.	Under Review (dependent upon use of federal and/or Tohono r/w)
Under Review	South Substation to DeMoss Petric Substation 138 kV	To provide additional electrical service to the far western portion of Tucson Electric Power Company's service area and to reinforce the local distribution system.	Yes

Status	Project	Justification	CEC needed
Construction started 1995 Phase I completed 1997; phase 2a completed 2006; phase 2b under review	South Substation to Cyprus Sierrita Extension Switchyard through future Canoa Ranch (formerly Desert Hills) Substation and Green Valley Substation. 138 kV	To provide additional electrical service to southern area of Tucson Electric Power Company's service area and to reinforce the local transmission & distribution system.	Siting Case #84 (Extension to Certificate being sought due to delayed load growth and condemnation issues)
Under Review	Loop Green Valley to Cyprus-Sierrita line through Canoa Ranch (formerly Desert Hills) Substation. 138 kV	To provide additional electric service to the south-central part of Tucson Electric Power Company's service area.	No
Under Review	Tortolita-Rillito 138 kV	Required to fully utilize increased import capability of additional EHV capacity into Tortolita Substation (Pinal West - Tortolita).	Yes
Under Review	Griffith-North Havasu Transmission 230 kV, 69 kV	Reinforce the existing transmission grid and provide interconnection between UNS Electric load centers in Mohave County.	
Under Review	Nogales Transmission Line #2 115 kV	The additional transmission line increases transmission system reliability and provides additional load serving capacity to UNS Electric Santa Cruz Service Area.	
Under Review	Valencia 115 kV Substation Expansion	The proposed substation facilities provide an interconnection and source for UNS Electric's second transmission line to UNS Electric's Santa Cruz Service Area and a future distribution substation as provided for in CEC.	

EXHIBIT C

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 GENERATING STATION WEST OF PHOENIX, ARIZONA AND TERMINATING AT THE DEVERS SUBSTATION IN RIVERSIDE COUNTY, CALIFORNIA	Docket No. L-00000A-06-0295-00130 Case No. 130

CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY

Pursuant to notice given as provided by law, the Arizona Power Plant and Transmission Line Siting Committee (the "Committee") held public hearings on June 26 and 27, August 21 and 22, September 11, 12, 25 and 26, and October 3, 4, 16, 17, 30 and 31, 2006, and January 8 and 9, 2007, all in conformance with the requirements of Arizona Revised Statutes § 40-360, *et seq.*, for the purpose of receiving evidence and deliberating on the Application of Southern California Edison Company ("Applicant") for a Certificate of Environmental Compatibility in the above-captioned case.

The following members and designees of members of the Committee were present at one or more of the hearings for the evidentiary presentations and/or for the deliberations:

Laurie Woodall	Chairman, Designee for Arizona Attorney General, Terry Goddard
David L. Eberhart, P.E.	Designee for Chairman, Arizona Corporation Commission ("ACC")
Ed Ranger	Designee for Director, Arizona Department of Environmental Quality
Jim Arwood	Designee for Director, Energy Department, Arizona Department of Commerce
Greg Houtz	Designee for Director, Arizona Department of Water Resources
Jeff McGuire	Appointed Member
Michael Palmer	Appointed Member
Joy Rich	Appointed Member
A. Wayne Smith	Appointed Member
Margaret Trujillo	Appointed Member
Michael Whalen	Appointed Member

The Applicant was represented by Thomas H. Campbell and Albert H. Acken of Lewis and Roca LLP and Michael D. Mackness of the Southern California Edison Company Law Department. The following parties were granted intervention pursuant to A.R.S. § 40-360.05: ACC Staff, represented by Christopher Kempley and Keith Layton;

the Sierra Club – Grand Canyon Chapter, represented by Timothy Hogan; Harquahala Valley Irrigation District, represented by William D. Baker; Walter Meek, Pro Se; the Residential Utility Consumer Office ("RUCO"), represented by Scott Wakefield; Donald G. Begalke, Pro Se; Central Arizona Water Conservation District ("CAWCD"), represented by Thomas W. McCann; Harquahala Valley Power District, represented by Jay I. Moyes and Steve Wene of Moyes Storey, Ltd.; Gila River Power LP, represented by Patrick Black of Fennemore Craig P.C.; Tucson Electric Power Co., represented by Michael W. Patten, J. Matthew Derstine and Laura Sixkiller of Roshka DeWulf & Patten, PLC; Langley Properties, LLC, represented by Court S. Rich of Rose Law Group PC; and Mohave Electric Cooperative, Inc., represented by Michael A. Curtis, Larry K. Udall and William P. Sullivan of Curtis, Goodwin, Sullivan, Udall & Schwab, P.L.C.

At the conclusion of the hearings, the Committee, having received the Application, the appearances of the parties, the evidence, testimony and exhibits presented at the hearings, and being advised of the legal requirements of Arizona Revised Statutes §§ 40-360 to 40-360.13 and the holding in *Grand Canyon Trust v. Arizona Corporation Commission*, 210 Ariz. 30, 38, 107 P.3d. 356 (App. 2005), found that the Project is environmentally compatible, and upon motion duly made and seconded, voted to grant the Applicant a Certificate of Environmental Compatibility (Case No. 130) for authority to construct the following facilities as requested in the Application: a 500kV alternating current transmission line and related facilities in Maricopa and La Paz counties in Arizona originating west of Phoenix, Arizona at either: (1) the Harquahala Junction

Switchyard; or (2) the Harquahala Generating Station Switchyard; and terminating at the Devers substation in Riverside County, California as indicated below and depicted on Attachment A (the "Project"). The Project consists of approximately 102 miles of 500kV transmission line in Arizona.

PROPOSED ROUTE

The Arizona portion of the Project originates at a new Harquahala Junction Switchyard (Line Siting Case No. 128) to be located in the southwest quarter of Section 25, Township 2 North, Range 8 West. The entire Project will be located within a nominal 130-foot-wide right-of-way on Federal land and state land and a nominal 160-foot wide right-of-way on private land adjacent to the existing Devers to Palo Verde No. 1 500kV transmission line ("DPV1") (Line Siting Case Nos. 34 and 48) right-of-way. The Project right-of-way will be to the west and south of the DPV1 right-of-way east of Copper Bottom Pass (located in La Paz County, Section 20, Township 3 North, Range 20 West), and on the east and north side of the DPV1 right-of-way between the western end of Copper Bottom Pass (Section 14, Township 3 North, Range 21 West) and the Colorado River. The majority of the proposed route is located within Bureau of Land Management ("BLM") designated utility corridors.

From the Harquahala Junction Switchyard, the route will head north and parallel DPV1 for approximately 2.7 miles to Interstate 10 ("I-10"), where it will cross I-10 and proceed to a point 1 mile northwest of Burnt Mountain.

The route will 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 will then turn southwest, crossing I-10, and proceed approximately 5 miles to intersect the El Paso Natural Gas Company's existing pipeline just north of its Wenden Pump Station north of the Eagletail Mountains.

The route will then roughly parallel the El Paso Natural Gas pipeline and parallel the DPV1 line for approximately 56 miles, crossing the Ranegras Plain, through approximately 25 miles of the Kofa National Wildlife Refuge (beginning at the east boundary in Section 13, T2N R15W, and ending at the west boundary in Section 7, T2N R18W), La Posa Plain, and Arizona State Highway 95, through the Dome Rock Mountains to the summit of Copper Bottom Pass. The route will include the existing double circuit transmission towers located along a three-mile segment in the Copper Bottom Pass.

The route will 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 in La Paz County, Section 5, Township 2 North, Range 22 West.

The Committee also approves an alternative interconnection option to originate the line at the Harquahala Generating Station Switchyard (Line Siting Case No. 96). If this interconnection option is used, the transmission line would exit the Harquahala Generating Station Switchyard located in Maricopa County, Section 31, Township 2 North, Range 8 West, and parallel the existing Harquahala-Hassayampa 500kV line (Line

Siting Case No. 96) in an easterly direction for approximately 5 miles within a 1,000-foot-wide corridor centered on the existing line.

FINDINGS OF FACT REGARDING THE NEED FOR THE PROJECT

1. The Project reduces critical congestion on Path 49 between Arizona and California. The need to reduce this congestion has been identified by the Department of Energy, various regional planning groups, and Southern California Edison (the Applicant). The regional planning groups and the Applicant have confirmed that the Project will reduce this congestion. Reducing this congestion strengthens the Southwestern transmission grid.
2. The Project will meet the need for underutilized power plants in Arizona to sell additional power, particularly during the off-peak seasons and off-peak hours. Currently, while there is excess generation in the Palo Verde area year-round, Arizona utilities believe the current peak excess may be utilized as soon as 2011. However, even at that time, there will continue to be excess merchant and utility generation during the off-peak hours and seasons. The ability to use the excess non-peak capacity also will encourage investment in and help defray the costs of new resources that will be needed to meet Arizona's growing peak loads.
3. The Project will also help meet California's need for diverse, cost effective resources. Particularly in off-peak periods, the Project will allow California access to excess lower cost resources from more efficient plants thereby reducing costs to California consumers and providing a more diverse and environmentally compatible portfolio of energy resources.
4. The Project will enhance grid and resource reliability, especially in emergency situations.

5. The Project will increase power pooling.

6. The Project will result in significant economic and fiscal benefits from construction and increased state and local taxes.

7. The Project will help maintain greater liquidity at the Palo Verde Hub and thereby reduce transaction costs for Arizona utilities.

8. The Project will result in greater fuel and load diversity for Arizona and the Southwest.

9. The Project will improve Arizona generation investment climate thereby reducing the cost of building or procuring the additional generation supply Arizona will need to serve its growing load.

10. The Project will improve Arizona's resource utilization, including the increased opportunity for Arizona utilities to make off system sales so that some of their costs will be paid by California customers resulting in lower cost to Arizona customers.

11. The Project will improve Arizona's and the region's access to renewable resources.

12. The Project complements Arizona interstate transmission projects such as Trans-West Express and Project Zia.

13. The Project enhances interconnection opportunities (e.g., at Harquahala Junction Switchyard).

14. Planned development of Arizona natural gas transmission and storage facilities will more than offset an estimated increase in Arizona natural gas usage resulting from increased utilization of generating facilities.

15. The estimated increase in Arizona utilities' production costs reported in the Applicant report to California Independent System Operator (CAISO) is minimal, less that 0.2% of the Arizona utilities' annual costs. Moreover,

this report is based on assumptions about Arizona utilities buying all energy on the spot market and Arizona requiring that all future generation be built by merchant companies, not Arizona utilities. If these two assumptions are adjusted to comport with Arizona realities, the estimated production cost increases will be even smaller if not entirely offset.

16. The increased Arizona production costs reflected in the Applicant report to CAISO are more than offset by economic benefits to Arizona in general and benefits to Arizona utilities in particular.

17. The Project reduces emissions regionally, including CO2, a greenhouse gas associated with global warming, because newer, cleaner, and more efficient plants are being utilized more, and older and less efficient plants are used less.

18. The estimated increases in Arizona NOx emissions (0.05%) and water usage (0.02%) resulting from increased generation from Arizona plants will be well within the air emission and water use limits that the Siting Committee, ACC and pertinent environmental agencies have determined are environmentally compatible.

19. Numerous power plants have been built in California from 2001 to 2005 totaling over 13,000 MW of new generation. A significant number of new generating plants are expected to be built in California in the near future.

CONDITIONS

This Certificate is granted upon the following conditions:

1. The Applicant shall obtain all required approvals and permits necessary to construct the Project.

2. The Applicant shall comply with all existing applicable air and water

pollution control standards and regulations, and with all existing applicable ordinances, master plans and regulations of the State of Arizona, the County of Maricopa, the County of La Paz, the United States, and any other governmental entities having jurisdiction.

3. This authorization to construct the Project shall expire 10 years from the date the Certificate is approved by the ACC unless construction is completed to the point that the Project is capable of operating by that time; provided however that prior to such expiration the Applicant or its assignees may request that the Commission extend this time limitation.

4. The Applicant shall make every reasonable effort to identify and correct, on a case-specific basis, all complaints of interference with radio or television signals from operation of the transmission line and related facilities addressed in this Certificate. The Applicant shall maintain written records for a period of five years from the date of any such complaints of radio or television interference attributable to operation, together with the corrective action taken in response to each complaint. All complaints shall be recorded to include notations on the corrective action taken. Complaints not leading to a specific action or for which there was no resolution shall be noted and explained. The record shall be signed by the Applicant and also the complainant, if possible, to indicate concurrence with the corrective action or agreement with the justification for a lack of action.

5. The Project shall comply with applicable noise guidelines of the Federal Department of Housing and Urban Development and the Environmental Protection Agency.

6. If human remains and/or funerary objects are encountered during the course of any ground disturbing activities relating to the development of the

subject property, Applicant shall cease work on the affected area of the Project and notify the Director of the Arizona State Museum in accordance with A.R.S. § 41-865.

7. Applicant shall consult an archeologist during construction activities in applicable areas, as determined by the State Historic Preservation Office ("SHPO"), to advise them in connection with any additional archeological studies that may be required and any mitigation efforts for archeological sites that may be affected by the construction of the Project.

8. After construction, the Applicant, in conjunction with any applicable land managing agency, shall allow Arizona Site Stewards, a volunteer-staffed SHPO program, to periodically inspect archeological sites within the corridor for vandalism or other damage.

9. If any archaeological, paleontological or historical site or object that is at least fifty years old is discovered on state, county or municipal land during survey, excavation, construction or other like activity, the person in charge shall promptly report the discovery to the Director of the Arizona State Museum, and in consultation with the Director, shall immediately take all reasonable steps to secure and maintain the preservation of the discovery pursuant to A.R.S. §41-844.

10. The Applicant shall follow the Arizona State Land Department's instructions, if any, regarding the treatment of State Register of Historic Places-eligible properties situated on Arizona State Land Department land in consultation with SHPO.

11. In consultation with SHPO and the land-managing agency, the Applicant will consider and assess potential direct and indirect impacts to eligible properties related to new access roads or any existing access roads that

require blading.

12. Where practicable, the Applicant shall use existing roads for construction and access. The Applicant shall minimize vegetation disturbance outside of the transmission line right-of-way, particularly in drainage channels and along stream banks.

13. The Applicant shall use non-specular conductor and dulled surfaces for transmission line structures.

14. Within 45 days of: a) securing easement or right-of-way for the Project on private property; or b) approval of the Certificate by the Commission, whichever is later, the Applicant shall erect and maintain signs on such private property providing public notice that the property is the site of a future transmission line or switchyard site. Such signage shall be no smaller than a normal roadway sign printed on materials of a color designed to attract attention. The Applicant shall place signs such that the public is notified along the full length of the transmission line until the transmission structures are constructed.

15. In the event that the Project requires an extension of the term of this Certificate prior to completion of construction, Applicant shall use reasonable means to directly notify all landowners and residents within a one-half mile radius of the Project facilities for which the extension is sought. Such landowners and residents shall be notified of the time and place of the proceeding in which the Commission shall consider such request for extension.

16. Before construction on this Project may commence, the Applicant must file a construction mitigation and reclamation plan with ACC Docket Control, with copies to affected areas of jurisdiction. The Applicant shall, within one

year of completion of construction of the Project, re-vegetate any area of native vegetation disturbed by construction of the Project outside of the transmission line right-of-way, except for any road that may be necessary to access the transmission lines or substation sites for maintenance and repair. The goals of the Plan will be to:

- Avoid impacts where practical;
- Where impacts are unavoidable, minimize impacts; and
- Focus on site preparation to facilitate natural processes of re-vegetation and drainage

Other key elements of the Plan, when not inconsistent with the respective land management agencies' or local owners' requirements, are to:

- Emphasize final site preparation to encourage natural re-vegetation;
- Avoid (*i.e.,* preserve), where practical, mature native trees;
- Stipulate a maximum construction corridor width;
- Reserve topsoil and native plant materials from right-of-way before grading, and distribute over the right-of-way after construction is complete;
- Imprint the reclaimed right-of-way to provide indentations to catch seed and water;
- Implement best management practices to protect the soil;
- Apply reclamation methods that have been proven effective in the desert environment; and
- Prevent, where applicable, the spread of noxious weeds or other undesirable species.

17. On federal lands, Applicant shall comply with the environmental mitigation measures and other conditions or requirements of the right-of-way grant and

Plan of Development on BLM lands, the Kofa National Wildlife Refuge right-of-way grant, and the U.S. Army Yuma Proving Ground right-of-way grant.

18. Applicant shall monitor all ground clearing/disturbance activities that could affect sensitive species or habitat. Where warranted, Applicant shall retain a qualified biologist to conduct pre-construction activities to minimize or prevent impacts to sensitive species or habitat. Specifically, in areas considered to comprise suitable Sonoran desert tortoise habitat, Applicant shall conduct preconstruction surveys and/or monitor for desert tortoises. If desert tortoises are encountered during construction, the Applicant shall follow the Arizona Game & Fish Department's Guidelines for Handling Sonoran Desert Tortoises.

19. Applicant shall salvage mesquite, ironwood, palo verde trees and saguaros removed during project construction activities consistent with Arizona's Native Plant Law and use the vegetation for reclamation in or near its original location.

20. Applicant shall provide copies of this Certificate to La Paz County and Maricopa County planning agencies, the county boards of supervisors, the Arizona Department of Real Estate ("ADRE"), SHPO, AGFD and ASLD.

21. Prior to the date this transmission line is put into commercial service, Applicant shall provide homebuilders and developers of record of land parcels located within one mile of the center line of the certificated route the identity, location and a pictorial depiction of the type of power line being constructed, accompanied by a written description, and encourage the developers and homebuilders to include this information in the developers' and homebuilders' homeowners' disclosure statements.

22. Applicant shall publish a copy of this Certificate and the attachments on Applicant's project website within 10 days of approval of the Commission.

23. Applicant agrees to make good faith efforts for the term of the Certificate, not to exceed ten years, to work within California and FERC proceedings to encourage regional access to natural gas storage facilities in California in a manner that addresses natural gas service reliability and efficiency in the region, including Arizona.

24. To ensure the Project does not adversely affect reliability of the Arizona Extra High Voltage (EHV) grid and power plants interconnected at the Palo Verde Hub, one of the following options must be adopted by Applicant for construction of the new line:

The line must be constructed on towers or monopoles for its entire length and have sufficient physical separation from the existing DPV1 line to assure a common mode outage frequency of less than one in thirty years (per NERC/WECC Planning Standards S-2) or that no cascading outages would occur for such a common mode outage (per NERC Category C.5)

OR

The WECC rated Path 49 shall not be operated above a level at which a NERC Category C.5 common mode outage of the two Devers to Palo Verde lines would cause cascading outages. Studies are to be performed annually to establish with WECC such a Path 49 Operational Transfer Capability (OTC) limit for the common mode outage of the two Devers to Palo Verde transmission lines.

25. The Project shall terminate at the new Harquahala Junction Switchyard

(Case 128) along with the existing Harquahala to Hassayampa 500kV line in order to mitigate prevailing reliability risks associated with extreme contingencies in the vicinity of the Palo Verde Hub. The Harquahala Junction Switchyard is to be jointly owned by the Palo Verde to TS5 participants and Applicant. The Harquahala Junction Switchyard to Hassayampa Switchyard line is to be jointly owned by Applicant and the Palo Verde TS5 transmission participants.

If Harquahala Junction Switchyard (Switchyard) joint agreements, Switchyard property acquisitions, and other necessary Switchyard joint arrangements are not complete by December 31, 2007, Applicant may terminate the Project at the Harquahala Generating Station Switchyard.

26. Applicant commits to work with APS so that the Harquahala Power Plant can schedule its full capacity from Harquahala Junction Switchyard to Hassayampa Switchyard.

27. The ACC Staff maintains that control area authority and associated operational reliability obligations placed by the ACC upon power plants originally interconnected at the Palo Verde Hub are to be maintained with the new interconnection at Harquahala Junction and that such power plant obligations can be transferred to the transmission control area to which they are interconnected in the event that they desire to discontinue as a generator-only control area operator. Applicant will not object to Staff's position.

28. SCE shall support an Arizona based utility having operational control of the Harquahala Junction Switchyard, the Harquahala Junction Switchyard

to Hassayampa Switchyard transmission line and the Harquahala Junction Switchyard termination of the Project and the Harquahala Power Plant line. SCE shall not have operational control of the above facilities.

GRANTED this ___ day of _____, 2007.

THE ARIZONA POWER PLANT AND TRANSMISSION LINE SITING COMMITTEE

By:_____

Laurie A. Woodall, Chairman

SOUTHERN CALIFORNIA
EDISON
An EDISON INTERNATIONAL℠ Company

Alan J. Fohrer
Chief Executive Officer

John R. Fielder
President

June 19, 2006

EXHIBIT
Com 1
admitted

Mr. Jeff Hatch-Miller, Chairman
Arizona Corporation Commission
1200 W. Washington Street
Phoenix, Arizona 85007-2996

Ms. Kristin K. Mayes, Commissioner
Arizona Corporation Commission
1200 W. Washington Street
Phoenix, Arizona 85007-2996

Re: Devers-Palo Verde No. 2 Transmission Line
Docket No. L-00000A-06-0295-00130

Dear Chairman Hatch-Miller and Commissioner Mayes:

Southern California Edison (SCE) received your letters dated May 10, 2006, requesting information about the proposed Devers-Palo Verde No. 2 (DPV2) transmission line. This letter responds to those letters. SCE will present further detail and backup materials at the Line Siting Committee's evidentiary hearings.

The DPV2 project has been the subject of extensive studies for several years by regional planning groups. These groups, which include the Western Electricity Coordinating Council (WECC), Southwest Transmission Expansion Plan (STEP), the Southwest Area Transmission (SWAT), the Palo Verde Engineering and Operating Committee, and the Western Arizona Transmission Study (WATS) organizations, have evaluated and approved various studies supporting the proposed line. DPV2 is just one of many transmission projects under consideration for the Western Interconnection that will strengthen the reliability of the transmission system, improve the grid's ability to transport the output from new and existing generation resources by removing transmission constraints, and thereby help meet the growing demand for electricity demand in the West.

California is not relying solely on out-of-state resources to meet its generation needs. It is also building generation facilities in California – 13,000 MW of new generation have been constructed since 2001. Another 8,400 MW of new generation have been approved but not yet constructed. An additional 8,000 MW have been announced or are undergoing regulatory review. The California Legislature has also undertaken an aggressive goal for California investor-owned utilities to meet 20% of their energy needs with renewable resources by 2017. SCE is committed to meet the RPS requirement by 2010 or as soon as otherwise feasible.

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2244 Walnut Grove Ave.
Rosemead, CA 91770

Consumer Costs of Proposed DPV2

A. SCE's Report to the CAISO (Appendix G in SCE's California Application)

It is important that we make a clarifying point regarding SCE's report to the California Independent System Operator Corporation (CAISO). DPV2 will not cost Arizona consumers $231 million between 2009 and 2014. As explained below, the "Consumer Surplus" figure does not reflect the actual costs to Arizona consumers. In fact, as the evidence at the hearing will demonstrate, even the DPV2 costs noted in footnote 3 in Commissioner Mayes' letter to Arizona are offset by many benefits. DPV2 is expected to provide a substantial overall economic benefit to Arizona consumers, as discussed below and will be discussed in the evidentiary hearings.

A few points regarding SCE's report to the CAISO. First, in evaluating SCE's report to the CAISO, it is important to note that the analysis is based on a market simulation model that is a commonly-used tool in the electric power industry to forecast market prices and production costs. The model dispatches generation based on least-cost economics, subject to transmission constraints, and determines regional market prices based on the marginal cost of generation in each area.

Second, the Arizona cost impact from the report to the CAISO is expressed in the "Net Impact" number. This net impact represents the change in production costs to Arizona due to DPV2. The model calculates the change in utility production costs using three measurements: (1) the change in power costs paid by Arizona utilities if all power was purchased at market prices (the "Consumer Surplus"); (2) the profits that would be received by these same utilities for their own generation ("URG Producer Surplus"); and, (3) the "transmission congestion revenue" that would be received by these same utilities if they operated in a market with congestion pricing. In actuality, Arizona utilities do not purchase all of their power at market prices and they neither sell generation from their own plants to their own retail customers at market prices nor do they earn congestion revenues. However, netting these three components reflects customer impacts because if utilities earned such profits and congestion revenues, they would be passed on to customers in the form of lower rates. The resulting "Net Impact" is the costs imposed on the Arizona utilities and their customers due to DPV2, and includes the cost of buying power from independent generators at slightly higher market prices. For instance, in 2009 this net impact is about $12 million. This net impact represents the change in production and purchase costs to Arizona utilities due to DPV2.

Third, even this net impact of DPV2 as estimated by the model is more than offset by the benefits Arizona receives from DPV2, which are summarized below and details of which will be also provided during evidentiary hearings.

B. Arizona Consumer Benefits

Before we talk about benefits, there is an important point about project costs. The construction and operating costs of the DPV2 line itself will be paid for by California consumers. Arizona consumers will benefit from the construction of DPV2 in several ways. The DPV2 line will provide a reliability benefit, including improved protection during extreme contingencies. For example, a SCE extreme contingency study shows that DPV2 would significantly reduce the amount of load that would need to be dropped to mitigate the loss of the Palo Verde hub. During such extreme contingencies, DPV2 could provide a transmission path for power to flow to Arizona from California or the Pacific Northwest. As major outages in the Western Interconnection during the last 10 years have shown, such emergencies unfortunately do occur from time to time.

Arizona will also benefit from local economic development associated with DPV2, including increased employment and tax revenue during construction and increased tax revenue throughout the life of the project. Among other benefits, DPV2 will also provide greater fuel and load diversity and improve generation investment incentives. The project may complement and support other proposed transmission projects, such as the TransWest Express, which would import to Arizona low-cost energy and renewable power from Wyoming and adjacent states. DPV2 will improve the utilization rates of generating resources in Arizona and neighboring states, thus increasing efficiency of the electrical grid and its interconnected resources Furthermore, DPV2 will help support and improve liquidity of the PV Hub, which offers the benefits of reduced transaction costs and improved price transparency, risk management, and procurement opportunities for Arizona utilities.

Impact on Arizona's Power Supplies

As noted in letters from various Arizona utilities to the Commission, Arizona will need to increase its power supplies in the not too distant future. The DPV2 line will not have any material impact on this need. The production cost model that SCE used to study the cost-effectiveness of the proposed line estimates that the power flowing across the line will come from a variety of generation resources in the Desert Southwest, with only a smaller portion coming from resources in Arizona. The proposed DPV2 is a 1200 MW line, with an expected average flow of 900 MW. However, on average only 230 MW of this 900 MW will come from increased Arizona generation, and the majority of that will be utilized during Arizona's off peak hours. During peak hours, DPV2 will only increase Arizona generation by approximately 50-100 MW. This amount comprises less than ½ of 1% of Arizona's power supply during summer peak hours. Therefore, DPV2 will have minimal effect on the availability of Palo Verde generation to serve the peak loads of Arizona's utilities. Arizona has already approved several thousand megawatts of power generating facilities that have not yet been built.

If even a portion of these approved, but not yet built, facilities is added to current supply, the effect of DPV2 on the availability of Arizona generation is even more *de minimus*.

DPV2 does not materially alter Arizona's resource needs. Based on the letters sent from Arizona utilities, it appears that they will need new power supplies in the 2011 to 2012 time period with or without DPV2. Furthermore, by making it more attractive for generation to locate in Arizona due to the presence of available transmission, the DPV2 line will have a positive impact on Arizona's generation supply.

Reliability/Power Supplies Directed from California into Arizona

The line can carry power to Arizona from California and other parts of the Western grid and can do so during emergency conditions, such as during major generation or transmission outages in the Palo Verde area. In addition to providing access to California generation during emergency conditions, the DPV2 line will also provide Arizona utilities with access to two important resources: new generation near Blythe and the substantial planned additions of California renewable resources.

Environmental Impacts to Arizona Resulting from DPV2

SCE needs to clarify another point. SCE has not conducted any studies on the environmental impacts of the construction of additional generation in AZ that will be spurred by the construction of DPV2, because DPV2 will not require that new generation be built in Arizona. Rather, DPV2 will help encourage utilization of existing facilities and investment in new generation and support transmission that Arizona utilities acknowledge they will need. SCE understands that the ACC has already approved additional generating capacity that has not been built in part because of transmission congestion. DPV2 will help alleviate that congestion and therefore may facilitate the development of generation already approved by the ACC.

SCE has, however, conducted extensive studies concerning the environmental impact of the construction and operation of DPV2. SCE's application provides extensive documentation to support a finding that this project is environmentally compatible. The recently issued Draft EIS/EIR by the Bureau of Land Management and the California Public Utilities Commission supports this view.

Estimated Tax Benefits from DPV2

SCE is still continuing to refine its analysis of tax benefits, and will provide this information at the hearings. However, based on the current results, the combined tax and construction benefits – without considering the other benefits discussed above (see Section B, p. 3, *supra*) – exceed the net lifecycle costs as reflected in the study SCE did for the CAISO.

If you have any questions, please feel free to contact us.

Sincerely,

Alan J. Fohrer
Chief Executive Officer

John R. Fielder
President

cc: ACC Commissioner Marc Spitzer
ACC Commissioner William Mundell
ACC Commissioner Mike Gleason
Laurie Woodall, Chairman, Line Siting Committee
Brian McNeil, Executive Secretary
Ernest Johnson, Director, Utilities Division
Christopher Kempley
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RICHARD H. SILVERMAN
GENERAL MANAGER

2006 JUN 12 A 8:49

AZ CORP COMMISSION
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June 9, 2006

Commissioner Kristin K. Mayes
Arizona Corporation Commission
1200 West Washington
Phoenix, AZ 85007-2996

Re: Proposed Devers – Palo Verde No. 2 Power Line;
Docket No. L-00000A- 06-0295-00130

Dear Commissioner Mayes:

In your letter dated May 11th, 2006, you asked SRP to provide information as to when it is anticipated Arizona, and in particular SRP, will need the excess power generated out of the Palo Verde Hub. You also asked what SRP believes will be required to make up for any potential shortfall.

SRP will require additional resources to meet its retail load, including reserves, by 2012. SRP is pursuing options to meet this growing need. Clearly one option is the purchase of energy and capacity from the market. SRP's other option is the construction of additional peaking capacity.

The current surplus of generation in the Southwest permits SRP to purchase from ample operating reserves in the short term market. We also routinely purchase energy on the wholesale market and restrict SRP owned resources whenever the market price of electricity is below our marginal cost to generate. As the supply of generation available to Arizona utilities decreases, we will be required to accelerate construction of additional plant capacity, or develop mechanisms to reach other markets.

Among other things, you asked that we address environmental, operational, economic and reliability information with regard to the Palo Verde Devers II line. SRP has not analyzed the CEC application and, therefore, is unable to provide detailed comments regarding these issues. Nevertheless, we offer the following general observations. Clearly, this line will enhance inter-regional transfer capability, and thus wholesale transactions will be increased. Southern California prices have generally been higher than Palo Verde prices, and with increased inter-regional transfer capability, we expect those prices will move closer. In addition, generally speaking, increased transfer capability between regions improves reliability, assuming each region has similar reserves to begin with.

Very truly yours,

Richard H. Silverman
General Manager

cam

cc: Chairman Jeff Hatch-Miller
Commissioner William A. Mundell
Commissioner Marc Spitzer
Commissioner Mike Gleason
Laurie Woodall, Chairman, Arizona Power Plant and Line Siting Committee
Ernest Johnson
Brian McNeil
Heather Murphy
Docket

COMMISSIONERS
JEFF HATCH-MILLER - Chairman
WILLIAM A. MUNDELL
MARC SPITZER
MIKE GLEASON
KRISTIN K. MAYES

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ARIZONA CORPORATION COMMISSION

BRIAN C. McNEIL
Executive Director

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June 6, 2006

Chairman Jeff Hatch-Miller
Commissioner William A. Mundell
Commissioner Marc Spitzer
Commissioner Mike Gleason

Re: Devers-Palo Verde No. 2 (DPV2) Power Line; Docket No. L-00000A-06-0295-00130.

Dear Colleagues and Parties to the Docket:

As part of a recent filing in this matter, Staff asks the Line Siting Committee to take testimony from Robert Smith, Transmission Planning Manager for Arizona Public Service ("APS"), on, among other topics, transmission congestion between Arizona and California.

I am writing to express my concern with regard to the inclusion of Mr. Smith as an expert witness in this case. Though Staff undoubtedly chose Mr. Smith for his expertise in his respective field, I worry that his testimony could be unduly influenced by recent statements of support for the proposed power line by Mr. Smith's superiors. Bill Post, Chairman and CEO of Pinnacle West, recently expressed his support for the new Devers-Palo Verde transmission line. At Pinnacle West Capital Corporation's recent annual meeting, Mr. Post stated:

> *Existing transmission corridors must also grow. Last month, a new transmission line from southern California to Palo Verde was announced that 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. Greater access into those markets will give us the opportunity to reduce our customer's costs with additional sales while increasing our own profitability through higher margins.*[1]

As an APS employee,[2] it could be argued that Mr. Smith's opinions and testimony could be influenced by the statements made by the Chairman of his company. I realize Staff is seeking the most qualified individuals possible to provide evidence in this important case. However, under the present circumstances, I respectfully ask that Staff find another expert witness to testify on the issues identified for presentation by Mr. Smith.

---

[1] Remarks of Bill Post at the Pinnacle West Capital Corporation Annual Meeting: May 17, 2006
[2] Pinnacle West Capital Corporation is the parent company of APS.

Commissioner Keller

Sincerely,

Kris Mayes
Commissioner

Cc: Ernest Johnson
Chris Kempley
Brian McNeil
Heather Murphy
Laurie Woodall, Chairman, Arizona Power Plant and Line Siting Committee
Docket

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APS

A subsidiary of Pinnacle West Capital Corporation

Jack Davis
President and Chief Executive Officer

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Mail Station 9080
PO Box 53999
Phoenix, AZ 85072-3999

June 2, 2006

Commissioner Kristin K. Mayes
ARIZONA CORPORATION COMMISSION
1200 West Washington
Phoenix, AZ 85007

Re: Proposed Devers – Palo Verde No. 2 Power Line
Docket No. L-0000A-06-0295-00130

Dear Commissioner Mayes:

I received your May 11, 2006, letter concerning the proposed Devers-Palo Verde No. 2 (DPV2) Power Line. While Arizona Public Service Company (APS) has not analyzed the application for a Certificate of Environmental Compatibility (CEC), I will attempt to address your questions in a preliminary and somewhat general manner.

As noted in your letter, APS's load is growing at approximately 4%, or almost 300MW, annually. APS is attempting to meet this growth through the competitive market consistent with Decision No. 67744 (April 7, 2005). As the result of a 2005 Request for Proposals (RFP), APS contracted for 1150 MW, with about 40% coming from sources that were identified as being in Arizona. Because APS is using the market to obtain resources, APS cannot say definitively when it would be using the specific assets around Palo Verde. However, if you assume that APS, Salt River Project, and Tucson Electric Power were to acquire all of their additional needs from the assets around the Palo Verde hub, the utilities would grow into the uncommitted capacity in the 2010-2011 timeframe.

You also asked for additional comments on environmental, operational, reliability or economic issues. Let me address each of these issues separately.

ENVIRONMENTAL

APS has not analyzed the application for a Certificate of Environmental Compatibility ("CEC") for the DPV2 line and therefore is not able to provide comments on the full scope of environmental issues that may be before the Commission and other regulatory agencies involved in approving the line's construction. However, we note that the DPV2 likely will be placed in the same Bureau of Land Management utility corridor with DPV1 for much of its length, which should help mitigate potential environmental impacts.

OPERATIONAL

The addition of DPV2 could provide for more efficient economic dispatch of generation in the southwest region by providing more efficient total loading of new combined-cycle generation, thereby improving overall efficiency of gas use within the region. However, it would not be possible at this point, based on the information available, to determine what, if any, impact such new electric transmission might have on natural gas transportation and supply.

The addition and routing of DPV2 also could open up opportunities to tie in baseload additional resources, including coal, that might be located in western Arizona. Such new resources would benefit both Arizona and the region.

RELIABILITY

APS continues to play an active and leading role in regional transmission planning efforts. APS participates in STEP, SWAT and other regional planning efforts because of APS's view that such planning efforts result in improved overall grid reliability and market enhancement. APS believes that the western states will benefit if all of the states in the region view proposed infrastructure projects (transmission or otherwise) from a regional perspective.

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. Studies performed by the STEP sub-regional planning group have shown a reliability benefit for the grid from the addition of DPV2. 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.

ECONOMIC

The addition of the DPV2 line will allow California utilities to have increased access to generation resources located in Arizona and beyond. While this may impact the prices in Southern California and at the Palo Verde hub, we are not certain exactly

how the market will adjust prices between Southern California and Palo Verde on a seasonal or year to year basis. There are other potential impacts that could offset any increases in Palo Verde prices. For example, besides the positive operational and reliability impacts I just mentioned, the increased access to the California market may provide opportunities to increase off system sales to California, which could then result in higher off-system revenues. In addition, improved transmission infrastructure may lower the cost of entry for additional investment in generation resources and gas delivery facilities.

As a general principle, the Commission has a stated policy of encouraging the development of competition in the energy market. During the last several years, the Commission, APS, and various intervenors, some of which have included out of state merchant generators, have spent considerable time and effort in formulating policies and rules to promote a competitive market for electricity. The efficiency of the Western energy market depends upon the extent and quality of the regional physical infrastructure necessary to produce and transmit energy. The notion that prices may remain lower for Arizona consumers by limiting regional infrastructure is not consistent with a policy of promoting a well-functioning competitive market, which in the long term should reduce pricing. Arizona should be a leader among the Western states in promoting interstate cooperation in the planning and development of new infrastructure. This will encourage new investment and improve the efficient operation of the regional market.

Sincerely,

Jack Davis

cc: Jeff Hatch-Miller, Chairman
William A. Mundell, Commissioner
Marc Spitzer, Commissioner
Mike Gleason, Commissioner
Brian McNeil
Ernest Johnson
Laurie Woodall, Chairman, Arizona Power Plant and Line Siting Committee
Docket Control

Tucson Electric Power Company

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2006 JUN -2 P 12: 58
AZ CORP COMMISSION
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May 31, 2006

Commissioner Kristin K. Mayes
Arizona Corporation Commission
1200 West Washington
Phoenix, AZ 85007

RE: Proposed Devers - Palo Verde No. 2 Power Line (the "Power Line")
Docket No. L-00000A-06-0295-00130 (the "Power Line Siting docket")

Dear Commissioner Mayes:

I am in receipt of your May 11, 2006 letter, wherein you raise several questions regarding the Power Line and its effect on Arizona utilities. My responses, while preliminary at this point, reflect Tucson Electric Power Company's ("TEP") current understanding of the proposed Power Line. TEP has not reviewed the Power Line application for a certificate of environmental compatibility and has not yet determined if it will intervene in the Power Line Siting docket. Accordingly, TEP reserves its right to amend any response or restate any position based upon additional information or changed circumstance.

Question 1:
Provide an analysis for this Docket on the question of when Arizona will "grow into" the power supplies at the Palo Verde Hub.

Response:
The current merchant generation output at or near the Palo Verde Hub is approximately 5,000 MW[1]. While TEP cannot determine exactly how much of this capacity is currently under contract to existing Arizona utilities and California entities, we estimate it to be approximately 2,000 MW[2]. The remaining 3,000 MW could be available to the Arizona market. In fact, a portion of this remaining capacity is utilized by Arizona utilities, including TEP, to offset running less efficient gas generators in the short-term and spot markets.

---

[1] This includes the following plants: Gila River (2,140 MW), Mesquite (1,250 MW), Arlington Valley (570 MW) and Harquahala (1,000 MW).

[2] Any amount under contract to Arizona utilities for 2006 would be included in their Summer Preparedness presentation resources. APS listed 925 MW of short-term market contracts with the majority presumed to be served out of the Palo Verde Hub. TEP listed 100 MW which is purchased at the Palo Verde Hub and an additional requirement of 250 MW of Short-Term capacity needs which will also be filled primarily out of the Palo Verde hub.

Response

TEP will reserve its response to this question until after it has reviewed the material submitted by the applicant(s) and other parties in the Power Line Siting docket. However, TEP is concerned at this point with the following issues:

- *The shift of costs between states.* Currently, the Southern California market prices are a premium to Palo Verde prices. California's increased access to generation at Palo Verde may serve to mitigate the pricing differential between Southern California markets and Palo Verde, tending to levelize prices between the two areas. Whether this results in higher overall costs to Arizona should be considered.

- *The overall effect of the Power Line on the Southwest region's economic dispatch.* The addition of transmission to efficient natural gas plants may provide for more efficient economic dispatch on a regional basis. Such an overall efficiency increase could reduce the regional demand for gas and thus reduce natural gas and potentially power prices.

- *The shift of emissions and water use between states.* California's increased access to generation at Palo Verde may serve to reduce the emissions and water usage in California. Whether this results in higher overall emissions and water use in Arizona should be considered.

- *The overall effect of the Power Line on the Southwest region's emissions.* The addition of transmission to efficient natural gas plants may provide for reduced emissions and water usage on a regional basis. The overall societal benefits of such a reduction should be considered.

- *The addition of the Power Line may increase the overall reliability of the power system in the Southwest, particularly in California.* This increased reliability and any increased operational flexibility should be considered.

- *The effects of increased natural gas use in the Phoenix area and its effect on the natural gas pipeline system, including gas availability.* The effect of the increase in natural gas usage should be analyzed and considered.

If you have any questions regarding these responses, or if you have any additional questions, please do not hesitate to contact me.

Sincerely,

James S. Pignatelli

cc: Docket Control

SOUTHERN CALIFORNIA
EDISON
An *EDISON INTERNATIONAL* Company

Alan J. Fohrer
Chief Executive Officer

John R. Fielder
President

May 18, 2006

Ms. Kristin K. Mayes, Commissioner
Arizona Corporation Commission
1200 W. Washington
Phoenix, AZ 85007

RE: DEVERS-PALO VERDE 2 TRANSMISSION PROJECT
Docket No. L-00000A-06-0295-00130

Dear Commissioner Mayes:

We would like to thank you for your May 10, 2006 letter identifying questions to be addressed in the hearings before the Line Siting Committee. The Company will provide a written response to those questions at least one week before the hearings beginning on June 26. We believe that this new transmission project will provide benefits to Arizona and is in the public's interest.

We look forward to providing the Commission and the Siting Committee the evidence needed for this proceeding.

Sincerely,

Alan J. Fohrer

John R. Fielder

P. O. Box 800
8631 Rush St.
Rosemead, CA 91770

cc: Chairman Jeff Hatch-Miller
Commissioner Marc Spitzer
Commissioner William A. Mundell
Commissioner Mike Gleason
Laurie Woodall, Chairman, Siting Committee
Brian McNeil
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AZ CORP COMMISSION
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Our File Number: 43431-00001

May 19, 2006

HAND DELIVERED

Chairman Jeff Hatch-Miller
Arizona Corporation Commission
1200 W. Washington Street
Phoenix, AZ 85007

Re: Devers Palo Verde 2 Transmission Project
Docket No: L-00000A-06-0295-00130

Dear Chairman Hatch-Miller:

Thank you for your May 10, 2006 letter identifying issues that should be addressed in the evidentiary record. Southern California Edison appreciates the issues raised in your letter and will present evidence on each of these issues during the Siting Committee hearings beginning on June 26. Southern California Edison also intends to provide a written response to the issues you raise prior to the hearing. Southern California Edison believes that Arizona and Arizona's electric customers will benefit from this new transmission line and looks forward to the opportunity to provide that information to the Arizona Corporation Commission and the Siting Committee.

Very truly yours,

LEWIS AND ROCA LLP

Tom Campbell

Thomas H. Campbell

THC/bjg

cc: Commissioner Marc Spitzer
Commissioner William A. Mundell
Commissioner Mike Gleason
Commissioner Kristin K. Mayes
Laurie Woodall, Chairman, Siting Committee
Brian McNeil
Ernest Johnson
Christopher Kempley
Lyn Farmer
Scott Wakefield
Docket Control

COMMISSIONERS
JEFF HATCH-MILLER - Chairman
WILLIAM A. MUNDELL
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MIKE GLEASON
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ARIZONA CORPORATION COMMISSION

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2006 MAY 11 A 9:00

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BRIAN C. McNEIL
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May 11, 2006

Mr. Jack Davis
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400 East Van Buren
Phoenix, AZ 85004

Re: Proposed Devers-Palo Verde No. 2 (DPV2) Power Line; Docket No. L-00000A-06-0295-00130.

Dear Mr. Davis:

Recently, Southern California Edison Co. (SCE) filed an Application before the Arizona Power Plant and Line Siting Committee (Committee) requesting a Certificate of Environmental Compatibility for a new high voltage power line between the Palo Verde Hub and California. According to SCE, the primary purpose behind the construction of the proposed DPV2 is to provide California utilities the capacity to import approximately 6,500 MW from the Arizona power market.[1]

Although I have not reached any conclusions in this case, I am concerned about the potential impact this exportation of power could have on our state's ability to provide for its indigenous – and rapidly growing – population.[2] At the Commission's recent annual Summer Power Preparedness meeting, a TEP witness suggested that by 2010, Arizona's own utilities will need the excess power currently being generated out of the Palo Verde Hub, and without it would have to seek the supplies elsewhere.[3]

Because Arizona's long-term power requirements are implicated by this Application, I am asking that you provide an analysis for this docket on the question of when Arizona will "grow into" the power supplies at the Palo Verde Hub. Specifically, when does APS anticipate that Arizona utilities, and in particular your company, will need the excess power being generated out of the

[1] See SCE Application for Certificate of Environmental Compatibility/Devers-Palo Verde No. 2 Transmission Line Project, pg. 4.
[2] Arizona Public Service has reported that its retail load growth for 2005 and 2006 is three times the national average at more than 4 percent, and Tucson Electric Power has stated that its retail load growth is also growing at 2.5 percent. In some areas of the state, TEP's sister utilities are growing at a rate of 5 percent.
[3] See discussion between David Hutchens of Tucson Electric Power and Commissioner Gleason. Hutchens stated his belief that Arizona would likely need the excess Palo Verde hub power by the time the proposed DPV2 line is scheduled to be placed in service.

Palo Verde Hub and what does APS anticipate it would be required to do in order to make up for any potential shortfalls? In addition, please provide any other environmental, operational, reliability or economic information with regard to this line that you believe would aid the Committee and the Commission in considering this project.

Please file your responses in the above docket in order to allow for the fullest possible record in this case.[4]

Thank you for your attention to these questions. Your timely responses will aid me in my consideration of this matter.

Sincerely,

Kris Mayes
Commissioner

Cc: Chairman Jeff Hatch-Miller
Commissioner William A. Mundell
Commissioner Marc Spitzer
Commissioner Mike Gleason
Laurie Woodall, Chairman, Arizona Power Plant and Line Siting Committee
Ernest Johnson
Brian McNeil
Heather Murphy
Docket

[4] Pursuant to ARS § 40-360.07 the Commission is directed to "balance in the broad public interest, the need for an adequate, economical and reliable supply of electric power with the desire to minimize the effect thereof on the environment and ecology of this state." The plain language of the line siting statute mandates that the ACC consider the public interest in weighing whether to grant a CEC, and in particular the need for the proposed power line.

COMMISSIONERS
JEFF HATCH-MILLER - Chairman
WILLIAM A. MUNDELL
MARC SPITZER
MIKE GLEASON
KRISTIN K. MAYES

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2006 MAY 11 A 8: 58
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BRIAN C. McNEIL
Executive Director

Direct Line: (602) 542-4143
Fax: (602) 542-0765
E-mail: kmayes@azcc.gov

May 11, 2006

Mr. James S. Pignatelli
President and CEO
Tucson Electric Power
P.O. Box 711
Tucson, AZ 85702

Re: Proposed Devers-Palo Verde No. 2 (DPV2) Power Line; Docket No. L-00000A-06-0295-00130.

Dear Mr. Pignatelli:

Recently, Southern California Edison Co. (SCE) filed an Application before the Arizona Power Plant and Line Siting Committee (Committee) requesting a Certificate of Environmental Compatibility for a new high voltage power line between the Palo Verde Hub and California. According to SCE, the primary purpose behind the construction of the proposed DPV2 is to provide California utilities the capacity to import approximately 6,500 MW from the Arizona power market.[1]

Although I have not reached any conclusions in this case, I am concerned about the potential impact this exportation of power could have on our state's ability to provide for its indigenous – and rapidly growing – population.[2] At the Commission's recent annual Summer Power Preparedness meeting, a TEP witness suggested that by 2010, Arizona's own utilities will need the excess power currently being generated out of the Palo Verde Hub, and without it would have to seek the supplies elsewhere.[3]

Because Arizona's long-term power requirements are implicated by this Application, I am asking that you provide an analysis for this docket on the question of when Arizona will "grow into" the power supplies at the Palo Verde Hub. Specifically, when does TEP anticipate that Arizona utilities, and in particular your company, will need the excess power being generated out of the

[1] See SCE Application for Certificate of Environmental Compatibility/Devers-Palo Verde No. 2 Transmission Line Project, pg. 4.
[2] Arizona Public Service has reported that its retail load growth for 2005 and 2006 is three times the national average at more than 4 percent, and Tucson Electric Power has stated that its retail load growth is also growing at 2.5 percent. In some areas of the state, TEP's sister utilities are growing at a rate of 5 percent.
[3] See discussion between David Hutchens of Tucson Electric Power and Commissioner Gleason. Hutchens stated his belief that Arizona would likely need the excess Palo Verde hub power by the time the proposed DPV2 line is scheduled to be placed in service.

Palo Verde Hub and what does TEP anticipate it would be required to do in order to make up for any potential shortfalls? In addition, please provide any other environmental, operational, reliability or economic information with regard to this line that you believe would aid the Committee and the Commission in considering this project.

Please file your responses in the above docket in order to allow for the fullest possible record in this case.[4]

Thank you for your attention to these questions. Your timely responses will aid me in my consideration of this matter.

Sincerely,

Kris Mayes
Commissioner

Cc: Chairman Jeff Hatch-Miller
Commissioner William A. Mundell
Commissioner Marc Spitzer
Commissioner Mike Gleason
Laurie Woodall, Chairman, Arizona Power Plant and Line Siting Committee
Ernest Johnson
Brian McNeil
Heather Murphy
Docket

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[4] Pursuant to ARS § 40-360.07 the Commission is directed to "balance in the broad public interest, the need for an adequate, economical and reliable supply of electric power with the desire to minimize the effect thereof on the environment and ecology of this state." The plain language of the line siting statute mandates that the ACC consider the public interest in weighing whether to grant a CEC, and in particular the need for the proposed power line.

COMMISSIONERS
JEFF HATCH-MILLER - Chairman
WILLIAM A. MUNDELL
MARC SPITZER
MIKE GLEASON
KRISTIN K. MAYES

ARIZONA CORPORATION COMMISSION

BRIAN C. McNEIL
Executive Director

Direct Line: (602) 542-4143
Fax: (602) 542-0765
E-mail: kmayes@azcc.gov

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May 11, 2006

Mr. Richard Silverman
General Manager
Salt River Project
1521 N. Project Drive
Tempe, AZ 85281-1298

Re: Proposed Devers-Palo Verde No. 2 (DPV2) Power Line; Docket No. L-00000A-06-0295-00130.

Dear Mr. Silverman:

Recently, Southern California Edison Co. (SCE) filed an Application before the Arizona Power Plant and Line Siting Committee (Committee) requesting a Certificate of Environmental Compatibility for a new high voltage power line between the Palo Verde Hub and California. According to SCE, the primary purpose behind the construction of the proposed DPV2 is to provide California utilities the capacity to import approximately 6,500 MW from the Arizona power market.[1]

Although I have not reached any conclusions in this case, I am concerned about the potential impact this exportation of power could have on our state's ability to provide for its indigenous – and rapidly growing – population.[2] At the Commission's recent annual Summer Power Preparedness meeting, a TEP witness suggested that by 2010, Arizona's own utilities will need the excess power currently being generated out of the Palo Verde Hub, and without it would have to seek the supplies elsewhere.[3]

Because Arizona's long-term power requirements are implicated by this Application, I am asking that you provide an analysis for this docket on the question of when Arizona will "grow into" the power supplies at the Palo Verde Hub. Specifically, when does SRP anticipate that Arizona utilities, and in particular your company, will need the excess power being generated out of the

[1] See SCE Application for Certificate of Environmental Compatibility/Devers-Palo Verde No. 2 Transmission Line Project, pg. 4.
[2] Arizona Public Service has reported that its retail load growth for 2005 and 2006 is three times the national average at more than 4 percent, and Tucson Electric Power has stated that its retail load growth is also growing at 2.5 percent. In some areas of the state, TEP's sister utilities are growing at a rate of 5 percent.
[3] See discussion between David Hutchens of Tucson Electric Power and Commissioner Gleason. Hutchens stated his belief that Arizona would likely need the excess Palo Verde hub power by the time the proposed DPV2 line is scheduled to be placed in service.

Palo Verde Hub and what does SRP anticipate it would be required to do in order to make up for any potential shortfalls? In addition, please provide any other environmental, operational, reliability or economic information with regard to this line that you believe would aid the Committee and the Commission in considering this project.

Please file your responses in the above docket in order to allow for the fullest possible record in this case.[4]

Thank you for your attention to these questions. Your timely responses will aid me in my consideration of this matter.

Sincerely,

Kris Mayes
Commissioner

Cc: Chairman Jeff Hatch-Miller
Commissioner William A. Mundell
Commissioner Marc Spitzer
Commissioner Mike Gleason
Laurie Woodall, Chairman, Arizona Power Plant and Line Siting Committee
Ernest Johnson
Brian McNeil
Heather Murphy
Docket

[4] Pursuant to ARS § 40-360.07 the Commission is directed to "balance in the broad public interest, the need for an adequate, economical and reliable supply of electric power with the desire to minimize the effect thereof on the environment and ecology of this state." The plain language of the line siting statute mandates that the ACC consider the public interest in weighing whether to grant a CEC, and in particular the need for the proposed power line.

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KRISTIN K. MAYES

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2006 MAY 10 P 4: 54

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BRIAN C. McNEIL
Executive Director

Direct Line: (602) 542-4143
Fax: (602) 542-0765
E-mail: kmayes@azcc.gov

May 10, 2006

Mr. Alan J. Fohrer
Chief Executive Officer
Southern California Edison
2244 Walnut Grove Avenue
Rosemead, CA 91770

Mr. John R. Fielder
President
Southern California Edison
2244 Walnut Grove Avenue
Rosemead, CA 91770

Re: Proposed Devers-Palo Verde No. 2 (DPV2) Power Line; Docket No. L-00000A-06-0295-00130.

Dear Sirs:

I have reviewed Southern California Edison's (SCE) recent filing before the Arizona Power Plant and Line Siting Committee (Committee) proposing a new high voltage power line between the Palo Verde hub and California. Although I have not reached any conclusions in this case, the initial application raises several areas in which additional information would be beneficial for my full consideration of this matter.

As you know, pursuant to ARS § 40-360.07 the Commission is directed to "balance in the broad public interest, the need for an adequate, economical and reliable supply of electric power with the desire to minimize the effect thereof on the environment and ecology of this state." The plain language of the Line Siting statute mandates that the ACC consider the public interest in weighing whether to grant a CEC, and in particular the need for the proposed power line.

With this and other provisions of the Line Siting statute in mind, I would like your Company to provide answers as part of the record in this case to several questions in order to help me in my deliberations and to provide the Line Siting Committee with the fullest possible body of evidence upon which to make its recommendation to this Commission.[1]

Consumer costs of proposed DPV2

[1] I am asking that the Line Siting Committee include in its recommendation to the Commission findings regarding the need for this line in Arizona.

First, an SCE report to the California Independent System Operator (CAISO) included in the DPV2 filing reveals that there is anticipated to be a wide disparity in benefits derived from this proposed power line by California and Arizona ratepayers. According to the filing, the proposed DPV2 would cost Arizona consumers more than $231 million between 2009 and 2014.[2] This is of obvious concern to me as it appears that these are costs that may be directly shouldered by Arizona ratepayers through higher electric bills. By contrast, according to SCE estimates, the power line would result in net benefits for California ratepayers between 2009 and 2014 of $967 million and net ratepayer and producer benefits of $1.1 billion over the lifetime of the project.

With regard to the consumer impact report conducted by SCE, I would like the Company to extrapolate out through the lifetime (from 2009 until 2055) of the proposed line the estimated costs to Arizona consumers.[3] Presumably, these ratepayer impacts would result from higher prices being charged to Arizona utilities by Palo Verde Hub generators as a result of the willingness of California utilities to pay prices that are lower than those they could receive in California, but higher than Arizona utilities currently pay. However, the SCE report to the CAISO is not entirely clear on this point and I would like the Company to provide its methodology and assumptions for arriving at these net costs.

Please also inform the Commission and the Line Siting Committee whether SCE's estimates of the impacts on Arizona ratepayers include the costs to Arizona utilities of having to replace power sent out of state over DPV2. In other words, do the estimates take into account the costs of building new power plants or power lines in order to meet local load demand that could have been met by the Palo Verde Hub?

Impact on Arizona's power supplies of proposed DPV2

According to SCE, the primary purpose behind the construction of the proposed DPV2 is to provide California utilities the capacity to import approximately 6,500 MW from the Arizona power market.[4]

I am concerned about the potential impact this exportation of power could have on our state's ability to provide for its indigenous – and rapidly growing – population.[5] At the Commission's recent annual Summer Power Preparedness meeting, at least one utility suggested that by 2010, Arizona's

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[2] According to Appendix G, SCE Report to CAISO, G-1 and G-2, DPV2 would result in negative Arizona consumer benefits in the amount of -$25 million in 2009; -$37 million in 2010; -$39 million in 2011; -$40 million in 2012; -$45 million in 2013 and -$45 million in 2014. When the producer benefits (the amount that merchant plants will gain as a result of being able to sell excess power into the California market) are added to these consumer losses as well as the transmission congestion revenue losses, the net negative impact for Arizona is -$74 million between 2009 and 2014.

[3] If the net ratepayer and producer benefits at the end of 2014 were held constant at -$17 million per year over the remainder of the lifetime of the project, it would appear that the net lifetime benefits to Arizona ratepayers would be -$754 million (-$74 million from 2009 to 2014 and $-697 million from 2014 through 2055).

[4] See SCE Application for Certificate of Environmental Compatibility/Devers-Palo Verde No. 2 Transmission Line Project, pg. 4.

[5] Arizona Public Service has reported that its retail load growth for 2005 and 2006 is three times the national average at more than 4 percent, and Tucson Electric Power has stated that its retail load growth is also growing at 2.5 percent. In some areas of the state, TEP's sister utilities are growing at a rate of 5 percent.

own utilities will need the excess power currently being generated out of the Palo Verde Hub, and without it would have to seek the supplies elsewhere.[6]

Because Arizona's long-term power requirements are implicated by this Application, under separate cover I am writing to Arizona's three largest electric utilities to ask them to provide an analysis for this docket on the question of when Arizona will "grow into" the power supplies at the Palo Verde Hub. In addition, I would like SCE to provide an analysis of the impact of DPV2 on Arizona's power supply needs over the lifetime of the power line, and provide the Commission and Line Siting Committee any studies or analyses the Company has already conducted on this matter. Specifically, when does SCE anticipate that Arizona will need the excess power being generated out of the Palo Verde Hub and what does SCE anticipate would happen if that power was not available to Arizona utilities?

Reliability/Power supplies directed from California into Arizona

SCE makes it clear that the purpose of the power line is to allow additional megawatts to flow from Arizona into California. The Application also states that the DPV2 line would enhance reliability regionally, but makes no mention of when power might flow counter-directionally, in other words, whether Arizona would under any circumstances receive power from California, or from the Northwest via California. Please describe for the Commission and the Committee any conditions envisioned by which Arizona utilities would actually receive power supplies over the DPV2 line from California or Northwestern generators.

Please also tell the Commission and Line Siting Committee whether Arizona utilities would have access to the potential new generation east of Devers, near Blythe, that is discussed in the Devers-Palo Verde No. 2 Cost-Effectiveness Report issued on April 7, 2004.[7]

Environmental impacts to Arizona resulting from DPV2

Apart from the direct environmental impacts associated with the siting of the proposed power line that are addressed in the Application, I would like the Line Siting Committee and the Commission to have an estimate by the parties of the potential environmental impacts from any additional power plants or power lines that could result from the creation of DPV2. According to the Application, SCE believes the power line itself could stimulate additional generating plants in Arizona, presumably to serve California utilities.[8] And, as noted above, at least one utility has stated that alternative supplies of power would likely have to be developed by Arizona utilities in Arizona, or

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[6] See discussion between David Hutchens of Tucson Electric Power and Commissioner Gleason. Hutchens stated his belief that Arizona would likely need the excess Palo Verde hub power by the time the proposed PVD2 line is scheduled to be placed in service.

[7] Cost-Effectiveness Report, Pg. 25.

[8] See Devers-Palo Verde No. 2 Cost Effectiveness Report, April 7, 2004, pg. 2: "SCE assumed that the benefits o 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."

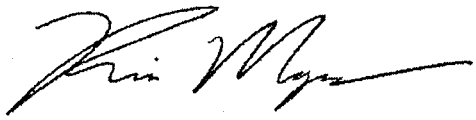
power lines constructed to import power, if the Palo Verde Hub electricity is not available for use by Arizona utilities in 2010 and beyond due to the exportation of that power into California. Please tell the Line Siting Committee and the Commission whether any analyses have been done on the environmental impacts (from pollution, loss of water, or direct impacts to land) from the construction of any additional generation in Arizona that might be spurred by the proposed DPV2 line.

Estimated tax benefits from DPV2

A report conducted by Arizona economist Elliott Pollack on behalf of SCE for this Application states that DPV2 would have a sanguine impact on Arizona's tax base. According to Pollack, the project and its attendant construction would provide 488 jobs over two years, generating direct and induced economic impacts of more than $83 million. Pollack also estimates that La Paz County will receive a $1.25 million boost in property taxes in the first year, declining over time, and Maricopa County will receive $835,000 in additional property taxes in the first year, also declining over time. However, Mr. Pollack does not go on to estimate the total tax base impact of the line. Please provide the Commission and the Line Siting Committee with an estimate of the tax benefits to the state of Arizona, La Paz County, and Maricopa County resulting from DPV2 over the lifetime of the project.

Thank you for your attention to these questions. As indicated above, your timely docketed responses will aid me in my full consideration of this matter.

Sincerely,



Kris Mayes
Commissioner

Cc: Chairman Jeff Hatch-Miller
Commissioner William A. Mundell
Commissioner Marc Spitzer
Commissioner Mike Gleason
Laurie Woodall, Chairman, Arizona Power Plant and Line Siting Committee
Ernest Johnson
Brian McNeil
Heather Murphy
Docket

Hatch-Miller

COMMISSIONERS
JEFF HATCH-MILLER - Chairman
WILLIAM A. MUNDELL
MARC SPITZER
MIKE GLEASON
KRISTIN K. MAYES

BRIAN C. McNEIL
Executive Director

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2006 MAY 10 P 4: 56

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May 10, 2006

Members of the Arizona Power Plant and Transmission Line Siting Committee
Mr. Tom Campbell, Counsel for Southern California Edison Company

Re: Devers-Palo Verde No. 2 Transmission Project
Docket No. L-00000A-06-0295-00130

Dear Members and Mr. Campbell:

I have reviewed Southern California Edison Company's (SCE) application to obtain a Certificate of Environmental Compatibility (CEC) for the Devers-Palo Verde No. 2 Transmission Project (DPV2 Project). According to SCE's application, building this extra high voltage transmission line will enable SCE to tap into the idle generating capacity at the Palo Verde Hub and reduce energy costs for its customers in Southern California.

ARS § 40-360.06 spells out what factors the Line Siting Committee and Commission must consider in issuing a CEC. Many of these factors involve the environmental impacts of the proposed siting project. In ultimately making its decision, the Commission is required to "balance, in the broad public interest, the need for an adequate, economical and reliable supply of electric power with the desire to minimize the effect thereof on the environment and ecology of this state."

In its application, SCE cited various economic benefits to Arizona including the addition of 150 temporary construction jobs and an increase of $24 million in property tax revenues over a 10-year period. However, SCE's application does not appear to describe any direct tangible economic benefits for Arizona's electric customers.

The Harquahala Junction Switchyard Interconnection Option may provide Arizona electric customers with some potential indirect benefits. According to its application, SCE would share the existing Harquahala-Hassayampa 500 kV transmission line with Arizona Public Service Company (APS) and Harquahala Generating Station. This possible interconnection may allow APS to postpone the need to build an additional 500 kV line into the Palo Verde Hub. I ask the Line Siting Committee to explore this option in more detail.

According to SCE, the DPV2 Project would increase the electrical transfer capability between Arizona and California by 1,200 MW. Presumably, SCE would secure long-term power contracts with independent natural gas-fired generators surrounding the Palo Verde Hub. One

potential result is that electricity supplies will become tighter and hub prices will climb. I ask the Line Siting Committee to examine how the DPV2 Project will affect the peak and off-peak prices on the wholesale spot market for the Palo Verde Hub. In addition, please evaluate how the DPV2 Project may affect the ability of Arizona electric utilities to enter into immediate and long-term purchased power contracts.

Under ARS § 40-360.06 A (9), the Line Siting Committee can consider other additional factors it deems important in its deliberations. For this particular case, since the Applicant neither is an Arizona electric utility nor serves electric customers in Arizona, I request that the Line Siting Committee include testimony in the evidentiary record regarding the direct tangible benefits (i.e., reliability, operational or economic) that Arizona electric customers would enjoy if the DPV2 Project were constructed and operational.

In this case, I believe expanding the evidentiary record to include impacts on Arizona energy prices is warranted. Before issuing a CEC, we are obligated to strike a balance among a broad spectrum of factors so that we can make a decision that promotes the public interest. A full evidentiary record will aid me in my consideration of this case.

Thank you for your attention to this matter.

Sincerely,

Jeff Hatch-Miller
Chairman

CC: Commissioner Marc Spitzer
Commissioner William A. Mundell
Commissioner Mike Gleason
Commissioner Kristin K. Mayes
Brian McNeil
Ernest Johnson
Chris Kempley
Lyn Farmer
Parties of Record in the Docket

EXHIBIT

tabbies

Com: 2
admitted

Testimony of Robert Kondziolka and Bob Smith

Palo Verde to Devers II
Transmission Line Siting Hearing
Case No. 130
September 25, 2006

Committee Exhibit 2

1

Robert Kondziolka Witness Background

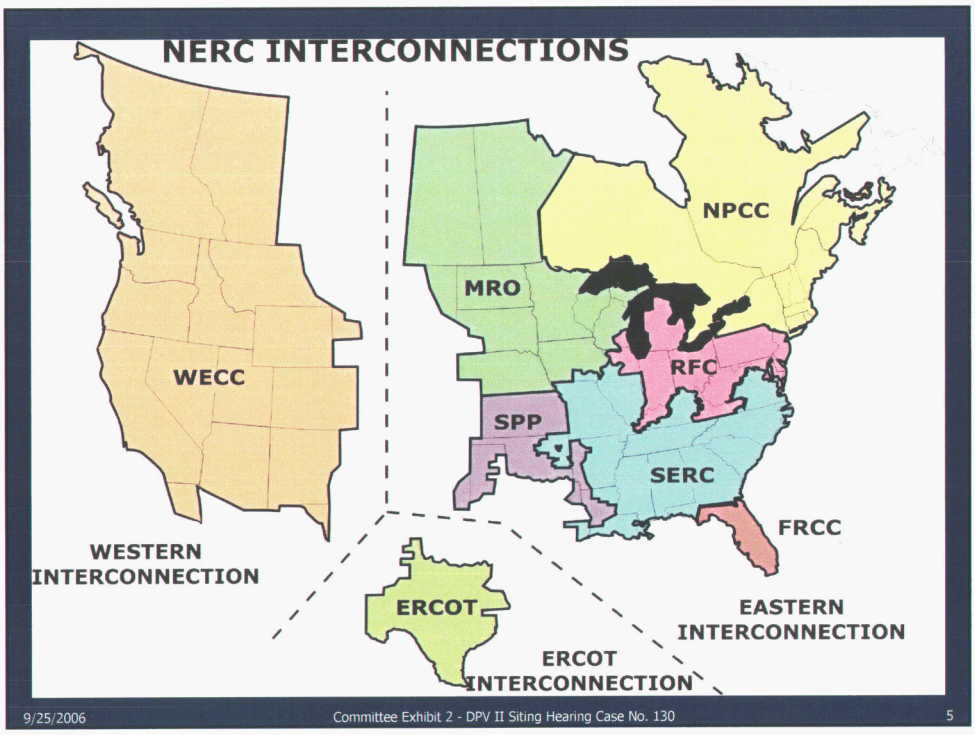
- Educational Background
  - BS Engineering, University of Arizona
- Professional Background
  - SRP Manager Transmission Planning 1999-2006
  - 27 years experience in electric utility design, construction, maintenance, project management, and planning
  - Registered Professional Engineer – Arizona
  - Southwest Area Transmission (SWAT) - Chair
  - Western Electricity Coordinating Council
    - Planning Coordination Committee – Vice Chair
    - Joint Guidance Committee – Chair
    - Western Congestion Analysis Task Force – Chair
    - Transmission Expansion Planning Policy Committee

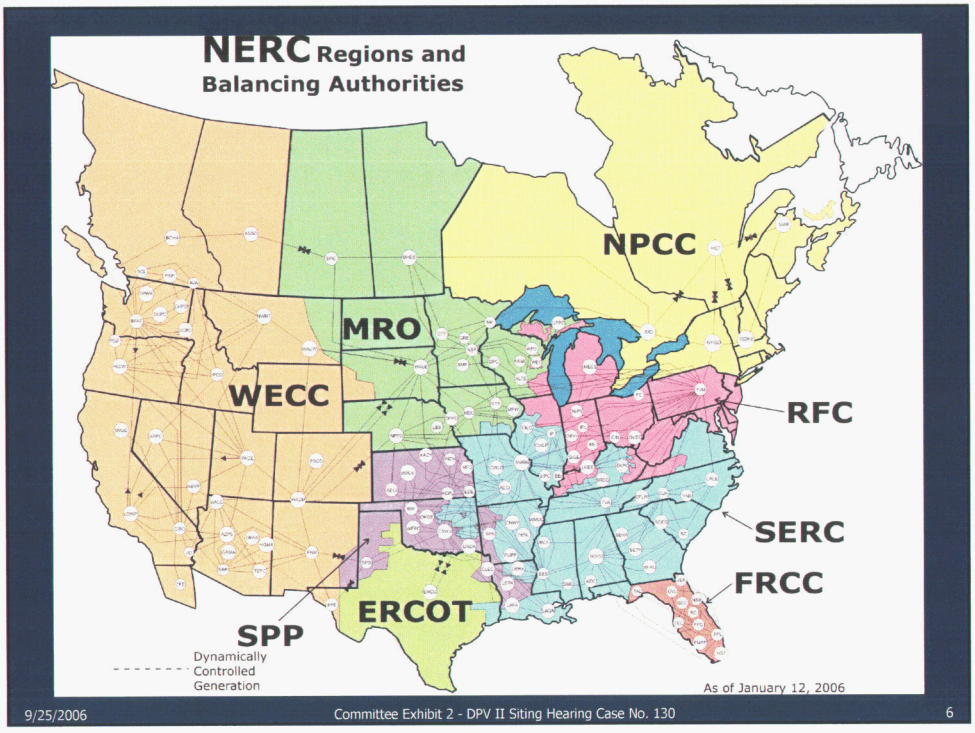
Bob Smith Witness Background

- Educational Background
  - BS Pharmacy, University of Utah
  - MSEE, New Mexico State University
- Professional Background
  - APS transmission operations manager 1997-2002
  - APS transmission planning manager since November 2002
  - 20 years experience in electric utility industry transmission operations and planning
  - Arizona registered professional engineer
  - 15 years extensive involvement with WECC
  - Member of various planning committees, e.g. SWAT and STEP
  - Co-Chair of STEP

Overview of Testimony

- Reliability Organizations
- System Overview
- DOE Congestion Study
- STEP Analysis of DPV2
- Regional Transmission Projects
- Transmission Outage Data
- Double Circuit Standards
- WECC Path Rating Process


NERC INTERCONNECTIONS
NPCC
MRO
RFC
WECC
SPP
SERC
FRCC
WESTERN INTERCONNECTION
ERCOT
EASTERN INTERCONNECTION
ERCOT INTERCONNECTION
9/25/2006
Committee Exhibit 2 - DPV II Siting Hearing Case No. 130
5


NERC Regions and Balancing Authorities
NPCC
MRO
WECC
RFC
SERC
FRCC
ERCOT
SPP
Dynamically Controlled Generation
As of January 12, 2006
9/25/2006
Committee Exhibit 2 - DPV II Siting Hearing Case No. 130
6

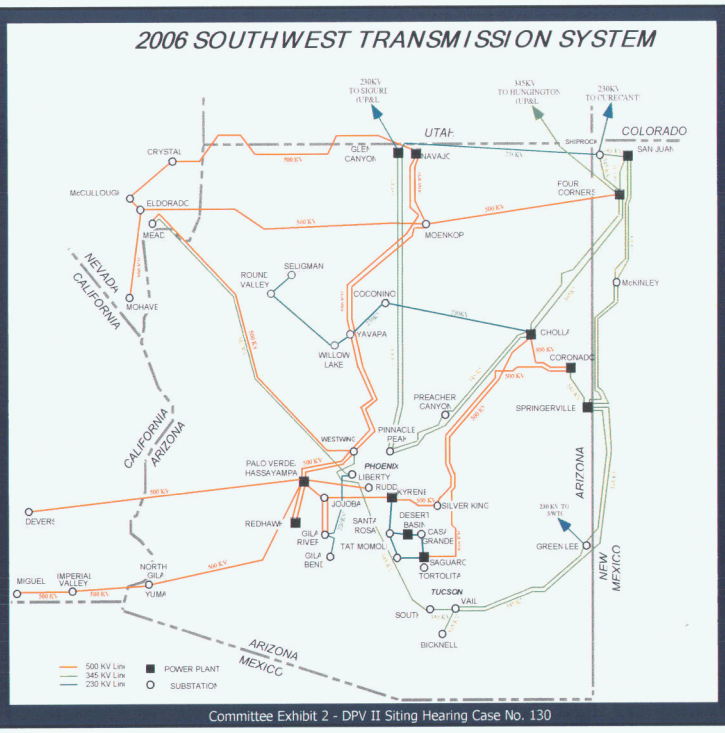
Western Interconnection Utilities under FERC Jurisdiction

Interconnection Wide Issues

Western Interconnection Sub-Regional Planning Groups

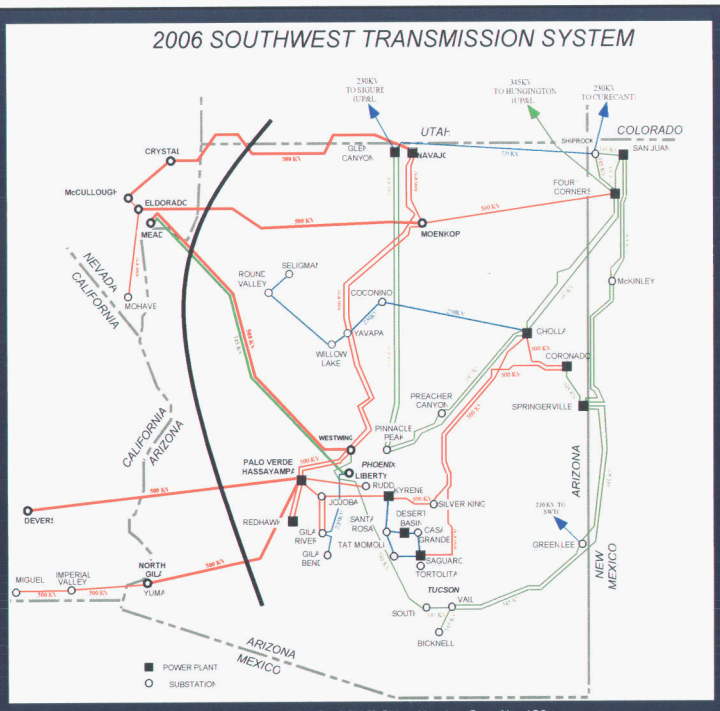
RMATS – http://psc.state.wy.us/htdocs/subregional/home.htm
CAISO – http://www.caiso.com/thegrid/planning/index.html
NTAC – http://www.nwpp.org/ntac
SWAT – http://www.azpower.org/swat
STEP – http://www.caiso.com/docs/2002/11/04/2002110417450022131.htmp
CCPG – http://ccpg.basinelectric.com

Arizona EHV Transmission Systems



Path 49 = East of the River (EOR)

Line	Control Area	Owners	Allocation of Rating (MW)
Navajo-Crystal	LADWP	NPC - 26% LADWP - 49% USBR - 25%	371 695 356 TOTAL = 1422
Moenkopi-El Dorado	APS	APS (SCE) - 100%	1555
Perkins-Mead	WAPA	APS - 18% SRP - 18% WAPA - 32% LADWP - 32%	236 236 412 416 TOTAL = 1300
Liberty-Mead	WAPA	WAPA - 100%	450
Palo Verde-Devers	CAISO	SCE - 100%	1802
Hassayampa-North Gila	CAISO	APS - 11% IID - 13% SDG&E - 76%	168 195 1163 TOTAL = 1526
TOTAL			**8055**



Physics and Line Flows

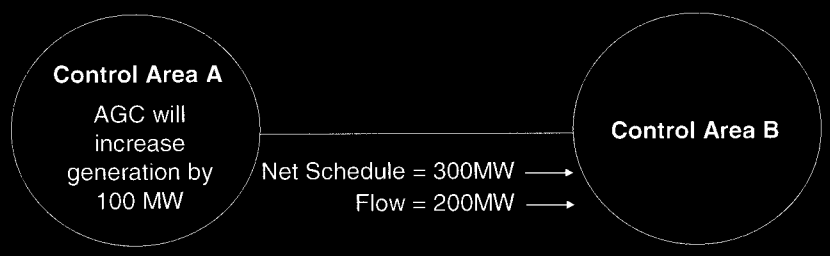
- **Factors in determining flows on lines**
  - Load
  - Generation
  - System configuration
    - Lines and/or Transformers out of service

Commercial Utilization

- **Transmission Line/Path Ratings**
- **Transmission Rights**
  - Ownership
  - Contracts
  - Transmission Reservations (FERC OATT)
- **Transmission Schedules (Energy Transactions)**
  - Must have right to schedule
  - Schedule on hourly basis
  - Submitted day ahead
  - May be adjusted up to hour ahead

Each Control Area contains:
Transmission System
Distribution System
Generation
Load

Control Area Balancing

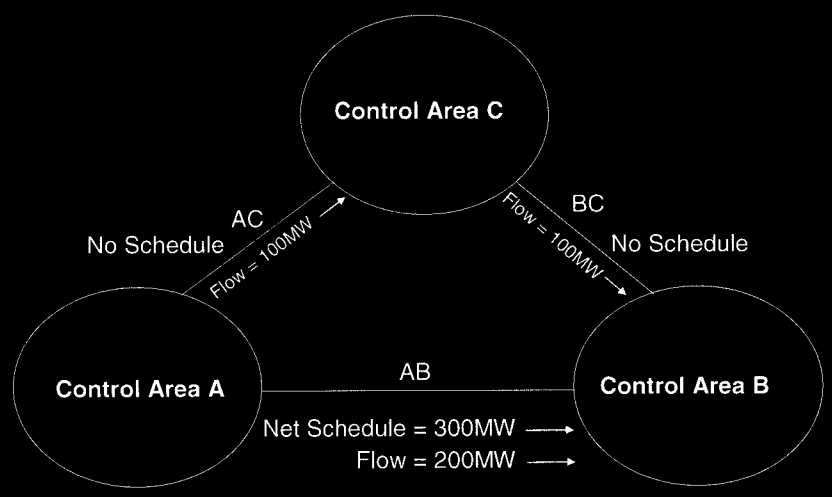


Net Flow Export = 200 MW
Net Scheduled Export = 300 MW
Difference = -100 MW

Control Areas

- **Each generation, transmission and distribution facility, and load is assigned to one and ONLY one control area**
- **Control area balancing responsibility**
  - Generation = load + losses + sum of all export schedules
- **Automatic Generation Control (AGC) program**
  - Part of Energy Management System (EMS)
  - Goal is sum of interconnection flows = sum of export schedules
  - Continuous monitoring of interconnection flows
  - Continuous signals sent to move generators up or down to meet goal
- **WECC has 34 control areas**
  - Arizona has APS, SRP, TEP, WAPA as load control areas

Schedules between A & B



Individual Schedule
Schedule 1: AB = 200 MW
Schedule 2: BA = 100 MW
Schedule 3: AB = 200 MW

Net Schedule
Total Schedule AB: = 400 MW
Total Schedule BA: = (100 MW)
Net Schedule AB: = 300 MW

Which Way Are We Going?

- **Each Transmission line operated as two paths**
  - Separate path in each direction
- **Ratings, Rights, and Schedules are determined separately for each direction**
  - In the Southwest rating usually same in both directions but may be different
  - Ownership usually in both directions
  - Rights defined in one direction
    - Two sets of rights for a line (one for each direction)
  - Individual schedules implemented in one direction
    - May be two sets of schedules on line (one for each direction)
- **Net schedule for an hour**
  - Add up schedules in each direction separately
  - Subtract one total from the other
  - Result is the net schedule

Review

Q: Does Flow always = Schedule?
A: No

Q: Can flow be in both directions at same time?
A: No

Q: Can flow change directions during hour?
A: Yes

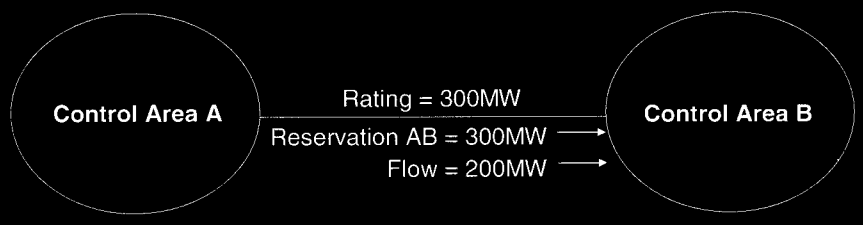
Q: Can individual schedules (transactions) be implemented in both directions during an hour?
A: Yes

System Operation

- **Line operation and maintenance**
  - Switching
  - Taking equipment out of service
  - Physical work on equipment
- **Control Area operation**
  - Implement schedules
  - Balance energy demand and resources
  - Maintain system within reliability limits
    - Flow < rating
    - Net schedule < rating
  - Respond to system disturbances

Physical Congestion

Contractual Congestion



Reservations AB = 300 MW
Reservations BA = 100 MW

Schedule 1: AB = 300 MW
Schedule 2: BA = 100 MW
Net Schedule = 200 MW

Congestion

- Inability to add transactions on a line or path
- Physical congestion
  - Line or path flow near or at rating
- Contractual congestion
  - Line or path flow may be significantly less than rating
  - No available transmission for additional reservations

Arizona Transmission Services

- Transmission providers administer OATTs which determine costs and terms of transmission services
- One line may have multiple owners and therefore multiple OATT administrators
- Control area operator implements schedules and ensures reliable operation
- If transaction crosses multiple providers, it will incur multiple transmission charges

California Transmission Services (for CAISO participants)

- CAISO administers single grid-wide OATT
- CAISO is control area operator
- Transmission access charges
- Grid management charges
- FTRs

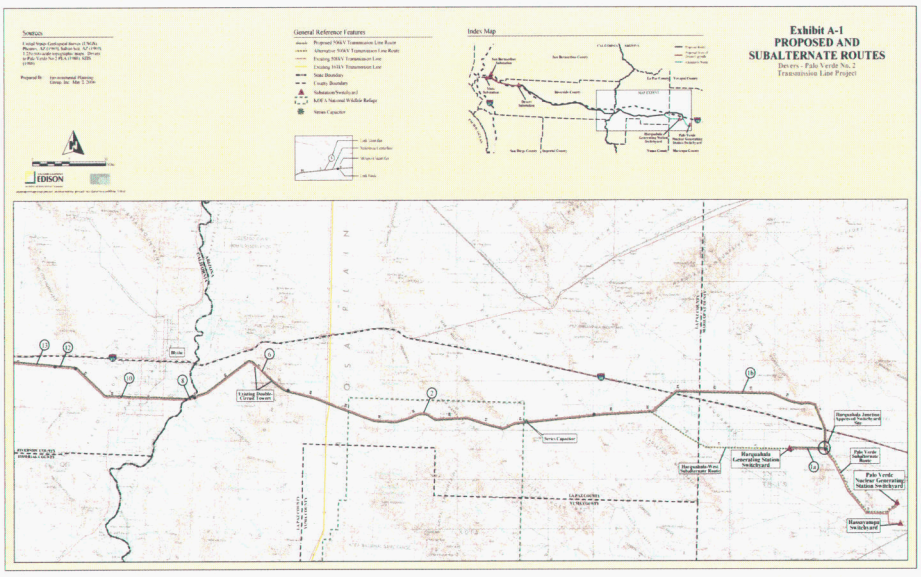
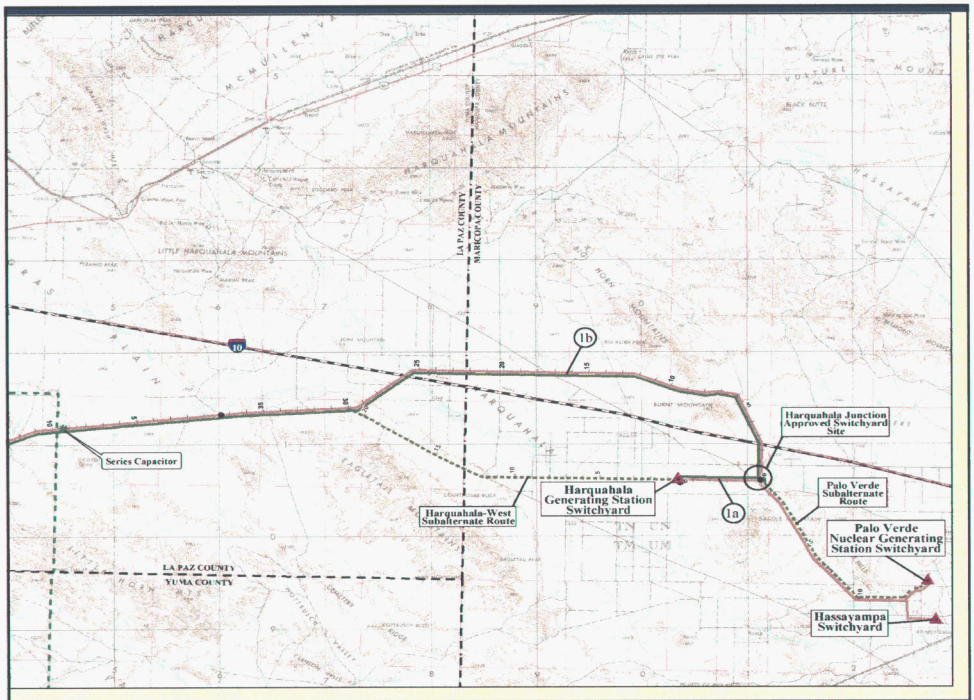


Exhibit A-1
PROPOSED AND
SUBALTERNATE ROUTES
Devers - Palo Verde No. 2
Transmission Line Project
General Reference Features
Index Map
EDISON
Series Capacitor
Harquahala Junction Approved Switchyard Site
Harquahala Generating Station Switchyard
Harquahala-West Subalternate Route
Palo Verde Subalternate Route
Palo Verde Nuclear Generating Station Switchyard
Hassayampa Switchyard


LA PAZ COUNTY
MARICOPA COUNTY
LA PAZ COUNTY
YUMA COUNTY
1b
1a
Series Capacitor
Harquahala Junction Approved Switchyard Site
Harquahala Generating Station Switchyard
Harquahala-West Subalternate Route
Palo Verde Subalternate Route
Palo Verde Nuclear Generating Station Switchyard
Hassayampa Switchyard

Energy Policy Act (EPAct) 2005
August 2005

- **Section 1221 – Siting of Interstate Electric Transmission Facilities**
  - DOE to determine criteria for designating possible National Interest Electric Transmission Corridors (NIETC)
  - Evaluation of existing studies and congestion modeling of the eastern and western interconnection
- **Section 368 – Energy ROW Corridors on Federal Lands**
  Title III Oil and Gas, Subtitle F Access to Federal Lands
  - Applies to U.S. Department of Agriculture (Forest Service), U.S. Department of Interior (Bureau of Land Management), and U.S. Department of Defense
  - Draft Programmatic Environmental Impact Statement (PEIS) Fall 2006
  - PEIS in 11 Western states to be completed by August 2007

EPAct 2005 Section 1221
Title XII Electricity
Subtitle Transmission Infrastructure Modernization

- The Energy Policy Act of 2005 requires DOE to issue a national transmission congestion study for comment by August 2006 and every three years thereafter.
- Based on the study and public comments, DOE to recommend and Secretary of Energy to designate selected geographic areas as National Interest Electric Transmission Corridors (NIETC). No time frame stipulated for designating NIETC.
- FERC Backstop Siting Authority - Authority to issue construction permits in NIETCs when states do not approve siting within one year of application or place undue restrictions upon them.

DOE Congestion Study

Background

- DOE is not mandated to prescribe solutions
- DOE would like to see necessary steps taken by the states and regions to address problems in designated corridors
- DOE does not plan to prescribe solutions that address congestion for a designated corridor
- DOE does not see new transmission lines as the only solution to address a congested corridor

Western Congestion Assessment Task Force Report Objectives

- Identify congested areas
- Identify major assumptions and congestion drivers
- Identify economic impact of congestion
- Identify sensitivity of congestion to assumptions (gas prices, hydro levels, etc)
- Limitations of the analysis

Studies/Reports – Related to DOE Task 1

SSG-WI 2003 Study Program – *SSG-WI Report*
SSG-WI 2003 Path Utilization Study – *SSG-WI Report*
Canada – NW – California Transmission – *NTAC Report*
Colorado Long Range Transmission Planning Study – *CCPG Report*
Conceptual Plans for Electricity Transmission in the West – *WGA Report*
T4 Wind Project – *Nevada State Office of Energy Report*
Rocky Mountain Area Transmission Study – *RMATS Report*
Puget Sound Upgrade Project – *NTAC Report*
Montana Northwest Transmission Equal Angle Report – *NTAC Report*
West of Hatwai System Upgrade Project – *NTAC Report*
Central Arizona Transmission Study – *SWAT Report*
Path 49 (East of River) Transmission Upgrades - *STEP Report*
CEC Strategic Transmission Investment Plan – *CEC Report*
Imperial Valley – San Felipe 500 kV Transmission Project – *IID Report*
Tehachapi Wind Integration Transmission Study – *CPUC Report*
Canada to Northwest Intertie Expansion – *BCTC Report*
Protecting and Managing an Increasingly Congested Transmission System – *BPA Report*
Review of WECC Coordinated Phase Shifter Operation – 2001 to 2005 *WECC Report*
LEAPS and TE-VS Project – *Nevada Hydro Company Report*

Studies/Reports – Related to DOE Task 3

SSG-WI 2005 Study Program (2008 and 2015) – *SSG-WI/WECC Report*
W.I. 2006 Path Utilization Study – *SSG-WI/WECC Report*
Clean and Diversified Energy Initiative – *WGA Report*

Historical Path Flow Analysis

- Actual physical flow based on hourly MW average
- 1999 through 2005
- Seasonal Analysis
  - Spring (April & May)
  - Summer (June through October)
  - Winter (November through March)
- Usage over peak season (one season over all years)
- Usage over peak season (highest individual period)

Model Simulation Program

- ABB GridView
- Least cost dispatch
- Transmission limitations
- Startup costs, ramp rates and variable O&M costs

Modeling Assumptions 2008 & 2015

- Three gas prices ($5, $7, & $9 per MMBTU Henry Hub)
- Average losses
- Hydro and Wind are hard wired into the model
- Medium Hydro year
- WECC 2005 Load & Resource load forecast (modified)
- Hourly load shapes were developed using FERC 714
- WECC path ratings and nomograms were modeled
- Unit forced outage rates are modeled, using EIA data

2015 Modeling Assumptions

- Incremental resource reflect utility Integrated Resource Plans (IRP), state Renewable Portfolio Standards (RPS), and approved Load and Resource (L&R) plans
- Incremental transmission was added to a WECC 2008 case to represent 2015 network topology

Basis of Congestion in Results

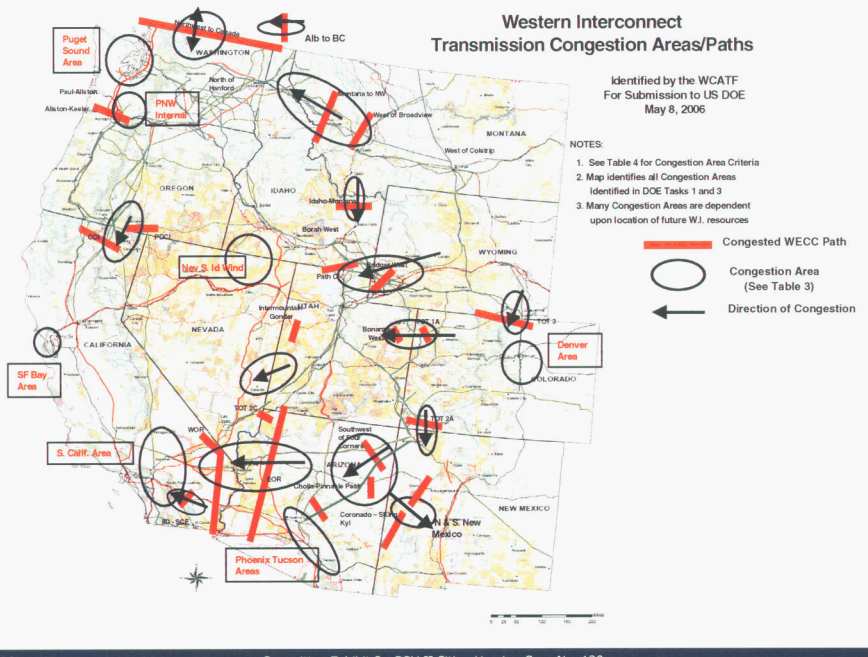
Historical Flow	All top 10 ranked WECC Paths for U75 and U90 (U75>40% and U90>5%)
2008 Model Study	All WECC paths or lines ranked in top 10 in one of three categories for $5, $7, and $9 gas U75 (>80%) U90 (>50%) Shadow Price Binding Hours
2015 Model Study	All WECC paths or lines ranked in top 10 in one of five categories for $5, $7, and $9 gas U75 (>80%) U90 (>60%) ULimit (>50%) Shadow Price (Average) Congestion Rent

Origin of Congestion in Results

	No. of WECC Paths/Lines Identified	No. of Areas Identified	No. of Areas Identified Sub-Regional Groups
Existing Studies	16	11	6
Historical Flows	13	10	
2008 Study	17	10	
2015 Study	12	8	
Total	24	14	6

Key Caveats

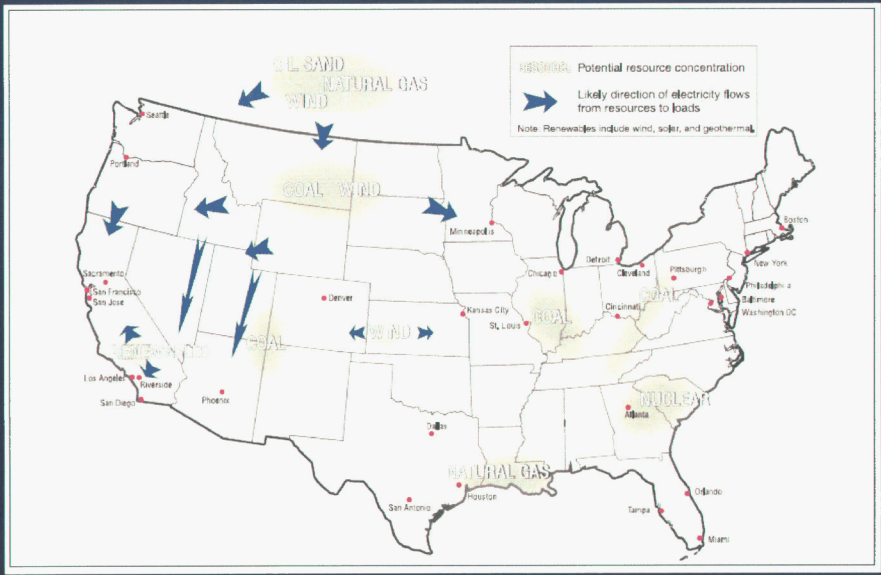
- Results are highly dependent upon gas prices, hydro conditions and location of future resources
- The WCATF study focused on the identification of transmission congestion; it did not specifically identify resource/load Constraint Areas (as defined by DOE)
- The WCATF Congestion Areas were not ranked due to the variability and inconsistency in the alternative metric ranking methods
- Additional studies are required to determine if it is necessary or economical to add new or upgrade existing facilities to reduce congestion



Critical Congestion and Areas of Concern in the Western Interconnection

Source:
Figures ES-3 & 5-2
U.S. Department of Energy
National Electric Transmission Congestion Study
2006

Conditional Constraint Areas



Source: Figures ES-4 & 5-5, U.S. Department of Energy, National Electric Transmission Congestion Study, 2006

CALIFORNIA ISO

California Independent System Operator

STEP's Goal – "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-wide wholesale electricity market while meeting established reliability standards. The wide participation envisioned in this process is intended to result in a plan that meets a variety of needs and has a broad basis of support."

JMiller/GrdPlng

2

CALIFORNIA ISO

California Independent System Operator

Three Study Phases

- Phase 1 – Short-term Solutions - Projects that can be implemented in a few years such as increasing the ratings of the series capacitors in the Southwest Power Link (SWPL).
- Phase 2 – Mid-term Solutions - Major new bulk transmission facilities such as a major new 500 kV line.
- Phase 3 – Long-term Vision - Conceptual future plan

JMiller/GrdPlng 5

CALIFORNIA ISO

California Independent System Operator

Development of STEP Alternatives

- Analyzed 26 Alternatives in Powerflow
- 6 Selected for Detailed Study
- 4 are AC Alternatives and 2 are DC Alternatives

Created By: LST UPDT: MM/DD/YY

CALIFORNIA ISO

California Independent System Operator

Parameters for each alternative

- Miles of new transmission lines
- Rating of new and existing series capacitors
- Number of new transformers/phase shifters
- Overloads (under normal and single line contingency conditions)
- Losses
- VAR support
- Flows across various WECC paths/interfaces
- Sufficient transfer capability requires at least one new line from the Palo Verde area into California and at least one new line into San Diego

Created By:Johan Galleberg

LST UPDT: June 19, 2003

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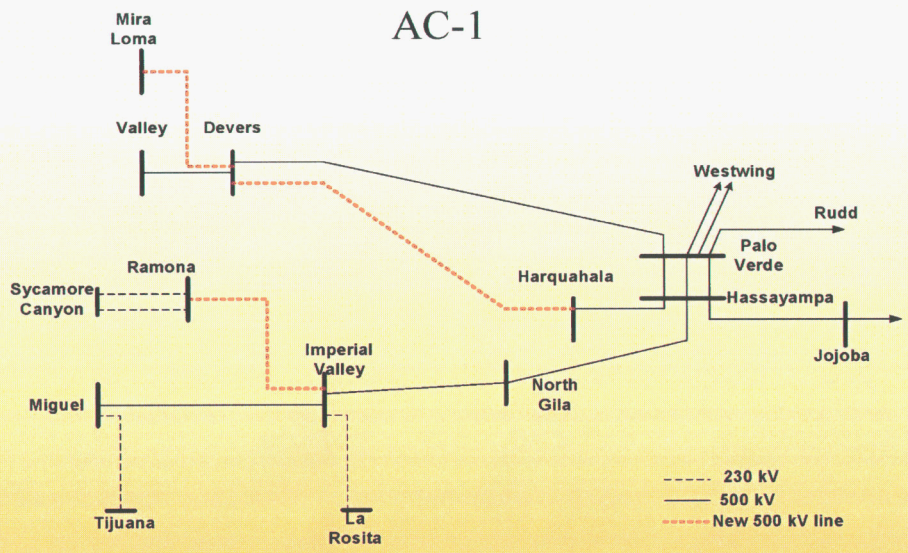
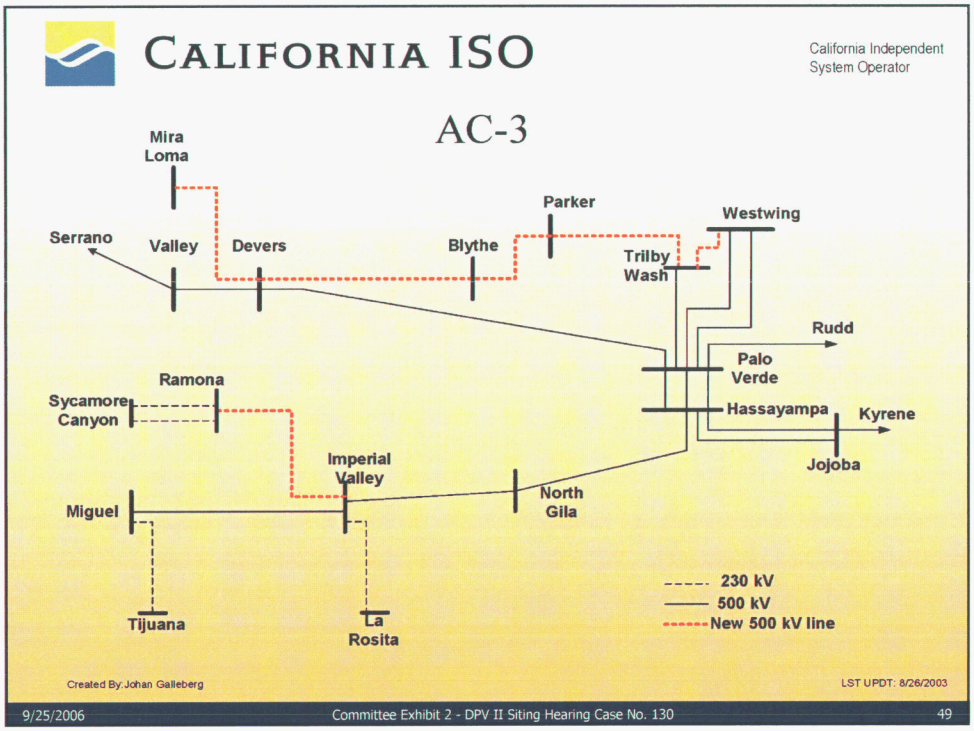
California Independent System Operator

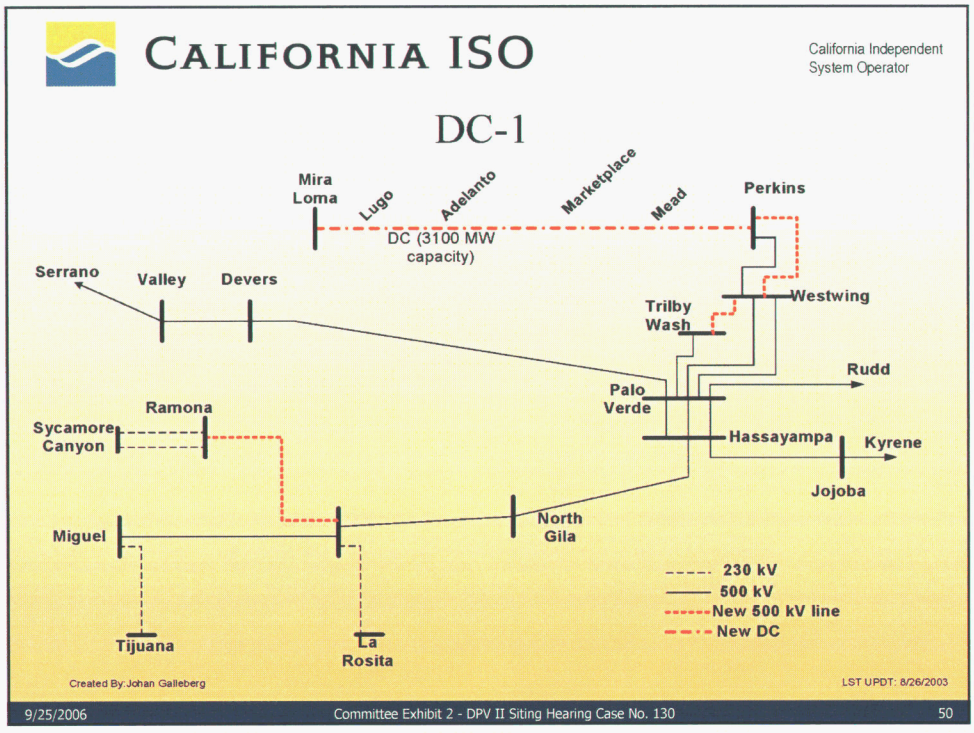
AC-1



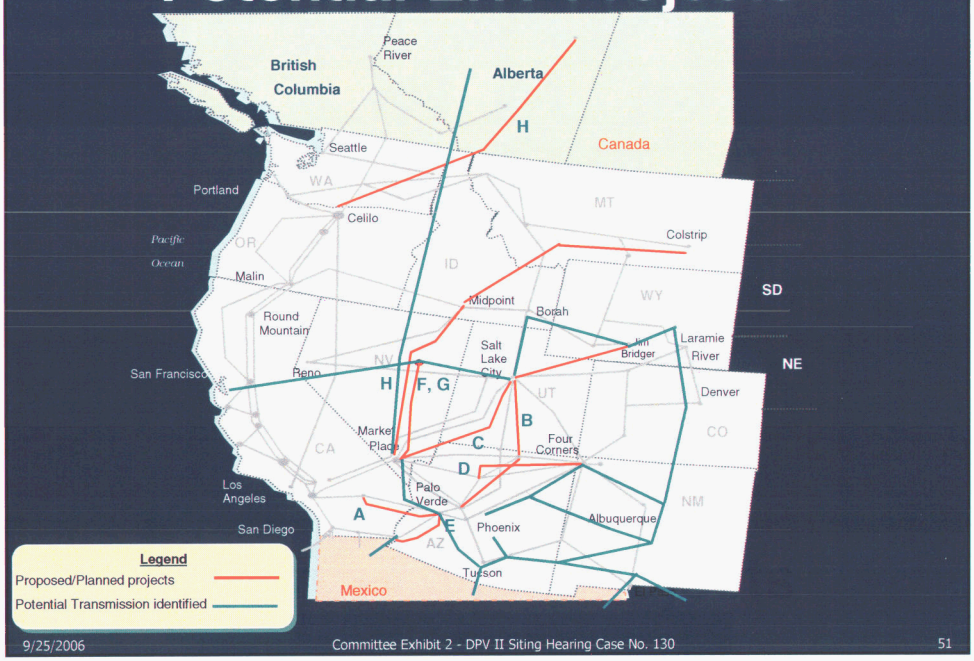
Created By:Johan Galleberg

LST UPDT: 8/26/2003


CALIFORNIA ISO
California Independent System Operator
AC-3
Mira Loma
Serrano
Valley
Devers
Blythe
Parker
Westwing
Trilby Wash
Rudd
Palo Verde
Hassayampa
Kyrene
Jojoba
Ramona
Sycamore Canyon
Imperial Valley
North Gila
Miguel
Tijuana
La Rosita
230 kV
500 kV
New 500 kV line
Created By:Johan Galleberg
LST UPDT: 8/26/2003
9/25/2006
Committee Exhibit 2 - DPV II Siting Hearing Case No. 130
49

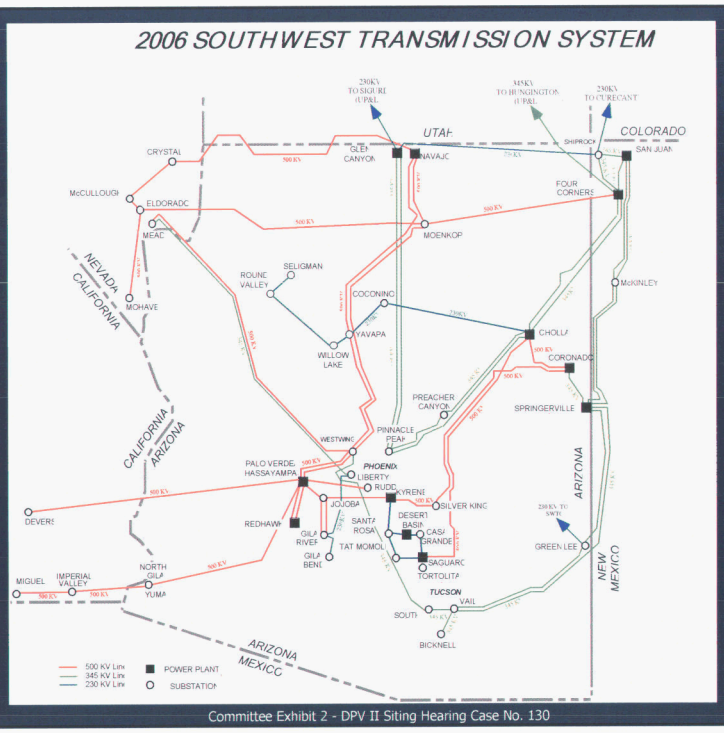

CALIFORNIA ISO
California Independent System Operator
DC-1
Mira Loma
Lugo
Adelanto
Marketplace
Mead
Perkins
DC (3100 MW capacity)
Serrano
Valley
Devers
Westwing
Trilby Wash
Rudd
Palo Verde
Hassayampa
Kyrene
Jojoba
Ramona
Sycamore Canyon
North Gila
Miguel
Tijuana
La Rosita
230 kV
500 kV
New 500 kV line
New DC
Created By:Johan Galleberg
LST UPDT: 8/26/2003
9/25/2006
Committee Exhibit 2 - DPV II Siting Hearing Case No. 130
50

Potential EHV Projects



Regional Transmission Planning

- Planned Projects
  - Path 49 upgrades
  - Palo Verde Hub - TS5 500kV Project
  - Navajo Transmission Project
  - Other Regional Projects
- Proposed Projects
  - TransWest Express Project
  - Northern Lights
- Conceptual Projects
  - Frontier Line
- Conceptual Planning Activities
  - Zia



Frequency of Forced Transmission Outages in Arizona (APS & SRP) for HV and EHV lines between 1996-2005

Voltage Class	Number of Lines (as of 12/31/05)	Total Number of Outages	Average Number of Outages/circuit/year
230kV	70	388	0.6
345kV	4	67	1.7
500kV	25	178	0.8

Double Circuit Standards

Reference: NERC/WECC Planning Standards Foreword

- Adequacy – the ability of the electric system to supply the aggregate electrical demand and energy requirements of their customers at all times, taking into account scheduled and reasonably expected unscheduled outages of the system
- Security – the ability of the electric system to withstand sudden disturbances such as electric short circuit or unanticipated loss of system elements

Reference: NERC/WECC Planning Standards Introduction

- To maintain the reliability of the bulk electric systems or interconnected transmission system or networks, the Regions and their members and all electric industry participants must comply with the NERC Planning Standards.

Reference: NERC/WECC Planning Standards

I. System Adequacy and Security – Discussion

- These systems must be planned, designed, and constructed to operate reliably within thermal, voltage, and stability limits while achieving their major purposes. These purposes are to:
- Deliver Electric Power to Areas of Customer Demand – Transmission systems provide for the integration of electric generation resources and electric system facilities to ensure the reliable delivery of electric power to continuously changing customer demand under a wide variety of system conditions
- Provide Flexibility for Changing System Conditions – Transmission capacity must be available on the interconnected transmission systems to provide flexibility to handle the shift in facility loadings caused by the maintenance of generation and transmission equipment, the forced outages of such equipment, and a wide range of other system variable conditions, such as construction delays, higher than expected customer demands, and generating unit fuel shortages
- Reduce Installed Generating Capacity
- Allow Economic Exchange of Electric Power Among Systems

Reference: NERC/WECC Planning Standards

I. System Adequacy and Security – Discussion

- **All electric utilities, transmission providers, electricity suppliers, purchasers, marketers, brokers, and society at large benefit from having reliable interconnected bulk systems. To ensure that these benefits continue, all industry participants must recognize the importance of planning these systems in a manner that promotes reliability.**

Reference: NERC/WECC Planning Standards

I. System Adequacy and Security
A. Transmission Systems - Introduction

- Extreme but less probable contingencies measure the robustness of the electric systems and should be evaluated for risks and consequences. The risks and consequences of these contingencies should be reviewed by the entities responsible for the reliability of the interconnected transmission systems. Actions to mitigate or eliminate the risks and consequences are at the discretion of those entities.

Reference: NERC/WECC Planning Standards

I. System Adequacy and Security
A. Transmission Systems – S4

- The interconnected transmission system shall be evaluated for the risks and consequences of a number of the extreme contingencies that are listed under Category D of Table I.

Reference: NERC/WECC Planning Standards

I. System Adequacy and Security
A. Transmission Systems – WECC-S2

- The NERC Category C.5 initiating event of a non-three phase fault with normal clearing shall also apply to the common mode contingency of two adjacent circuits on separate towers unless the event frequency is determined to be less than one in thirty years.

Reference: NERC/WECC Planning Standards

I. System Adequacy and Security
A. Transmission Systems – WECC-S5

- For contingencies involving existing or planned facilities, the Table W-I performance category can be adjusted based on on actual or expected performance (e.g. event outage frequency and consideration of impact) after going through the WECC Phase I Probabilistic Based Reliability Criteria (PBRC) Performance Category Evaluation (PCE) Process.

Reference: NERC/WECC Planning Standards

I. System Adequacy and Security
A. Transmission Systems – WECC-S6

- Any contingency adjusted to Category D must not result in a cascading outage unless the MTBF is greater than 300 years (frequency less than 0.0033 outages/year) or the initiating disturbances and corresponding impacts are confined to either a radial system or a local network.

Reference: NERC/WECC Planning Standards

I. System Adequacy and Security
A. Transmission Systems – WECC-G6

- The interconnected transmission systems should be planned to avoid excessive dependence on any one circuit, structure, right-of-way, or substation.

Reference: NERC/WECC Planning Standards

I. System Adequacy and Security
A. Transmission Systems – WECC-G5

- **Consideration in determining the probability of occurrence of an outage of two adjacent circuits on separate towers should include line design; length; location; environmental factors; outage history; operational guidelines; and separation between circuits.**

Table I. Transmission System Standards –Normal and Contingency Conditions

Category	Contingencies		System Limits or Impacts				
	Initiating Event(s) and Contingency Element(s)	Elements Out of Service	Thermal Limits	Voltage Limits	System Stable	Loss of Demand or Curtailed Firm Transfers	Cascading Outages
A - No Contingencies	All Facilities in Service	None	Applicable Rating [1] (A/R)	Applicable Rating [1] (A/R)	Yes	No	No
B – Event resulting in the loss of a single element.	Single Line Ground (SLG) or 3-Phase (3Ø) Fault, with Normal Clearing: 1. Generator 2. Transmission Circuit 3. Transformer Loss of an Element without a Fault.	Single Single Single Single	A/R A/R A/R A/R	A/R A/R A/R A/R	Yes Yes Yes Yes	No [2] No [2] No [2] No [2]	No No No No
	Single Pole Block, Normal Clearing [3]: 4. Single Pole (dc) Line Loss of an Element without a Fault.	Single	A/R	A/R	Yes	No[5]	No
C – Event(s) resulting in the loss of two or more (multiple) elements.	SLG Fault, with Normal Clearing [3]: 1. Bus Section 2. Breaker (failure or internal fault)	Multiple Multiple	A/R A/R	A/R A/R	Yes Yes	Planned/Controlled[4] Planned/Controlled[4]	No No
	SLG or 3Ø Fault, with Normal Cleaning [3], Manual System Adjustments, followed by Another SLG or 3Ø Fault, with Normal Clearing [3]: 3. Category B (B1, B2, B3, or B4) contingency, manual system adjustments, followed by another Category B (B1, B2, B3, or B4) contingency	Multiple	A/R	A/R	Yes	Planned/Controlled[4]	No
	Bipolar Block, with Normal Clearing [3]: 4. Bipolar (dc) Line Fault (non 3Ø), with Normal Clearing [3]: 5. Any two circuits of a multiple Circuit towerline [6]	Multiple Multiple	A/R A/R	A/R A/R	Yes Yes	Planned/Controlled[4] Planned/Controlled[4]	No No
	SLG Fault, with Delayed Clearing (stuck breaker or protection system failure): 6. Generator 8. Transformer 7. Transmission Circuit 9. Bus Section	Multiple Multiple	A/R A/R	A/R A/R	Yes Yes	Planned/Controlled[4] Planned/Controlled[4]	No No

Reference: NERC/WECC Planning Standards
I. System Adequacy and Security – A. Transmission Systems

Table I. Transmission System Standards – Normal and Contingency Conditions

D [e] – Extreme event resulting in two or more (multiple) elements removed or cascading out of service	3Ø Fault, with Delayed Clearing [f] (stuck breaker or protection system failure): 1. Generator 2. Transmission Circuit 3. Transformer 4. Bus Section	Evaluate for risks and consequences. • May involve substantial loss of customer demand and generation in a widespread area or areas. • Portions or all of the interconnected systems may or may not achieve a new, stable operating point. • Evaluation of these events may require joint studies with neighboring systems.
	3Ø Fault, with Normal Clearing [f]: 5. Breaker (failure or internal fault)	
	Other: 6. Loss of towerline with three or more circuits 7. All transmission lines on a common right-of-way 8. Loss of a substation (one voltage level plus transformers) 9. Loss of a switching station (one voltage level plus transformers) 10. Loss of all generating units at a station 11. Loss of a large load or major load center 12. Failure of a fully redundant special protection system (or remedial action scheme) to operate when required 13. Operation, partial operation, or misoperation of a fully redundant special protection system (or remedial action scheme) in response to an event or abnormal system condition for which it was not intended to operate 14. Impact of severe power swings or oscillations from disturbances in another Regional Council.	

Reference: NERC/WECC Planning Standards

I. System Adequacy and Security – A. Transmission Systems

Footnotes to Table I.

Table I. Transmission System Standards – Normal and Contingency Conditions

a) Applicable rating (A/R) refers to the applicable normal and emergency facility thermal rating or system voltage limit as determined and consistently applied by the system or facility owner. Applicable ratings may include emergency ratings applicable for short durations as required to permit operating steps necessary to maintain system control. All ratings must be established consistent with applicable NERC Planning Standards addressing facility ratings.

b) Planned or controlled interruption of electric supply to radial customers or some local network customers, connected to or supplied by the faulted element or by the affected area, may occur in certain areas without impacting the overall security of the interconnected transmission systems. To prepare for the next contingency, system adjustments are permitted, including curtailments of contracted firm (non-recallable reserved) electric power transfers.

c) Cascading is the uncontrolled successive loss of system elements triggered by an incident at any location. Cascading results in widespread service interruption which cannot be restrained from sequentially spreading beyond an area predetermined by appropriate studies.

d) Depending on system design and expected system impacts, the controlled interruption of electric supply to customers (load shedding), the planned removal from service of certain generators, and/or the curtailment of contracted firm (non-recallable reserved) electric power transfers may be necessary to maintain the overall security of the interconnected transmission systems.

e) A number of extreme contingencies that are listed under Category D and judged to be critical by the transmission planning entity(ies) will be selected for evaluation. It is not expected that all possible facility outages under each listed contingency of Category D will be evaluated.

f) Normal clearing is when the protection system operates as designed and the fault is cleared in the time normally expected with proper functioning of the installed protection systems. Delayed clearing of a fault is due to failure of any protection system component such as a relay, circuit breaker, or current transformer (CT), and not because of an intentional design delay.

g) System assessments may exclude these events where multiple circuit towers are used over short distances (e.g., station entrance, river crossings) in accordance with Regional exemption criteria

Reference: NERC/WECC Planning Standards

I. System Adequacy and Security – A. Transmission Systems

WECC Path Rating Process
WECC Progress Reports

A process by which project sponsors report potential significant additions and changes to the system and WECC members are provided the opportunity to review and comment on these additions or changes

- Initial Progress Report
- Comprehensive Progress Report
- Supplemental Progress Report
- Review of Progress Reports By All TSS Members
- Informal Reports Presented At TSS Meetings

WECC Path Rating Process

- **This is a process intended to ensure that new projects are integrated into the existing system with an ensured rating while recognizing protected ratings of other facilities.**
- **Path Rating implemented through a three phase process**

WECC Path Rating Process – Phase 1

- Project sponsor submits a report through the WECC Progress Report Policies and Procedures process
- Conduct sufficient studies to demonstrate the proposed non-simultaneous rating of the project
- Prepares a Comprehensive Progress Report

Completion of Phase 1

- Full project representation for inclusion in WECC base cases
- Distributed a Comprehensive Progress Report
- Submit a letter to TSS and PCC requesting Phase 2 Status
- If the above criteria are satisfied and no objections have been received within 60 days of WECC's receipt of the request to enter Phase 2
- Project sponsor(s) notify the TSS Chair and provide evidence that the project has satisfied all requirements

WECC Path Rating Process – Phase 2

- **Request participation in forming a Project Review Group**
- **Study work is validated**
  - Simultaneous transfer capability effects and the impact of the project on neighboring transmission systems are further assessed
  - Project Sponsor and Peer Review Group must document all the studies and findings in a report called Project Review Group Phase 2 Rating Report

Completion of Phase 2

- **30-day period for comments from Project Review Group on the Phase 2 Project Rating Report (starting from WECC distribution of the report)**
- **Address issues and concern of Review Group**
- **Distribute the Phase 2 Rating Report to PCC, TSS, and OC for 30 days for comment on conformance with Procedure**
- **Submit letter to PCC requesting Phase 3 Status**
- **Phase 2 is completed when the Phase 2 Rating Report is accepted and the project is granted an "Accepted Rating" by PCC Chair.**

WECC Path Rating Process – Phase 3

- Is a monitoring phase where major changes in assumptions and conditions are evaluated to assure the "Accepted Rating" is maintained.
- Construction begins
- Sponsor is committed to the project
- Considered to be part of the "existing system"
  - only "at risk" due to its failure to complete its own plan of service
- Is completed when the project is placed into service

EXHIBIT
Com-3
admitted

California ISO
Your Link to Power

California Independent
System Operator Corporation

Testimony of the California ISO

before the Arizona Power Plant and Transmission Line Siting Committee

Deborah Le Vine – Director of Market Services and MRTU Program Manager
Greg VanPelt – Manager of Outage Management
David Le – Lead Transmission Engineer, South

October 2006

Overview

1. **What is the CAISO and What does it do?**
2. **Why CAISO Market Redesign and Technology Upgrade (MRTU)?**
   - Original California market design
   - Problems with original market design
3. **MRTU Proposal**
   - Design elements
   - Seams issues
   - Charges
4. **Discussion of ACC Staff Conditions**

Description of CAISO (1)

Who and What is the CAISO?

- A not-for-profit public benefit corporation created by California legislation
- Regulated by the Federal Energy Regulatory Commission as a "public utility"
  - All market rules and rates subject to FERC approval
  - Similar regulatory impact to investor-owned utilities in any state
- Board of Governors appointed by governor of California and confirmed by the legislature

Description of CAISO (2)

CAISO Core Functions

- Reliably operate the transmission facilities of California's three major investor-owned utilities and other transmission owners (Participating TOs or PTOs) as a single control area.

- Provide open, non-discriminatory access to the grid for wholesale buyers and sellers of electricity.
  - Transmission owner does not have priority to new transmission capacity.
  - All market participants have equal access.
  - Transmission availability is transparent.

Description of CAISO (3)

CAISO markets separated from wholesale energy markets Bi-lateral and former Power Exchange (PX)

- ***CAISO markets only for:***
  - Transmission allocation
  - Ancillary Services (regulation & operating reserves)
  - Congestion Management (DA & HA scheduling, RT re-dispatch)
  - Real-time Balancing Energy
- ***Wholesale energy markets for:***
  - Bi-lateral energy arrangements between buyers and sellers
  - Former PX matched buyers and sellers to provide a balanced schedule to the CAISO
  - Former PX Operated day-ahead and day-of pool markets
  - Former PX Operated hour-ahead market

Description of CAISO (4)

Core Functions Entail:

In Real Time -

- Real-time dispatch of supply resources to serve instantaneous demand (via Real-time Imbalance Energy Market)
- Reliable real-time operation - observe grid constraints, respond to contingencies, comply with WECC/NERC operating criteria

Day-ahead, hour-ahead -

- Scheduling - non-discriminatory allocation of limited transmission capacity for intended power flows
- Congestion management - to ensure feasible forward schedules
- Procurement of Operating Reserves and Regulation (AGC)
- Dispatch Reliability Must Run (RMR) generation - to ensure local grid reliability in constrained areas
- Unit Commitment (Must-Offer Waiver Denial Process) - to ensure adequate supply resources are on-line to meet forecasted load and reserve requirements

Description of CAISO (5)

Performing CAISO core functions entails:

Prior to Day Ahead -

- Assess and publish expected grid conditions (status of grid facilities)
- Assess adequacy of supply resources to meet forecasted demand
- Generator outage coordination; generator maintenance standards

Medium to Long Term -

- Conduct Firm Transmission Rights (FTR) Auctions (year-ahead)
- Contract with Reliability Must Run (RMR) Generators
- Transmission Planning - to ensure adequacy of grid facilities, in coordination with transmission owners and state authorities
- Economic assessment of proposed transmission projects

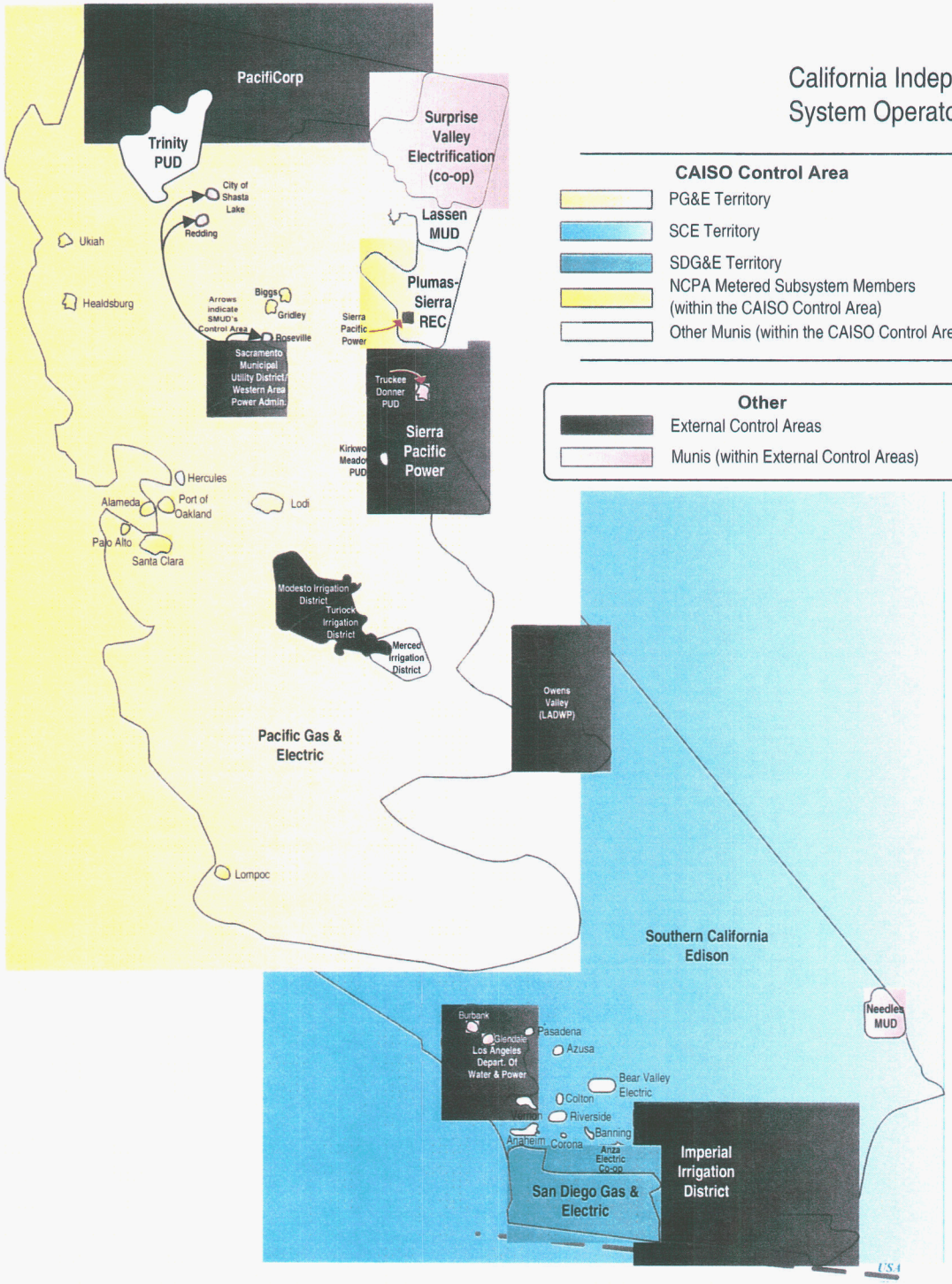
General -

- Monitor performance of CAISO systems and markets
- Monitor compliance of CAISO participants with Tariff and Protocols
- Provide information to participants, public, regulators, etc.,
- Identify problems and take corrective actions as appropriate.

California ISO
Your Link to Power

CAISO CONTROL AREA within California

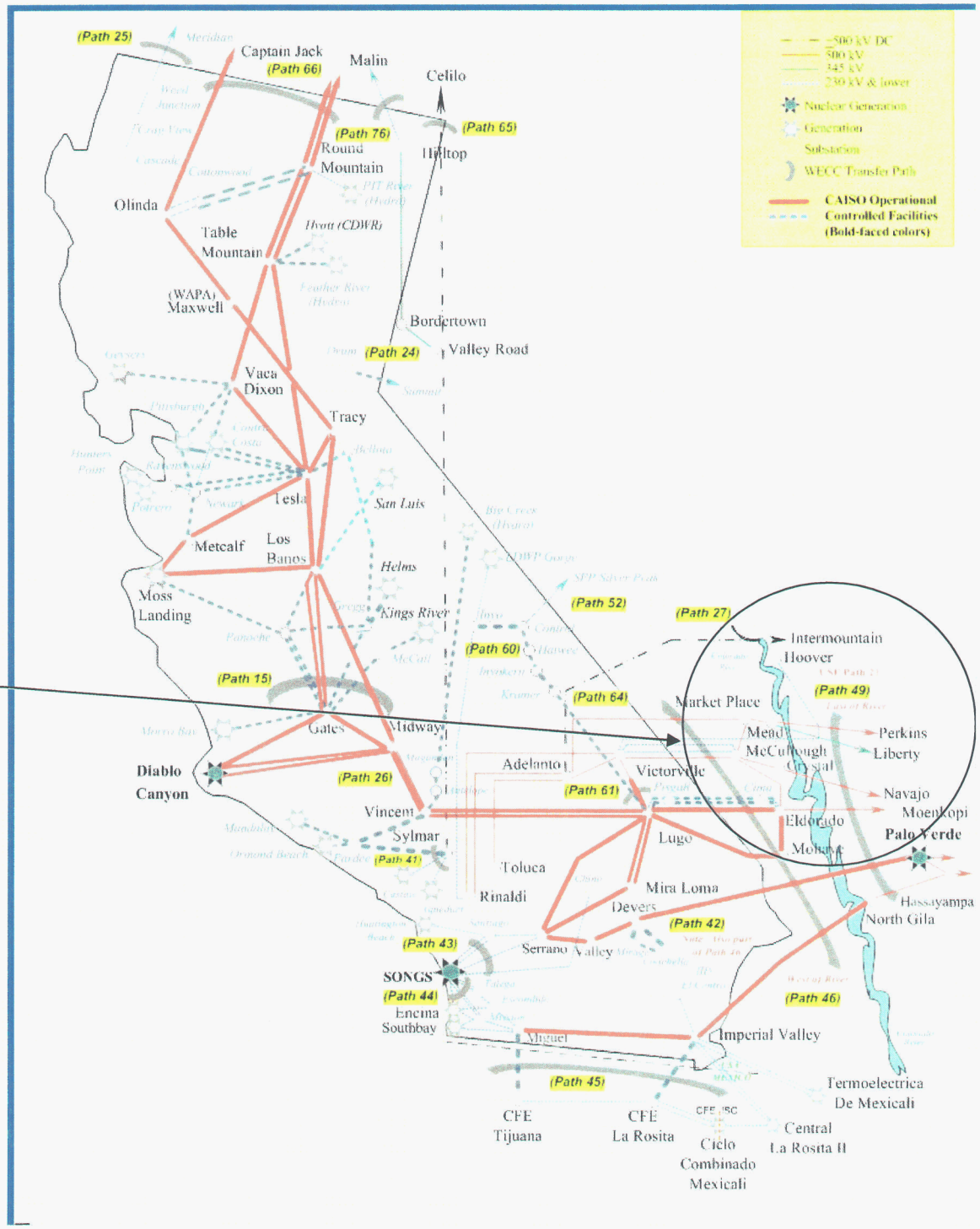
California Independent
System Operator Corporation



California ISO
Your Link to Power

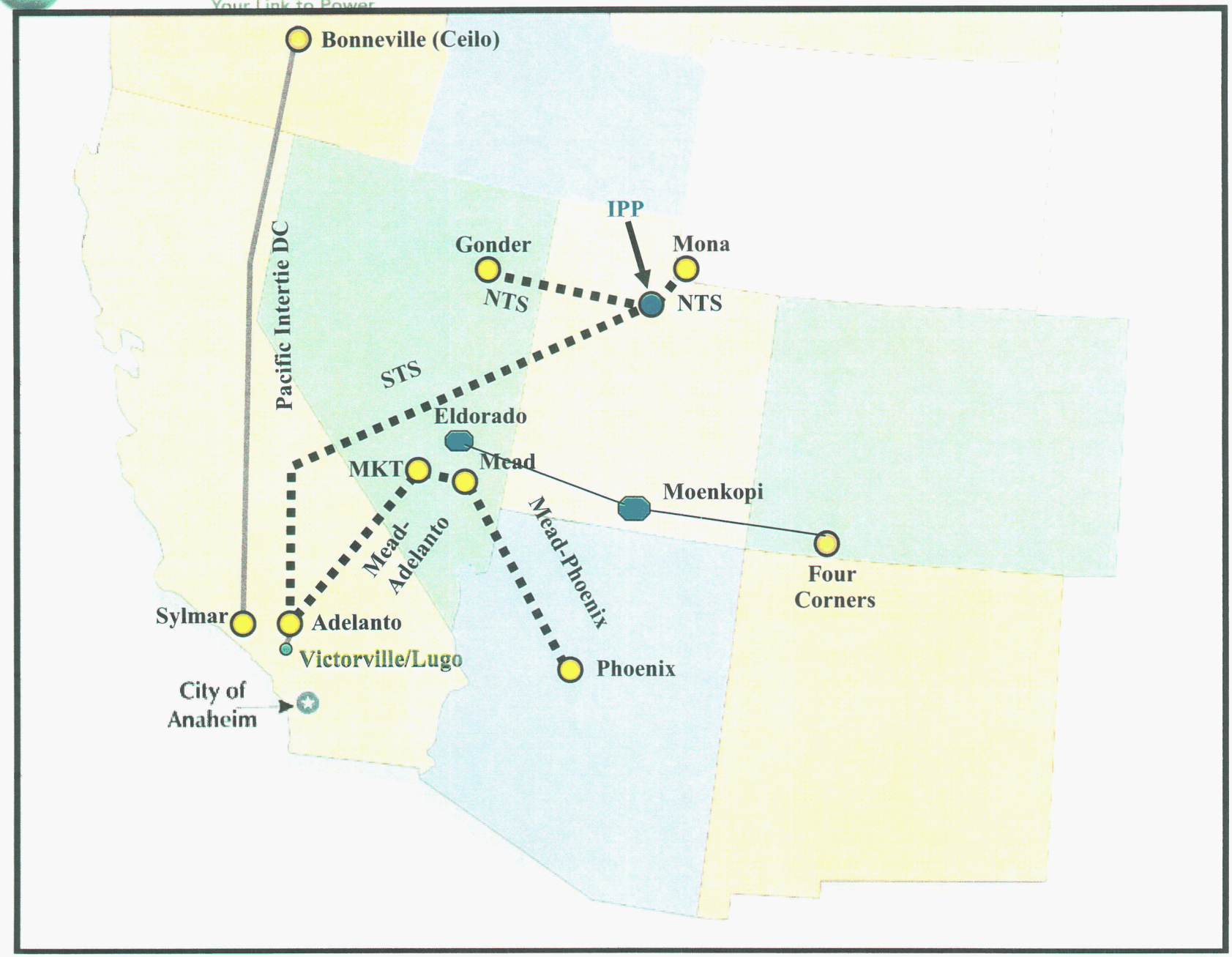
CAISO OPERATIONAL CONTROLLED GRID

CAISO has a number of CAISO Controlled Grid Outside CAISO Control Area



California ISO
Your Link to Power

California Independent
System Operator Corporation



Why MRTU? (1)

Areas in need of redesign

- **Forward Congestion Management - correct flaws in original "zonal" design**
  - Infeasible schedules, due to ignoring intra-zonal constraints, create real-time operating burden
    - Became more severe with new generation in Mexico & Southwest
  - The "DEC Game" - strategic over-scheduling by generators to profit from real-time decremental (DEC) re-dispatch
- **Unit Commitment - Original CAISO design provided no ability to commit generators day-ahead (except RMR)**
- **Day-to-day Supply Adequacy**
  - Resource Adequacy Requirements being developed by CPUC for regulated LSEs (Investor-owned Utilities)
  - CAISO engaged in RA proceeding to define local area capacity requirements, obligations on RA resources, etc.

Why MRTU? (2)
Other Motivating Factors

- **Need for a transparent, forward spot market because of demise of Power Exchange**
  - Limited opportunities today for buyers and sellers to match next day needs and supplies.
  - Day-Ahead hourly spot price for energy will enhance demand response capability.
  - BUT – Creation of a forward spot market on CAISO's existing zonal design would likely increase infeasible schedules.
  - Transparent prices will provide signal where infrastructure investment is needed
- **Systems and Software Problems**
  - Legacy systems now have over 350 patches, need to be updated to ensure reliable, timely running of CAISO scheduling procedures, markets, publication of final schedules and settlements.

Why MRTU? (3)
Major Objectives

- Fully align market incentives and energy schedules with the physical operation of the grid.
- Develop a secure operating plan for the next day with financial incentives to perform.
- Manage all network congestion in an optimal, transparent fashion both day ahead and real time.
- Replace aging, inflexible technology with state-of-the-art scalable technology.
- Provide transparent price signals to support forward contracting and future infrastructure investment.

MRTU Core Design Elements (1)

- **Day Ahead Integrated Forward Market (IFM)**
  - Integrated congestion management, energy market, ancillary services procurement, unit commitment
- **Locational Marginal Pricing (LMP)**
  - Congestion management using accurate detailed model of the transmission grid (Full Network Model or FNM) => "nodal pricing"
  - Nodal prices (LMPs) reflect congestion and transmission losses
- **Congestion Revenue Rights (CRRs)**
  - Source-to-sink, to enable parties to hedge congestion cost risks
- **Residual Unit Commitment (RUC)**
  - Day Ahead reliability backstop to meet real-time load forecast
- **Hour Ahead Scheduling Process (HASP)**
  - Allows changes to resource and inter-tie schedules without creating a complete third settlement market
- **Market Power Mitigation**
  - Damage control bid cap; Local Market Power Mitigation (LMPM)

MRTU Core Design Elements (2) Benefits of LMP

- **LMP does not increase costs to consumers**
  - Pricing loads at large-area aggregate prices addresses equity concerns by insulating loads from locational price impacts.
- **LMP more accurately reveals and allocates costs so that**
  - Forward scheduling using accurate network model ensures feasible schedules and efficient use of resources - eliminates gaming opportunities, clears congestion ahead of real-time
  - Pricing supply resources (including demand response) at nodal prices provides financial incentives for scheduling and real-time generator behavior consistent with reliable grid operation.
  - Provides provide key information for new generator location decisions, investment in demand response, and transmission planning

MRTU Core Design Elements (3)

- **Scheduling Priorities and Self Scheduling**
  - "Self Schedules" are submitted preferred schedule quantities (supply and demand) with no prices
  - IFM gives higher priority to self schedules in clearing energy market and managing congestion
  - No "balanced schedule" requirement for individual SCs (except when submitting ETC and wheel-through schedules)
- **Honoring Existing Transmission Contract (ETC)**
  - Today ISO reserves transmission capacity to serve ETC rights by withholding it from the DA market, without regard to actual ETC DA schedules
  - MRTU will reserve DA transmission for ETCs on inter-ties but not on internal grid
  - Post-DA ETC changes are accommodated in HA if possible, otherwise fully accommodated in real time
  - ETCs exempt from DA and RT congestion charges

MRTU Core Design Elements (4) Congestion Revenue Rights (CRRs)

- Hedge cost of congestion
- Allocation to loads within CAISO control area
  - Source-sink pattern and quantity of CRRs estimated to keep LSEs financially whole with respect to annual congestion charges
- LSEs with external load eligible to participate in CRR Allocation via prepayment equivalent to Wheeling Access Charges
- Allocation to sponsors of new transmission who do not receive regulated cost recovery
- Auction open to all participants, following each allocation process (annual and monthly)
- CRRs are settled based on Day Ahead LMPs
  - Market in which parties schedule use of transmission grid
  - Incentive to schedule in DA rather than procure RT energy
  - CRRs do not cover transmission losses
- Long-term CRRs under consideration

Seams Issues

- **What are they?**
  - Differences in market structures or rules that may create barriers to trade
- **Seams issues in the West pre-date MRTU and even the CAISO**
- **Does MRTU eliminate all seams issues? Probably not.**
  - MRTU mitigates some seams issues (for example moving the CAISO scheduling timelines closer to real-time)
- **CAISO continues to work with external parties in the West to further identify seams issues and develop monitoring and mitigation plans if necessary**
  - WECC
  - FERC Technical Conference December 14-15, 2006

Transmission Access Charge

- **CAISO rate structure moving to one CAISO Grid-wide rate by 2010 (currently 40% Area, 60% Grid-wide)**
- **Facilitates recovery of all transmission costs**
- **Transparent and consistent rate known by Market Participants**
- **Currently three area rates paid by Load or export**
  - North: $2.9086/MWH
  - East/Central: $3.0016/MWH
  - South: $3.0581/MWH
- **New transmission paid by all users of CAISO Controlled Grid**

Other Charges

- **Cost of CAISO (capital and O&M) - GMC**
  - Control Area Services
  - Scheduling Services
  - Market Services
  - Customer Services
- **Market**
  - Balancing Energy
  - Ancillary Service
  - Transmission
    - Congestion Management
    - Access Charge
  - Other (Unaccounted for Energy, Neutrality)

Response to Staff Conditions (1)

- **CAISO Focus on Conditions:**
  - 2 – Reliability of Palo Verde Hub
  - 3 – Change to Plan of Service
  - 6 – Operational Control

Response to Staff Conditions (2)

- **Condition 2 – Reliability of High Voltage System and Power Plants interconnected at PV Hub**
  - Southern California Edison (SCE) has proposed a **redundant** System Protection System (SPS) to drop load in ***SCE area only*** for mitigating reliability criteria concerns in case of the simultaneous loss of the PVD 1 & 2 500kV lines (WECC/NERC Category C.5 event)
  - NERC/WECC Planning Standards allow for planned/controlled interruption of electric supply to customers and/or removal from service certain generators using SPS in a Category C.5 event
    - Allows increase in transfer capability
    - Enables post-event mitigation to maintain reliability
    - Maximizes efficiency of resources
    - Clearly defined WECC/NERC standards for SPS
    - Requires Regional Reliability Council review
  - Rejection of SPS would decrease PVD2 transfer capability and eliminate any net economic benefits of the project
    - Require ISO to reconsider approval of the project

Response to Staff Conditions (3)

- **Condition 3 – Change to Plan of Service**
  - The CAISO Board of Governors has approved the change in Plan of Service to terminate the PVD2 line at the new Harquahala Junction Switchyard.

Response to Staff Conditions (4)

- **Condition 6 – Operational Control**
  - Subsection a - The CAISO Board of Governors has approved APS operational control over the listed transmission facilities
    - Transmission facilities within Arizona physically operated by APS
    - PVD2 in CAISO Control Area, similar to PVD1
    - Operational control is multi-faceted, both APS and CAISO have responsibility

Response to Staff Conditions (5)

- **Operational Control includes:**
  - Transparent, non-discriminatory transmission access
  - Efficient use of transmission system
  - Perform maintenance or ensuring that maintenance is performed
  - Ensure line meets applicable reliability criteria
  - Congestion management
  - Comply with operating criteria
  - Make certain that all contractual and legal obligations are met

Response to Staff Conditions (6)

- **Condition 6 – Operational Control**
  - Subsection b – Limiting CAISO Control Area and Operational Control at Devers Substation
    - Inconsistent with State and Federal authority
    - Absent CAISO Operational Control, SCE cannot recover costs through the CAISO Access Charge
    - Even if possible, it would increase the cost to use the line
    - Increase seams issues
    - Whether CAISO Control Grid only or CAISO Control Area, transaction charges of Arizona generators in neighboring Control Area to serve Arizona load would be the same
    - Would require SCE to pay twice for operation of line

EXHIBIT
RUCO-1
admitted

Residential Utility Consumer Office (RUCO)

Testimony of

Stephen Ahearn

Before the
Arizona Line Siting Committee

Background of Witness

Professional

- Director, RUCO, 2003-present
- Executive Consultant, Arizona Corporation Commission, 1997-99
- Manager, Planning & Policy, Arizona Energy Office, 1990-1997

Education

- MBA, Finance, UCLA
- BA, International Relations, Pomona College

Testimony Perspective

The testimony offered by RUCO is focused on a *policy-level* discussion of aspects of this case

Overview of Testimony

- Retail Price Impacts
- Reliability-related Issues
- Local load growth and future capacity additions
- Environmental Impacts
- Conclusion / Recommendations

Price Impacts

Current Scenario

- "Many Sellers, Few Buyers"
- Price setting heavily influenced by Buyers
- Constrained ability by Arizona-based merchant generators to market capacity grid-wide yields price-making advantage to Arizona-based utility buyers of generation output
- Disparate average prices between California and Arizona markets

Price Impacts, cont'd

Built Line Scenario

- "Many Sellers, Many (more) Buyers"
- Price-setting power accrues more to Sellers
- Additional inter-state transmission capacity reduces excess generation capacity available for purchase by Arizona-based utility customers
- Pricing differentials subject to leveling effects of broader, more liquid market

Price Impacts Summary

Increased transmission transport capacity between jurisdictions will cause:

- **Average price declines in California**
- **Average price increases in Arizona**

Reliability Issues

Context

- Federal push to interconnect systems between planning jurisdictions
- Western Governors resolution to encourage transmission line construction
- Areas, including California, of recent generation resource shortfalls and constrained transmission paths

Reliability Issues, cont'd

- Greater interconnectedness yields system-wide economies and efficiencies
- Greater interconnectedness yields greater interdependence
- Greater interdependence exposes system participants to "weakest link" phenomenon
- "If a brush fire starts in Wyoming..."
- East Coast blackout(s)

Reliability Issues Summary

- Under normal conditions, the highly interconnected electric system model yields significant efficiencies and system economic benefits
- Under normal circumstances, highly interconnected systems are highly reliable
- Under non-normal circumstances, highly connected systems subject participants to risks from geographically distant events

Local load growth and future capacity needs

When will Arizona utilities "grow into" the (amount of the currently) excess capacity of Palo Verde-based merchant generators?

- APS estimate: 2010-11
- TEP estimate: 2010-11
- SRP estimate: "...by 2012"

Local load growth and future capacity needs, cont'd

Upon line build-out:

- Approximately 1200 MW of currently excess local (Arizona-based) generation will be newly accessible and available for contracting to Southern California utility customers
- Assuming successful negotiation of supply agreements to California customers, Arizona-based merchant generators will have less available capacity to sell to Arizona-based utility customers

Local load growth and future capacity needs, Summary

- Within three years after scheduled line build-out, Arizona utilities will need additional generation to serve Arizona customers
- Upon build-out of the Devers line (2009) up to 1200 MW of local generation capacity will not be available to Arizona-based utilities
- Generation capacity shortfalls by local utilities will encourage more construction of local generation

Environmental Impacts

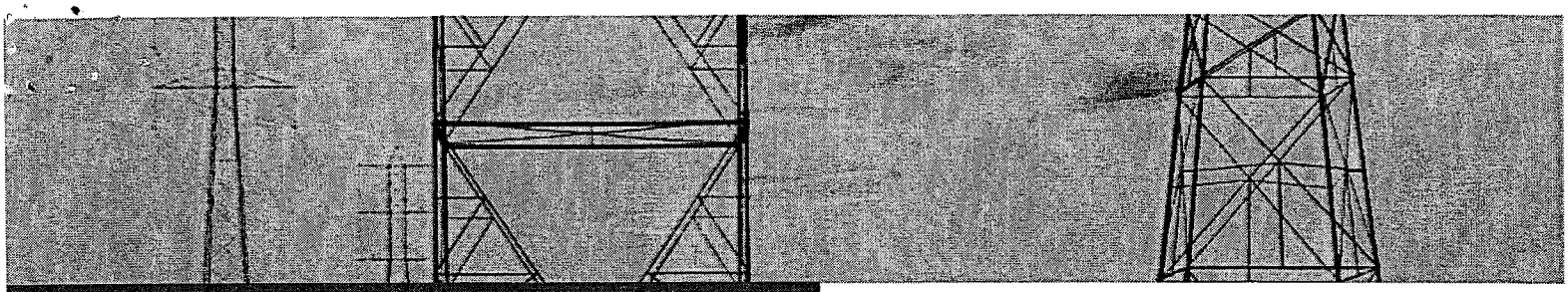
- Environmental impact of line footprint itself
  - Visual impacts
  - Potential impacts on KOFA National Wildlife Refuge
- Line build-out will cause more intensive use of existing Arizona-based merchant generation
- More intensive use of Arizona-based merchant generation equals:
  - more intensive emissions of Arizona-based air pollution
  - more intensive use of increasingly scarce Arizona water resources
- Due to a permitting climate easier in Arizona than in California, future Arizona utility capacity needs will probably be built locally, compounding environmental consequences for Arizona

Conclusion

- Price impacts will be real and negative for Arizona
- Potential reliability advantages of the proposed line need to be weighed against potential reliability risks from increased interconnectedness
- Build-out of the line will reduce local electric generation capacity available to local utility customers

Conclusion, cont'd

- By 2012, local utilities will need additional resources
- A need for resources will inspire building of additional local generation, either merchant- or utility-owned
- Addition of local capacity will exacerbate electric utility-related environmental effects on Arizona



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.

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EXHIBIT
RUCO-3
admitted

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 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 Coachella Valley Fringe-toed Lizard, the Coachella Valley Milkvetch and the Desert Tortoise in your area. Prior to initial construction, surveys will be performed to ensure that sensitive species are identified and protected. Qualified personnel 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. Construction of the new 500 kV transmission line from Devers to Harquahala will take approximately three years to complete. The proposed line would be located within SCE's existing transmission corridor except for sections within the Palo Verde Valley where SCE would need to acquire additional property. ***Once construction begins, SCE expects to be in your community several times over the three-year construction period.*** The periods of construction activity would range from a few days to several weeks in length. SCE will provide periodic Project Updates during construction to property owners and others expressing interest in the project.

Construction of the transmission line will consist of the following steps:

- Survey the new transmission line route and tower locations.
- Extend or improve the transmission line access roads, as required.

- Install foundations - This step consists of digging the foundation holes, inserting steel frames and pouring concrete. Large equipment and concrete trucks will be used during this step.
- Assemble transmission towers - This step will require the use of large cranes to aid in the assembly of the towers.
- Install wires - This step will require the use of helicopters and large trucks to install the wires onto the towers.
- Site cleanup and restoration.

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.

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

Riverside County, Blythe
Robert Lopez
(951) 928-8208
SCE San Jacinto Valley
Service Center
26100 Menifee Road
Romoland, CA 92380

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

For further information about the DPV2 project, visit SCE's Web site at www.sce.com/dpv2

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Central Arizona Water Conservation District

Testimony of Kenneth Bagley

Before the Arizona Power Plant and Transmission Line Siting Committee

September 25, 2006

EXHIBIT

tabbies

CAWCD-1

admitted

Witness Background

- Education
  - B.S. in Engineering
  - M.A. in Economics
- Professional Experience
  - 23 Years in the Utility Industry Working as a Consultant or with a Regulatory Commission.
- Manager, Genesee Consulting Group, L.L.C

Transmission Planning Experience

- CATS
- WATS
- SWAT and STEP Since Inception
- Chair, Joint SWAT/STEP CRT Committee

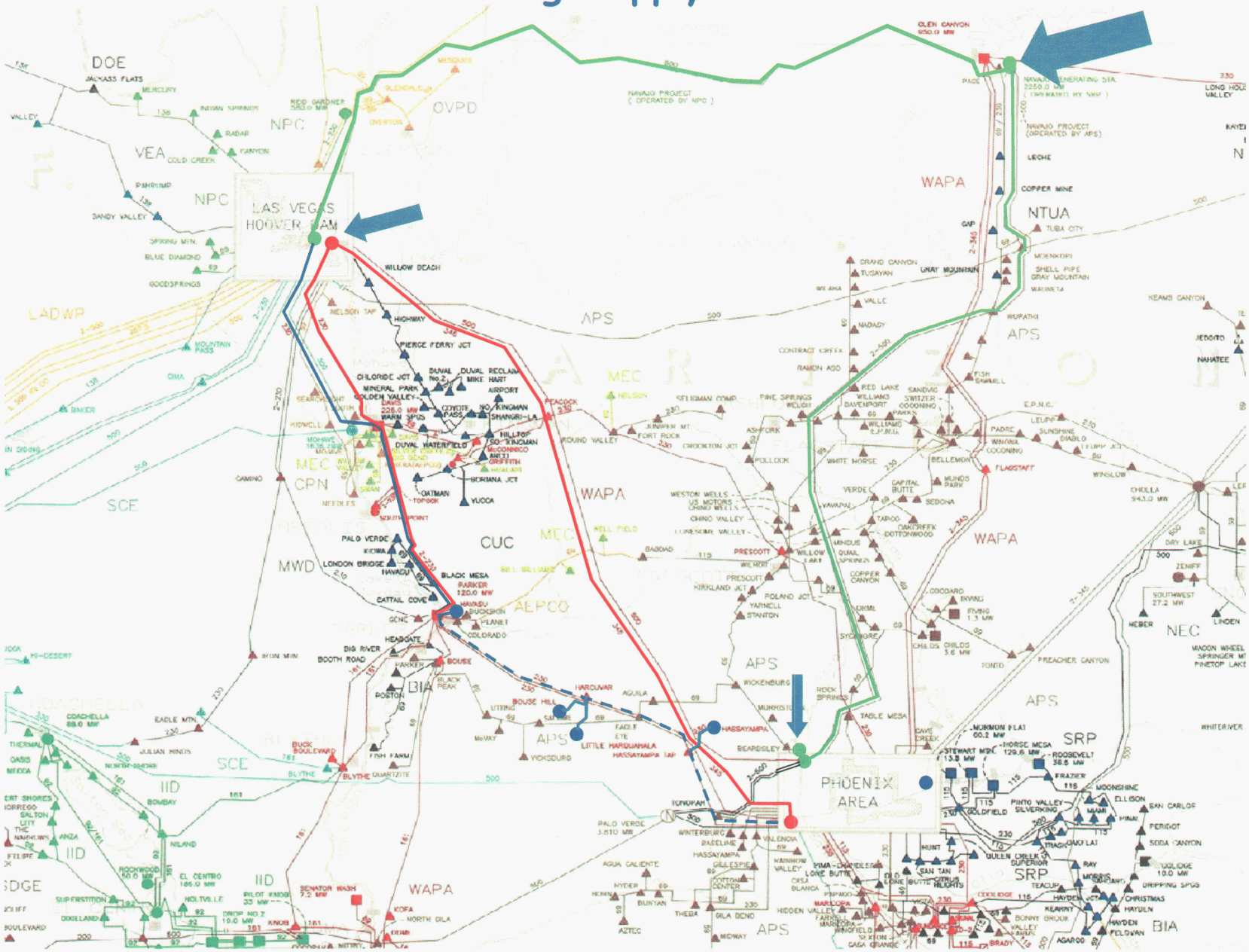
Overview of Testimony

- Central Arizona Project overview
- TS-5 Project
- Harquahala Junction Switchyard
- Maximizing Benefit to Arizona

Central Arizona Project

- 335 Miles of Canal
- More than 1.5 million acre-feet
- Total Water Lift of 3,394 Ft.
- Storage in Canal and Lake Pleasant
- 14 Pumping Plants, 1 Pump/Generator
- Electrical Load of ~500 MW

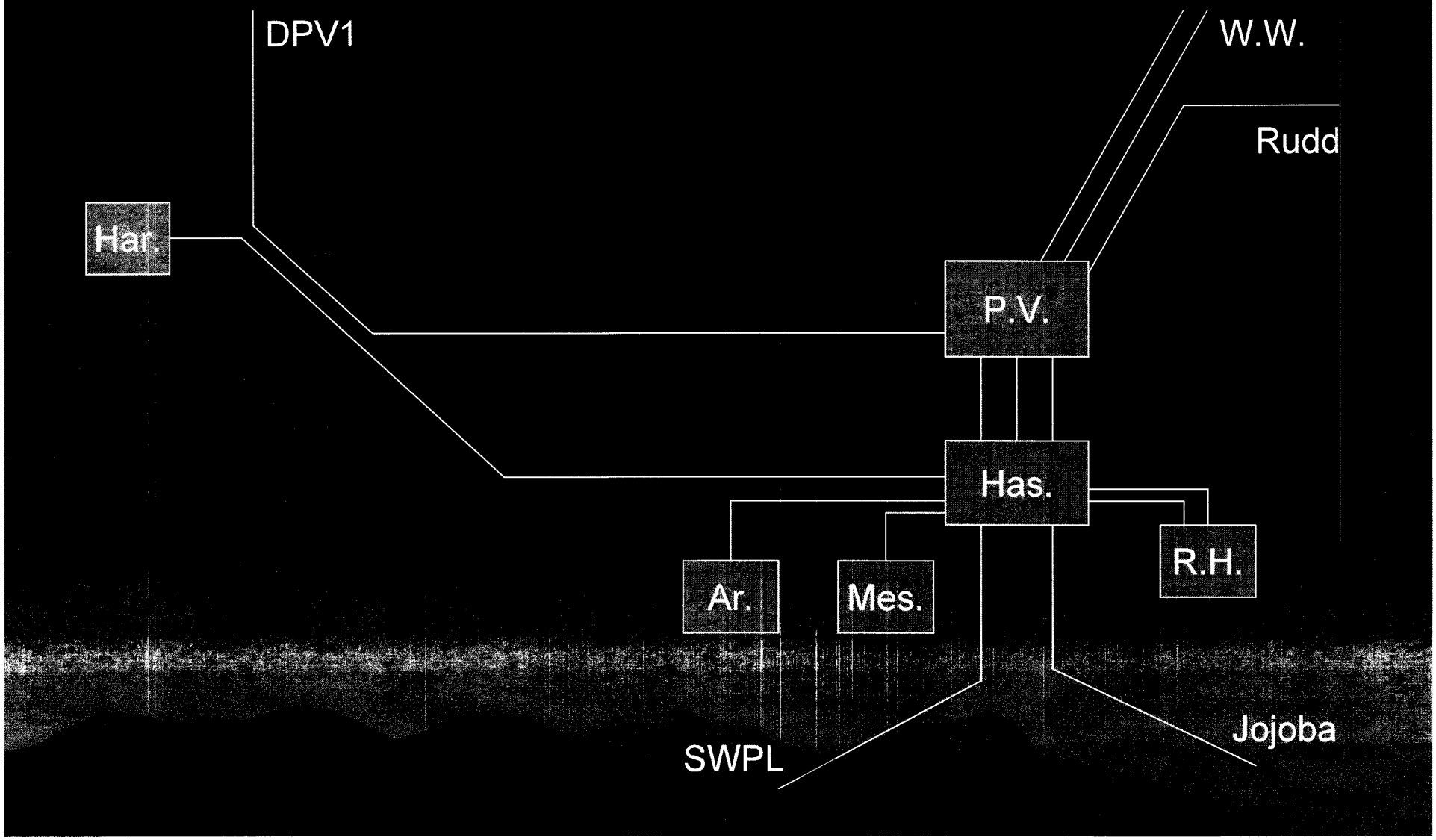
Delivering Supply to Demand



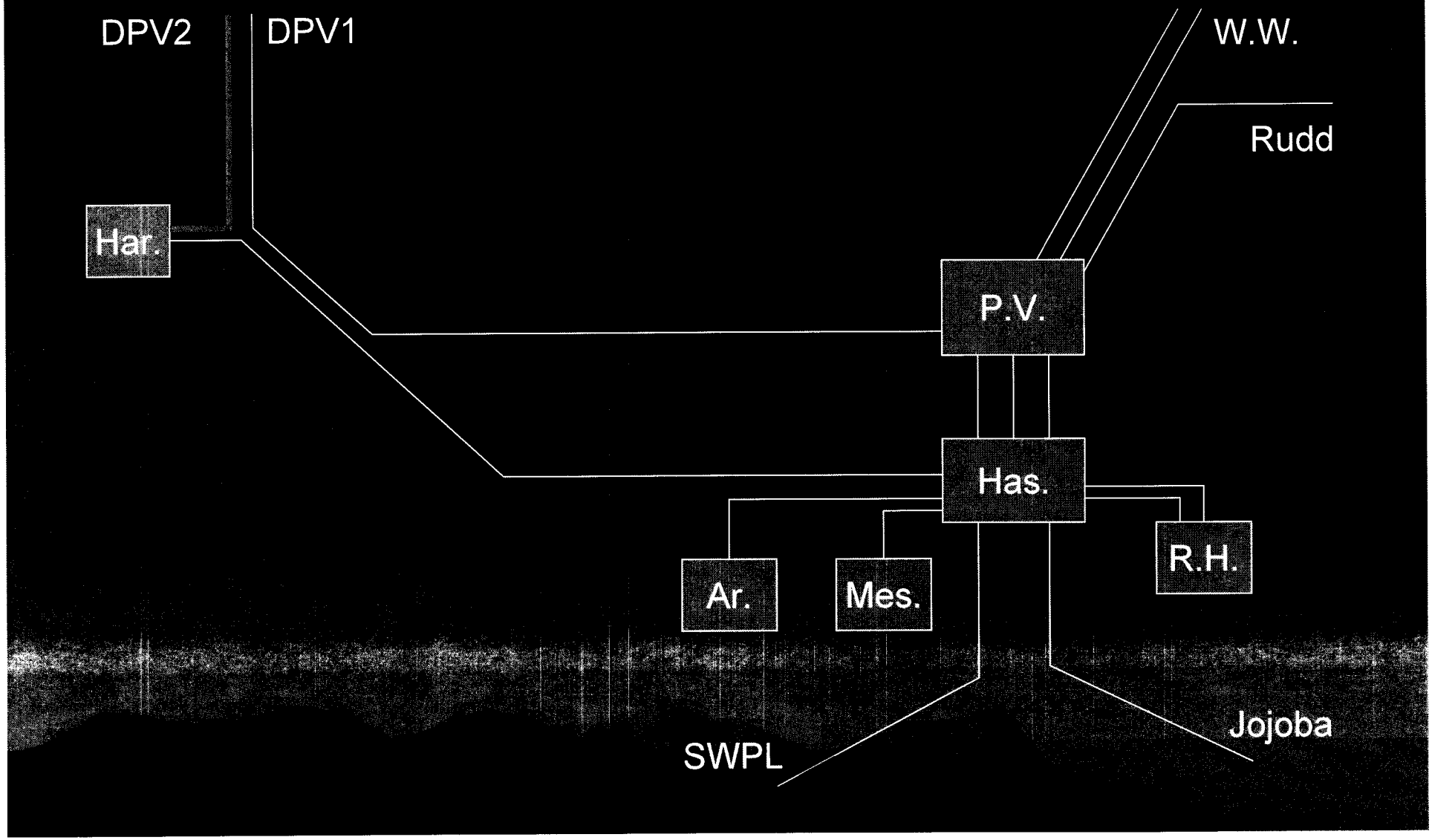
TS-5 Project

- **Project Description**
  - 500KV Line from PV Hub Looping Northwest Metro Phoenix
- **Participants**
  - APS (Sponsor)
  - CAWCD
  - SRP

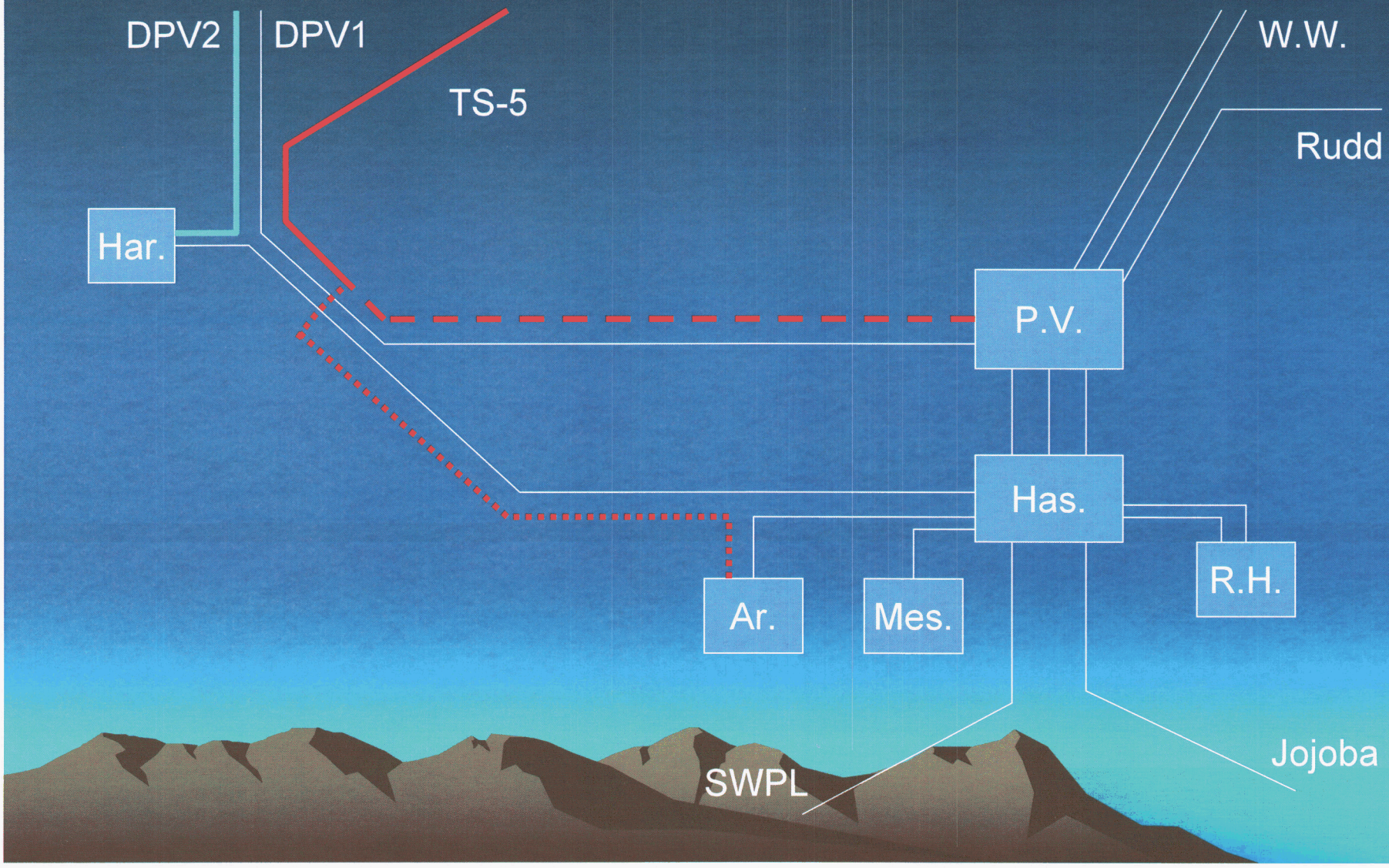
Palo Verde Hub
Present Configuration



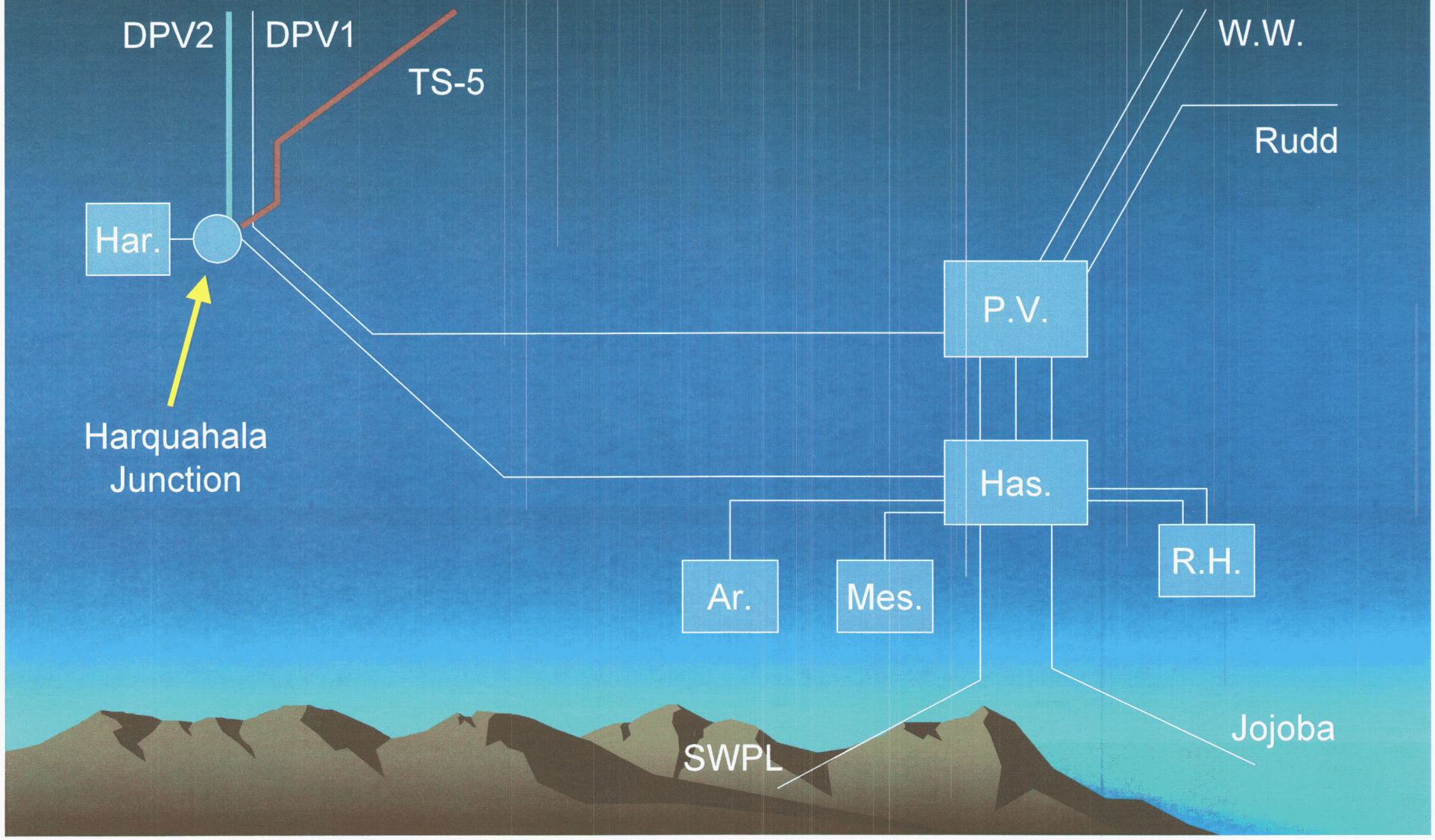
Palo Verde Hub
Proposed DPV2 Connection



TS-5 Options 1&2



TS-5 Option 3
Harquahala Junction



Benefits of Harquahala Junction

- Increased Utilization of Existing Facilities
  - Sharing of Harquahala-Hassayampa Circuit by:
    - Harquahala Generating Station
    - DPV2
    - TS-5
- Minimize Construction and Avoid Cost of Additional Facilities

Hassayampa - Harquahala 500kV Line

- Existing Circuit Rating
- Current Use
  - Harquahala Generating Station
- Interest
  - DPV2
  - TS-5

Additional Benefits of Harq. Junction

- Diversify PV Hub Risk
- Reduced Environmental Impacts

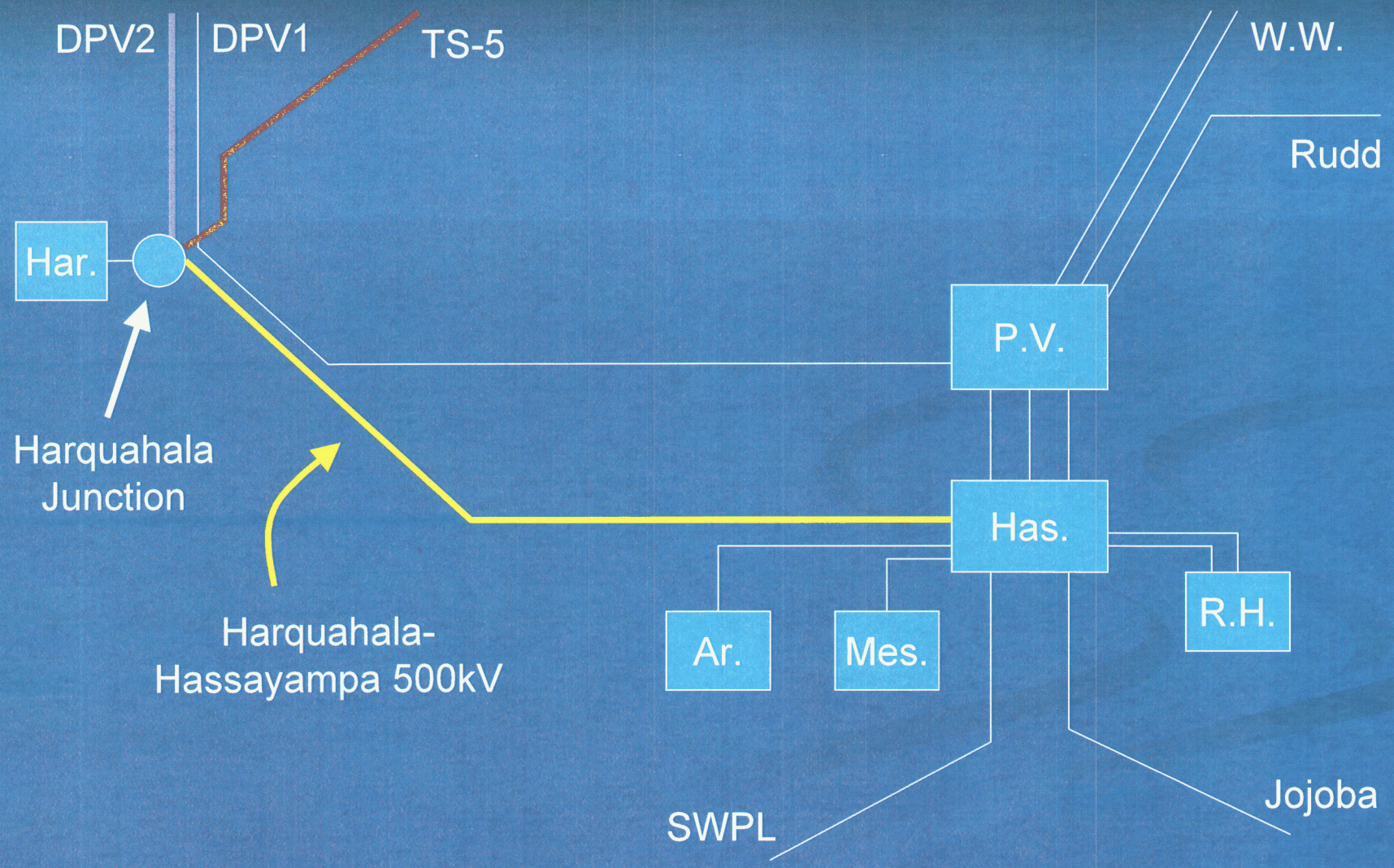
Risks to Arizona

- Limited Access to Transmission Capacity on Harquahala-Hassayampa 500kV line
- CAISO fees

Maximizing Benefit to Arizona

- Terminate DPV2 at Harquahala Junction
- Make Harquahala-Hassaympa 500kV Line Tariff Free

Tariff-Free Line



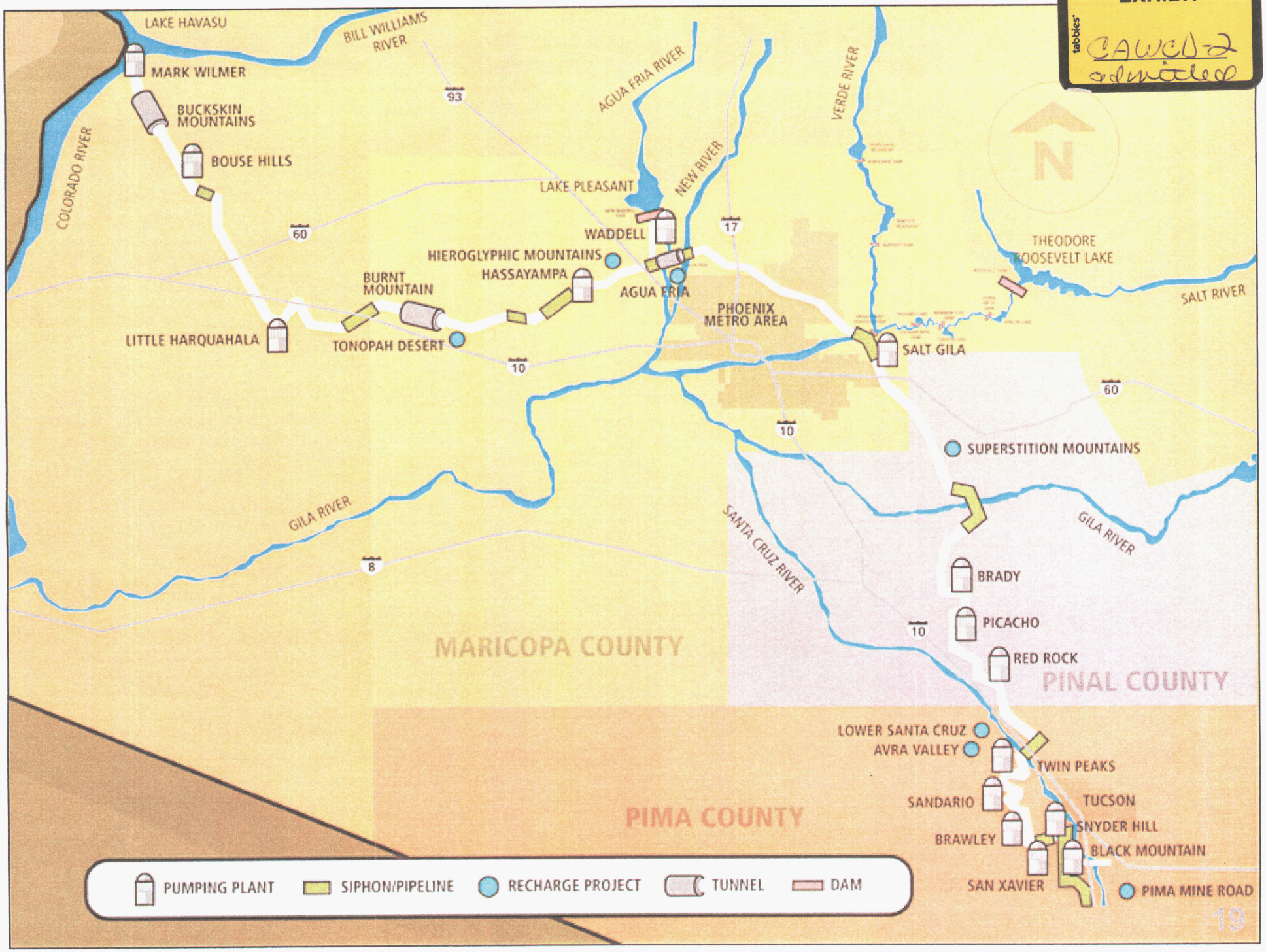
Benefits of Tariff-Free Line

- Take Advantage of Seasonal Diversity
- Facilitate Expansion of the Hub
- Increase Market Liquidity

EXHIBIT

tabbies

CAWCD-2 admitted



SANDRA L. BAHR

OBJECTIVE

To work in a challenging and interesting environment, with opportunities for self-direction, growth, and advancement, where my organizational, political, public relations and communications skills can be utilized effectively to promote environmental protection.

SKILLS AND EXPERIENCE

Project Management – includes developing a project plan and directing it through completion; performing background research; contracting for focus groups and polling; writing and editing grants, follow-up reports, newsletters, and opinion pieces; developing and making presentations to national groups and potential financial donors. Skills and experience also include coordinating issue, candidate, and independent expenditure campaigns at the local, state, and national level and comprise:

- developing and implementing campaign plans;
- coordinating petition drives and get-out-the-vote activities;
- recruiting, training, and supervising volunteers and staff, plus hiring subcontractors;
- conducting legal, political, and issue research;
- developing and coordinating media relations, including appearances on television and radio;
- and public event planning.

Communications – includes significant public speaking experience before small and large groups, the media – television, radio, and newspapers, and the Arizona Legislature. Also includes writing and editing grants, newsletters, and newspaper and newsletter articles, fundraising letters, letters to the editor, opinion pieces, news releases, legislative testimony, and comments on administrative actions.

Fundraising – includes writing and obtaining grants for special projects; seeking funds from individual donors via letters, telephone conversations, and meetings, plus writing and coordinating direct mail fundraisers. Also includes event planning and coordination.

Research – includes legal, political and general research on environmental issues, laws and regulations, plus political research related to the influence of money in politics.

Legislative Relations – includes direct lobbying, encouraging and training volunteers to participate in the process, developing a legislative strategy, preparing and giving testimony at committee meetings, composing and mailing legislative updates, representing organizations on committees, task forces, and panels; working with the media, state and local agencies and officials, and other organizations.

Computer skills – includes proficiency with word processing, spread-sheet, database, and electronic mail programs for both Windows and Macintosh systems.

Engineering/Surveying – includes project management; training and supervising the work of several staff including field crews; meeting with clients, attorneys, architects, and a variety of state and local officials; writing reports and developing plans for erosion and sediment control and drainage; and computing survey data and performing design work.

Teaching/Training – includes mentoring for Prescott College's adult program, tutoring English, conducting training and workshops on campaign and lobbying skills, wildlife, environmental laws, energy issues, and forest planning; and supervising and mentoring interns and volunteers.

EMPLOYERS

January 1998 to present — Conservation Outreach/Chapter Director, Sierra Club - Grand Canyon Chapter, Phoenix, Arizona

July 1997 to December 1997 – Executive Director, McDowell Sonoran Land Trust, Scottsdale, Arizona

January 1994 to July 1997 – Legislative liaison and political consultant, self-employed. Contracted for conservation organizations including Arizona Audubon Council, National Audubon Society, the Southwest Forest Alliance, Americans for the Environment (a special grant-funded project), plus two referenda committees.

January to December 1993 – Assistant, Arizona Common Cause, Phoenix, Arizona

April 1987 to January 1992 – Freelance writer and political consultant, self-employed. Wrote for *The Chandler Independent* and worked on congressional, legislative, and city council campaigns.

August 1983 to February 1987 – Surveying Assistant, Hallisey & Herbert Civil Engineers and Land Surveyors, Wethersfield, Connecticut

EDUCATION

Bachelor of Arts in Environmental Studies, Prescott College, 220 Grove Avenue Prescott, AZ 86301

Associate in Applied Science in Civil Engineering Technology, Michigan Technological University, Houghton, Michigan 49931

Continuing education includes workshops on water, wildlife, urban planning and various conservation issues, as well as on fundraising and managing non-profits.

OTHER ACTIVITES AND ACCOMPLISHMENTS

- Governor's Climate Change Advisory Committee, 2005-2006
- Cost Evaluation Working Group for Arizona's Environmental Portfolio Standard, 2002-2003
- Environmental Award for Outstanding Achievement, U.S. EPA, 2004
- Visionary Award, Arizona Social Change Fund, 2000
- Member, Heritage Fund Advisory Committee 1997
- Governor's Air Quality Strategies Task Force and Groundwater Task Force 1996
- Redevelopment Advisory Committee for City of Chandler 1991-96, Chair 1996
- Regional and Chandler Transit Advisory Committees 1990, 1996
- Volunteer for desert restoration project 1992-1993
- Volunteer literacy tutor 1990-1992
- Chairperson, Grand Canyon Chapter Sierra Club 1994-1998
- Sierra Club Political Committee 1994-1997, Conservation Committee 1997
- Board member Arizona Common Cause 1994-1995 - received Special Achievement Award 1994
- Notary Public State of Arizona 1993 to present
- Mentor Prescott College 1995 to 1998

REFERENCES AND WRITING SAMPLES AVAILABLE UPON REQUEST.

EXHIBIT
tabbies
Sierra Club 2
admitted

The focus of my comments would be as someone who visits – camps, backpacks, hikes, watches wildlife, does service work -- wildlife refuges and other public lands and also advocates for their protection. The Proposed Devers to Palo Verde 2 Project is incompatible with the KOFA National Wildlife Refuge, because of the visual impacts to the refuge. I have seen the impacts from Devers 1 first hand and they unacceptably impair the beauty of the landscape. I have also seen the associated blading of the roads to each of the towers and the invitation that creates for off-road vehicles, plus the ongoing damage to the vegetation and potential negative impacts to wildlife.

The KOFA (after King of Arizona Mine) National Wildlife Refuge was created in 1939 and contains 665,400 acres of desert habitat. It was primarily established to protect bighorn sheep habit. It was not established to be an energy corridor. "The mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management and where appropriate, restoration of the fish, wildlife and plant resources and their habitats with the United States for the benefit of present and future generations of Americans."[i] Under no circumstances is this transmission line compatible with that mission.

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[i]America's National Wildlife Refuge System, www.fws.gov/Refuges/

EXHIBIT
Sierra Club 3
admitted

Ken Gunter Sweat

Department of Integrated Natural Sciences
Arizona State University at the West Campus
4701 West Thunderbird Road
Phoenix, Arizona 85306
602.543.6938
KenGSweat@asu.edu

312 East Butler Drive
Phoenix, Arizona 85020
602.674.0679
thesweatman@yahoo.com

Education:

Ph.D. Candidate: Plant Biology, Arizona State University. Explorations of using lichens to monitor air pollution.

Master of Science: Botany, Arizona State University, December 1995. *Thesis Title*: The Long-Term Effects of Fire on Cactus Communities of the Sonoran Desert of Arizona.

Bachelor of Arts: Biology/Mathematics, Claremont McKenna College, May 1990. *Thesis Title*: Plant Population Dynamics: The Effects of Offspring Dispersal and Spatial Density Variation on Interspecific Competition.

Current Teaching and Research:

Lecturer. Arizona State University West Campus; Phoenix, Arizona; 8/2000 - present. Teaching and developing curricula for Introduction to Biology (BIO 187/188 or 181/182), Modes of Biological Thought (LSC 300), Biometry (LSC/BIO 415) , Flora of Arizona (LSC 309), Ecology Laboratory (LSC 322), Natural History of Arizona (BIO 300/301), Field Techniques in Wildlife Conservation Biology (BIO 415), and Comparative Plant Diversity (PLB 300). Developed and taught an integrated curriculum for Biometry and Invertebrate Biology (BIO 385) with Dr. L. Santiago.

Student course research projects have included analyzing spring snail size class distributions involving the Biometry and Invertebrate Biology classes and US Fish & Wildlife Service staff biologist M. Martinez. Individual student research projects with undergraduates have involved bioassays, urban limnology, mycology and ethnobotany.

Assistant Director: Bridges to Baccalaureate Program. 1/2005-1/2006. Assisted director and coordinator on drafting grant renewal and other administrative tasks. Developed and taught curriculum for mathematics/statistics course, PCR laboratory and botany research laboratory with projects involving bioassays, plant taxonomy and ethnobotany.

Papers and Poster Presentations:

Sweat, K.G., W. A. Iselin, S. T. Bates and T.H. Nash III. 2004. The Lichens of Parashant National Monument, Arizona: A Preliminary Study. Journal of the Arizona Nevada Academy of Science 37(2):85-90.

Yellowhair, B., Sweat, K.G., Gonzales, D., Prieto, C., Tavizon, A.M. March 2004. Bioassay for 2,4-D: Interaction of NaOH – Phase II. Presented at the Western Alliance to Expand Opportunities (WAESO) conference, ASU, Tempe, Az

Sweat, K.G. and Santiago, L. June 2003. Using Organismal Biology to Facilitate Teaching Statistical Techniques in the Life Sciences. Presented at the 2003 Hawaii International Conference on Statistics, Mathematics and Related Fields. Honolulu, Hi

Tavizon, A., K. Sweat, D. Gonzales, M. Arballo, and B . Yellowhair. November 2002. Bioassay for 2-4,D. Presented at the Annual Biomedical Research Conference for Minority Students, New Orleans, La.

Invited Presentations:

"Evolution: Everything you wanted to know but did not know who to ask." The Secular Freethought Society of ASU. 26 February 2006. Arizona State University at the Tempe Campus, Tempe, Az.

"Lichens as Biomonitors of Heavy Metal Air Pollution." (with S.T. Bates and W. A. Iselin.) ASU Conservation Club. October 2003. Arizona State University at the Tempe Campus, Tempe, Az.

Previous Teaching and Research Activity:

Adjunct Faculty. Estrella Mountain Community College; Avondale, Arizona; 8/99 - 12/01. Mesa Community College; Mesa, Arizona; 8/98 - 10/98.
Taught Natural History of the Southwest (BIO 109/110), Biology for Allied Health Majors (BIO 156) and Biology for Nonmajors (BIO 100 & BIO 102) lecture and laboratory sections. Developed laboratory curricula for BIO 109/110 and BIO 156.

Math Instructor. Trevor G. Browne High School; Phoenix, Arizona; 8/99 - 5/2K.
Developed and implemented math curricula spanning the subdisciplines of pre-algebra, algebra, geometry, and general mathematics.

Senior Natural Resources Specialist. Gutierrez-Palmenberg, Inc.; U.S. Army Yuma Proving Ground; 11/98 - 8/99.
Supervised all contracted natural resource management tasks including: draft and revision of environmental documents by interdisciplinary teams; installation-wide invertebrate survey; and all aspects of the YPG hunting program.

Contract Biologist. Self-employed; various locations; 6/94 - present.
Work included natural resource surveys for species protected under federal, state or local laws, environmental monitoring, natural resource database management and analysis of environmental documents.

Adult Tutor. Prescott College; Prescott, Arizona; 8/98 - present.
Courses on ecology and environmental justice in the Adult Degree Program.

Staff Ecologist/Vice President. Walk Softly Tours; Scottsdale, Arizona; 6/96 – 10/98.
All aspects of development, marketing and operating an ecotour company.

Trailboss/Tour Guide. Rattlesnake Roundup; Scottsdale, Arizona; 6/96 – 10/98.
Arizona Awareness Desert Tours; Phoenix, Arizona; 2/94 - 12/96.
Guiding and supervising half-day group jeep tours into the Sonoran Desert.

Teaching Assistant. Arizona State University; Tempe, Arizona; 9/92 - 5/94.
Taught three sections each semester of laboratory for Plants and Society (BOT 108).

Tortoise Biologist/Environmental Monitor. LSA Associates; Mojave, California; 5/93 - 7/93. Biosystems Analysis, Inc.; California; 5/91 - 2/92.
Surveyed areas in the Mojave Desert and southern/central California for the desert tortoise and other protected species including the San Joaquin kit fox and the blunt-nosed leopard lizard. Relocated tortoises and monitored construction project to ensure compliance with environmental agreements.

Spotted Owl Caller. SWCA Inc.; Utah; Summer 92.
Set up and ran calling routes to census spotted owls in Dixie National Forest.

Animal Technician. Toxikon; Woburn, Massachusetts; 10/90 - 4/91.
Executed acute and chronic *in vivo* toxicology protocols according to FDA protocols. Also executed pesticide residue and heavy metal chemistry test protocols.

Field Biologist. Natural Resource Center; Claremont, California; 5/90 - 8/90.
Work included desert tortoise surveys, small mammal trapping, environmental impact analysis and construction of a tilapia aquaculture system.

Primary Investigator. Eaton Research Grant; Claremont, California; 6/89 - 8/89.
Designed and executed a radio telemetry research study on the western pond turtle.

Research Assistant. Joint Science Department of the Claremont Colleges; Claremont, California; 6/88 - 6/90.
Assisted with soil chemistry, habitat analysis and statistical computations for studies on southern California fairy shrimp (Anostracans).

Instructor. Sycamore Elementary School; Claremont, California. 9/87 - 1/88.
Designed curriculum and taught science enrichment course for grades 4-6.

Grants and Fellowships

Technology Fellowship. Arizona State University West. Summer 2002.

Development of Laboratory Experiments and Lecture Material for the Introductory Biology course (BIO 187/188). Internal Staff Development Grant ($5000). Arizona State University West. Summer 2002

Awards, Certificates and Volunteer Experience

Certified Community College Biology Instructor - State of Arizona. Honorary Member Sigma Xi Society. Volunteer Experience: Citizens for Growth Management, Sierra Club, Arizona Right to Choose, Scottsdale Chamber of Commerce, Planned Parenthood of Central and Northern Arizona, Arizona Community Protection Committee, Common Cause. Staff Writer - Dry Heat: An Arizona Journal of Ecology and Social Issues. Purple Belt: Kook Sul, Korean martial arts.

EXHIBIT
Sierra Club
admitted

Summary of testimony for line sighting committee, Ken G. Sweat

The reasons to reject the Devers power line include serious deleterious impacts to native flora and fauna. The power line would present added opportunities for raven nesting sites and construction activities could facilitate increases in local raven populations. Increased use of areas by ravens could increase predation on desert tortoise populations (Boarman 2002). Translocation of gila monsters during construction will increase mortality (Sullivan et al. 2004), and in general translocation of all animals to avoid human conflicts fails (Fischer and Lindenmayer 1999). Linear utility corridors have been found to have impacts far greater than predicted, and recovery in desert ecosystems may take as long as three thousand years (Lovich and Bainbridge 1999). Impacts to flora would also be significant. Construction and road building activities in desert areas in southwestern Arizona typically produce excessive amounts of dust that cover nearby vegetation. Dust from construction will deflect sunlight, lowering photosynthesis and hence net plant productivity. Assumptions of adaptation to a dusty environment made in the assessment are incorrect-desert soils are often highly stabilized with chemical or biotic crusts.

Boarmann, W.I. 2002. Reducing Predation by Common Ravens on Desert Tortoises in the Mohave and Colorado Deserts. Prepared for the Bureau of Land Management. 18 July 2002. U.S. Geological Survey, Western Ecological Research Center.

Fischer, J. and D.B. Lindenmayer. 1999. An assessment of thee published results of animal relocations. Biological Conservation 96 (2000) 1-11.

Lovich, J.E. and D. Bainbridge. 1999. Anthropogenic Degradation of the Southern California Desert Ecosystem and Prospects for Natural Recovery and Restoration. Environmental Management 24 (3) 309-326.

Sullivan, B. Translocation of urban Gila Monsters: a problematic conservation tool. Biological Conservation 117 (2004) 235-242.

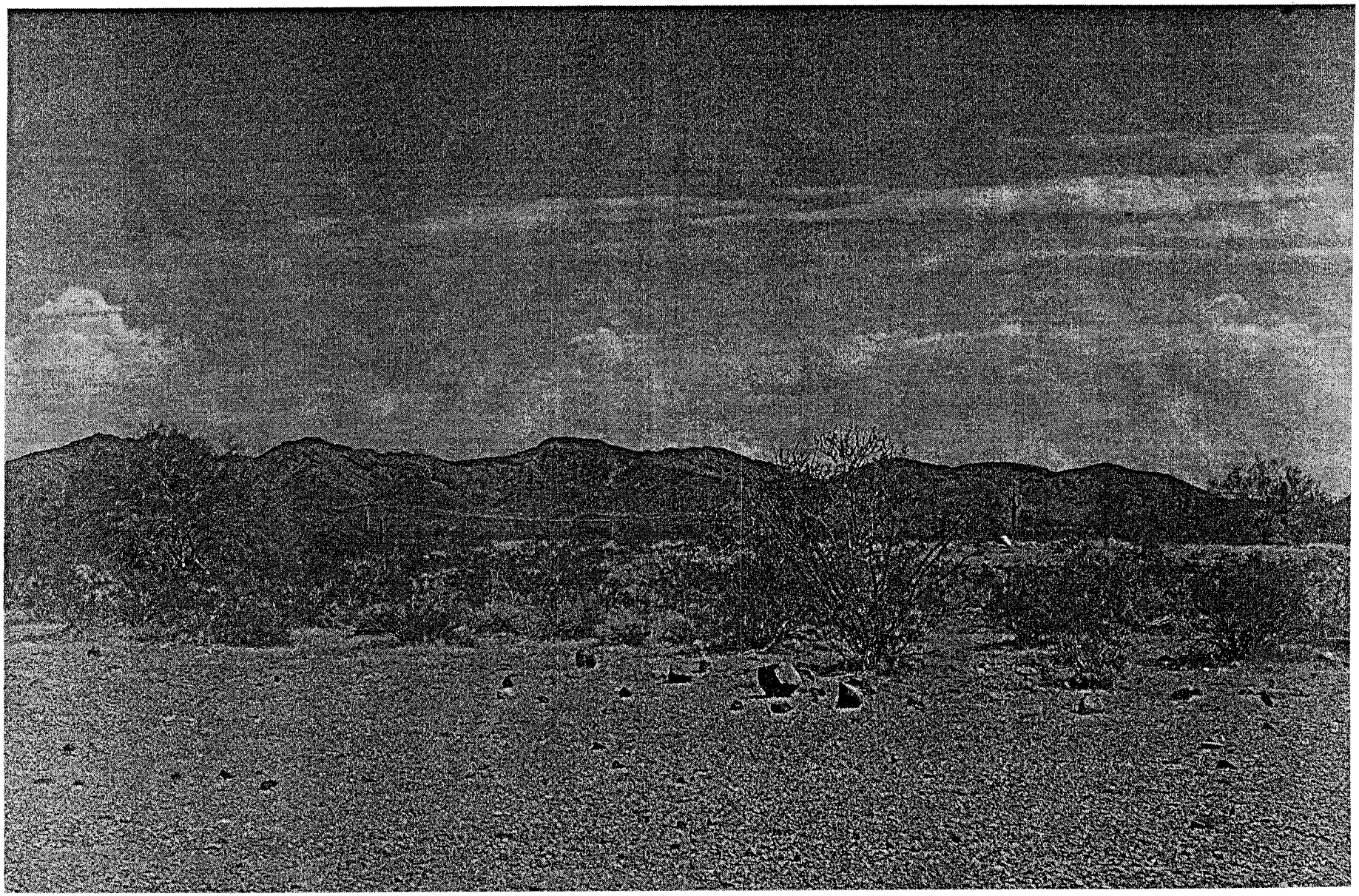
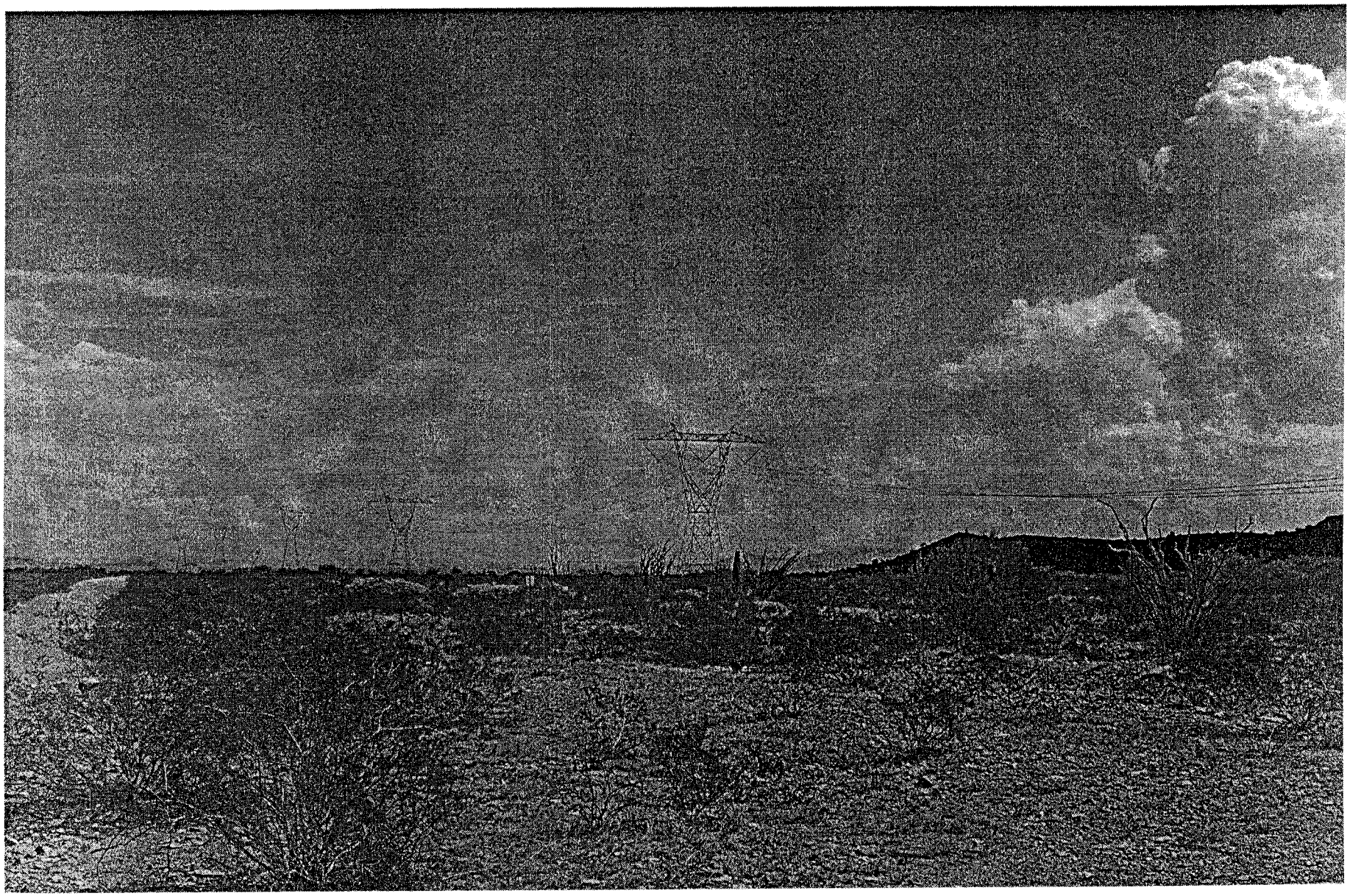
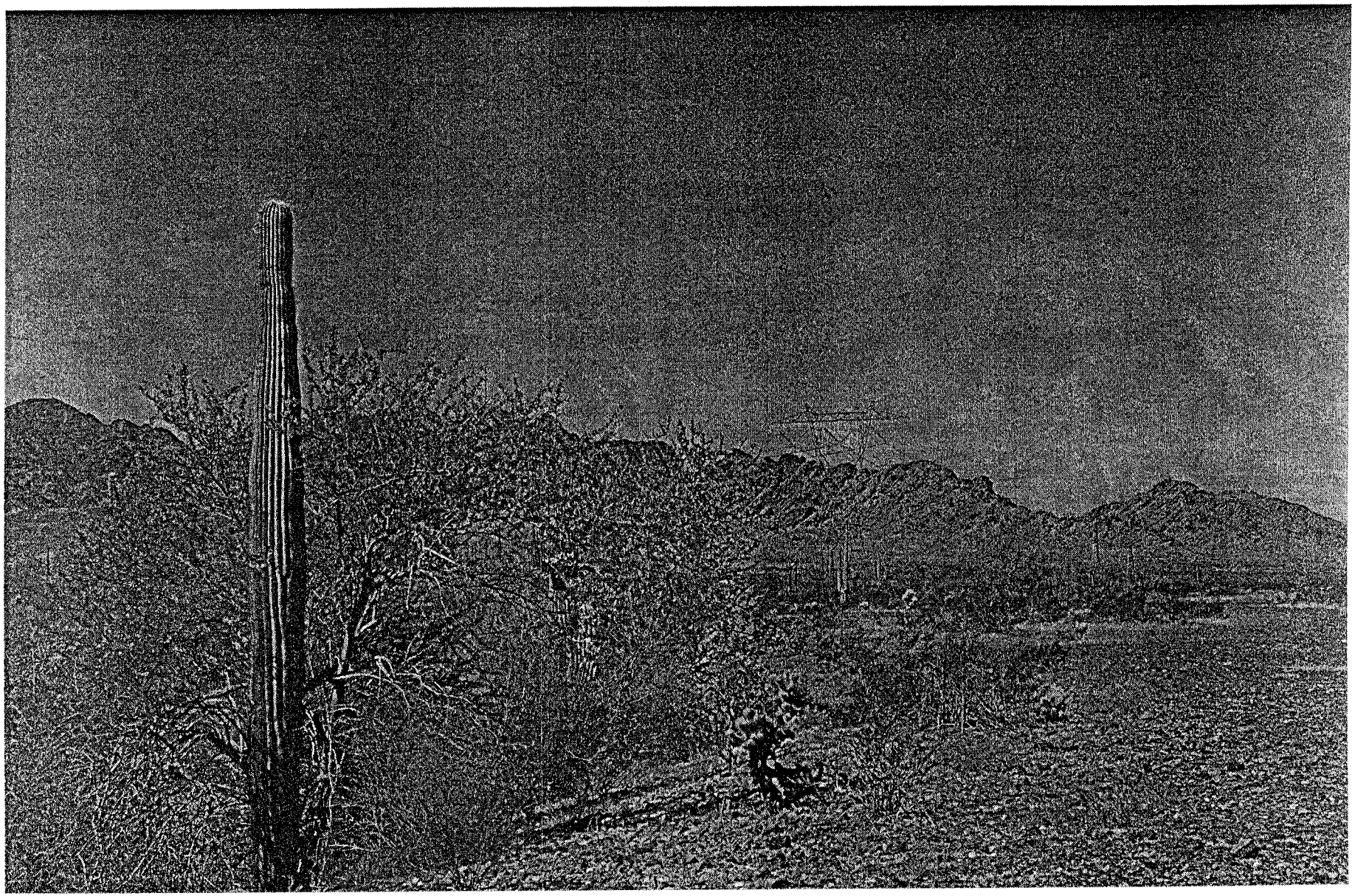
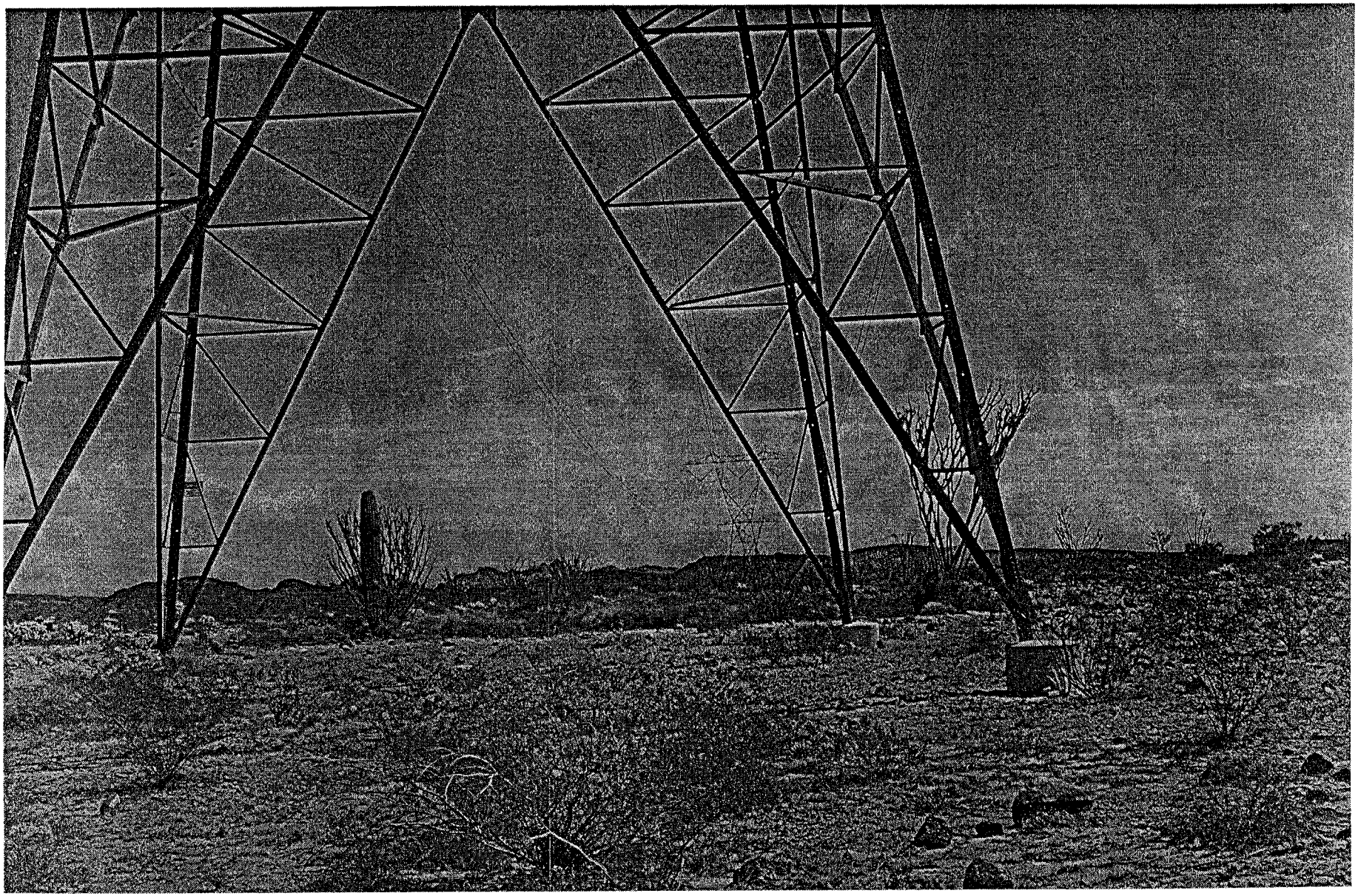
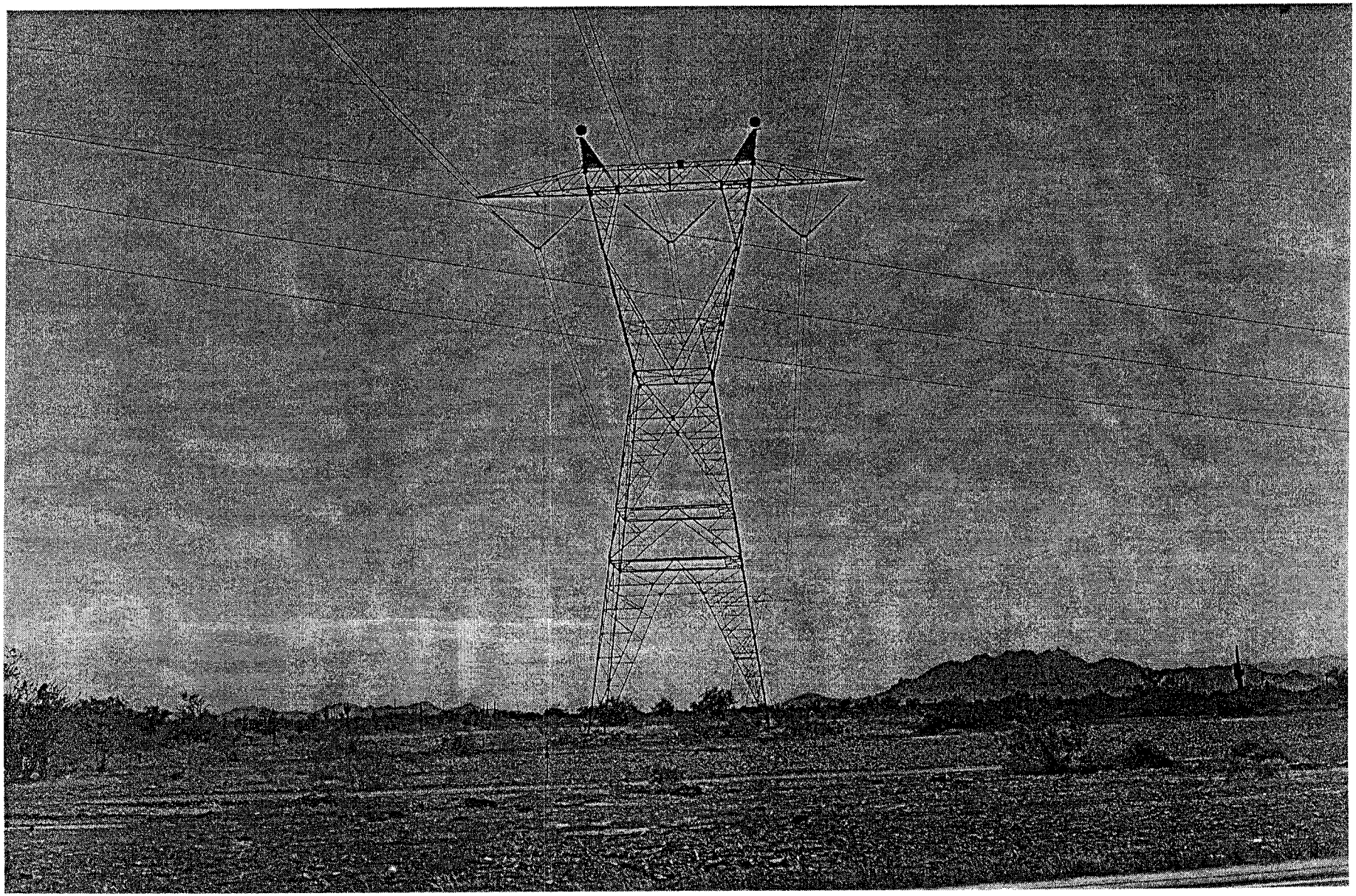


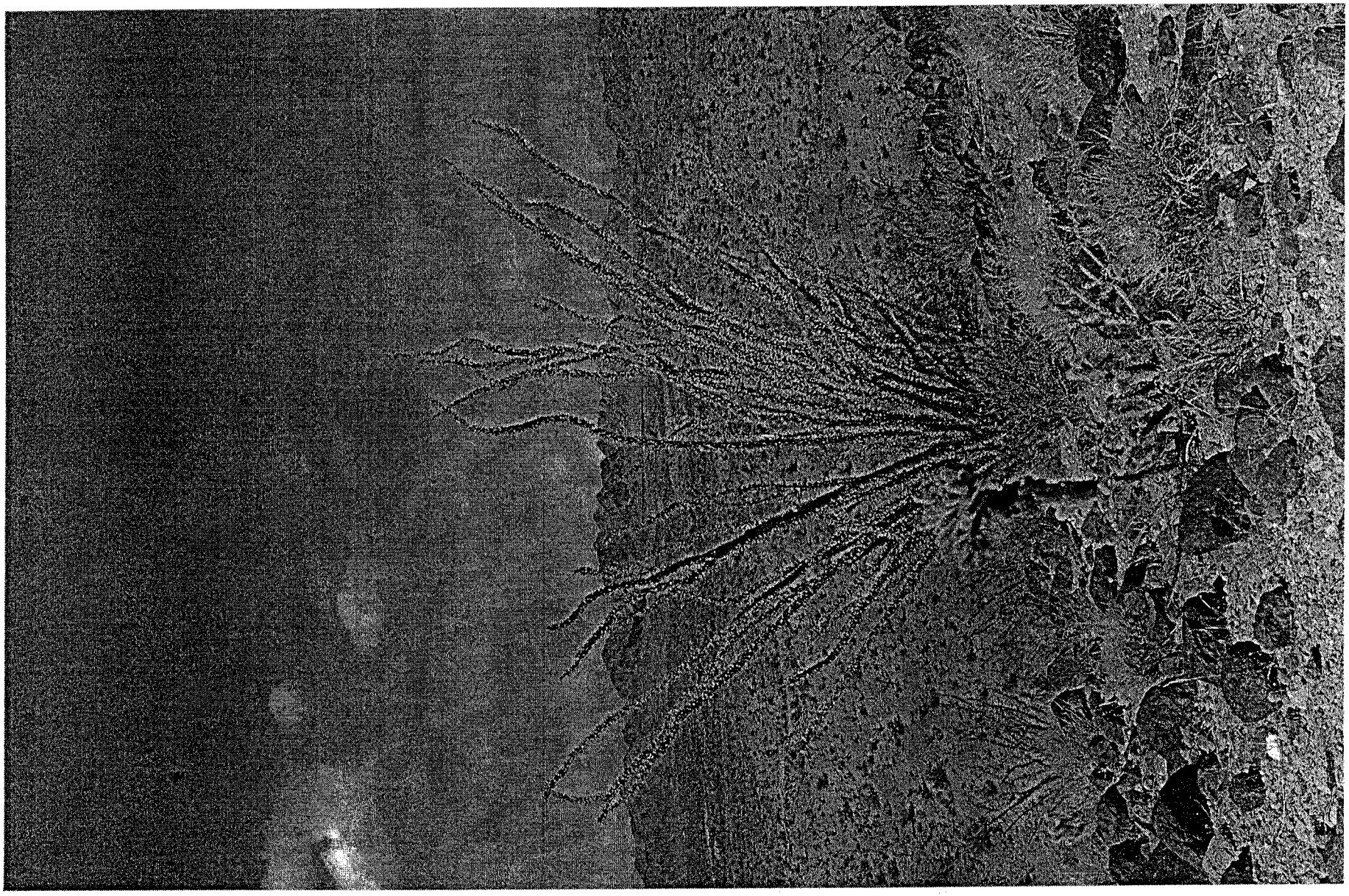
EXHIBIT
Sierra Club-5
admitted

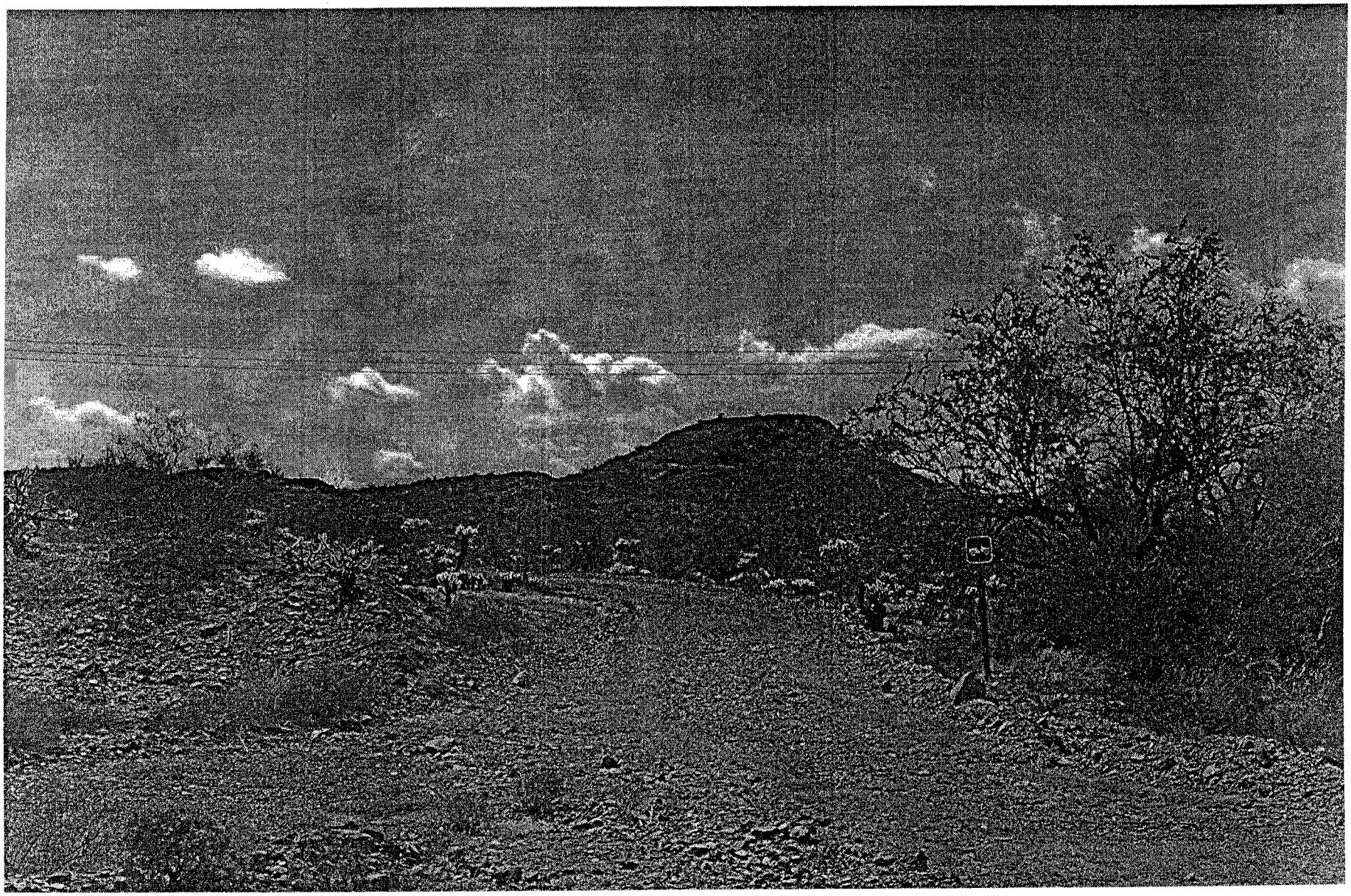


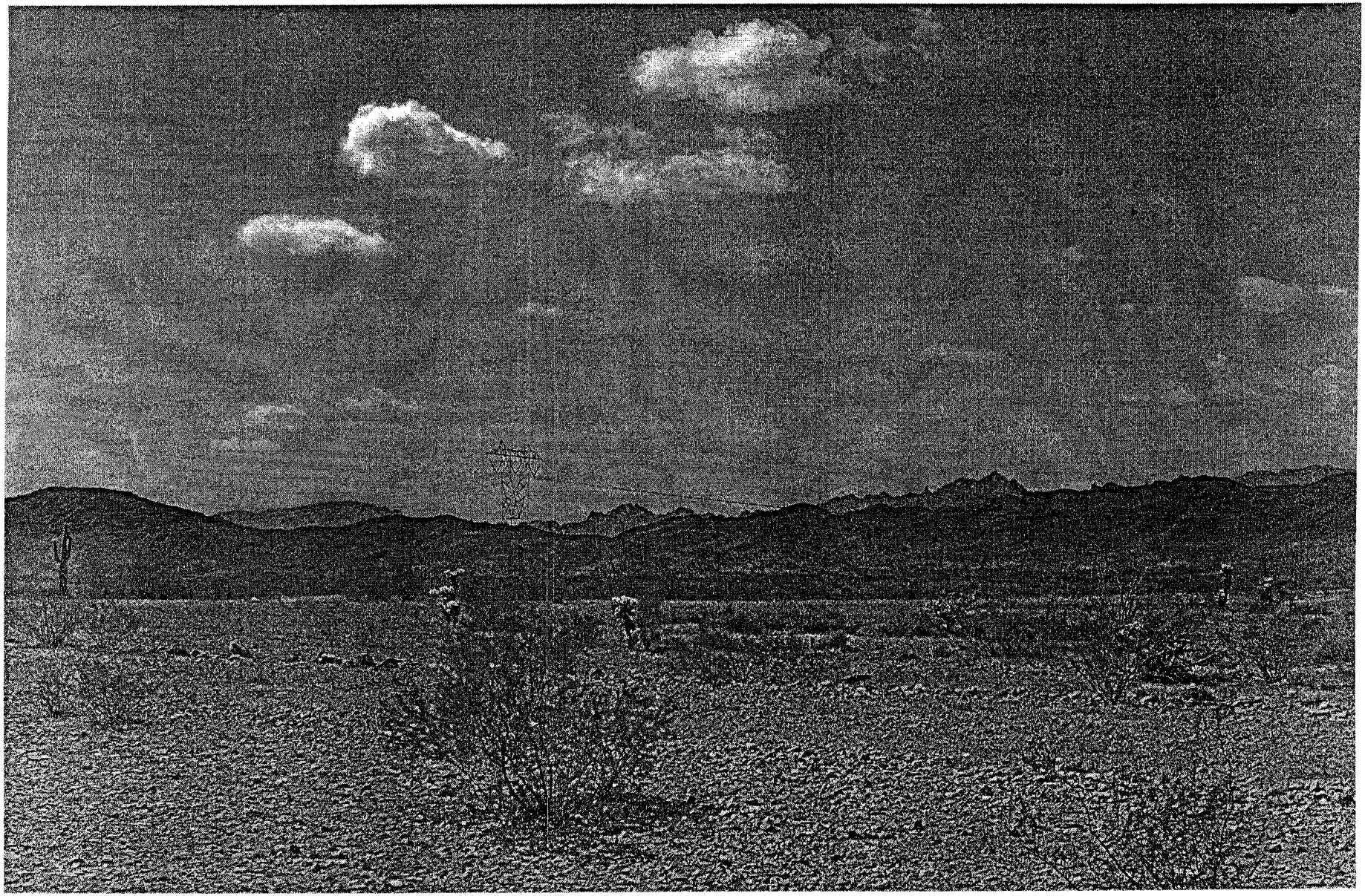


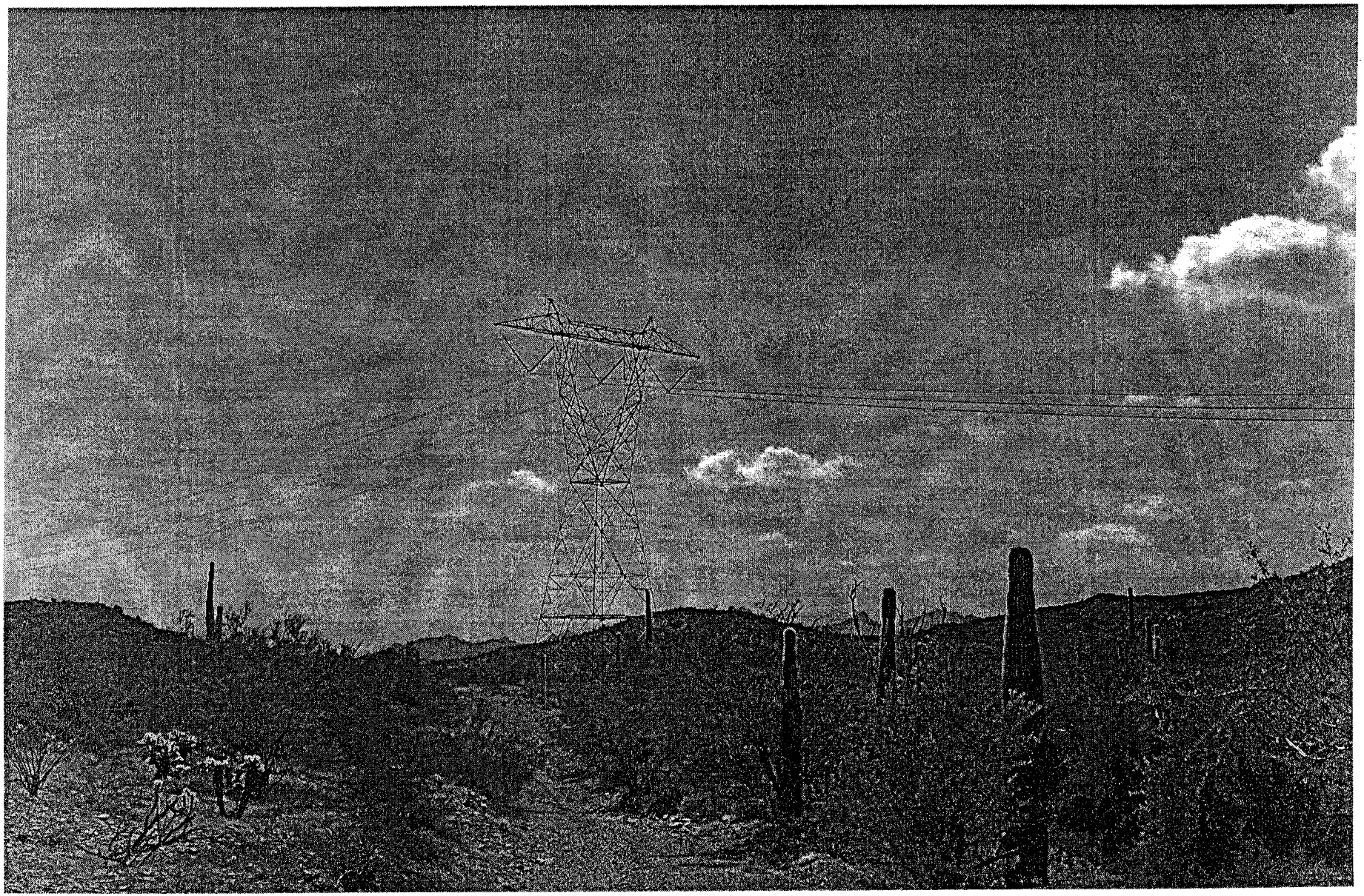


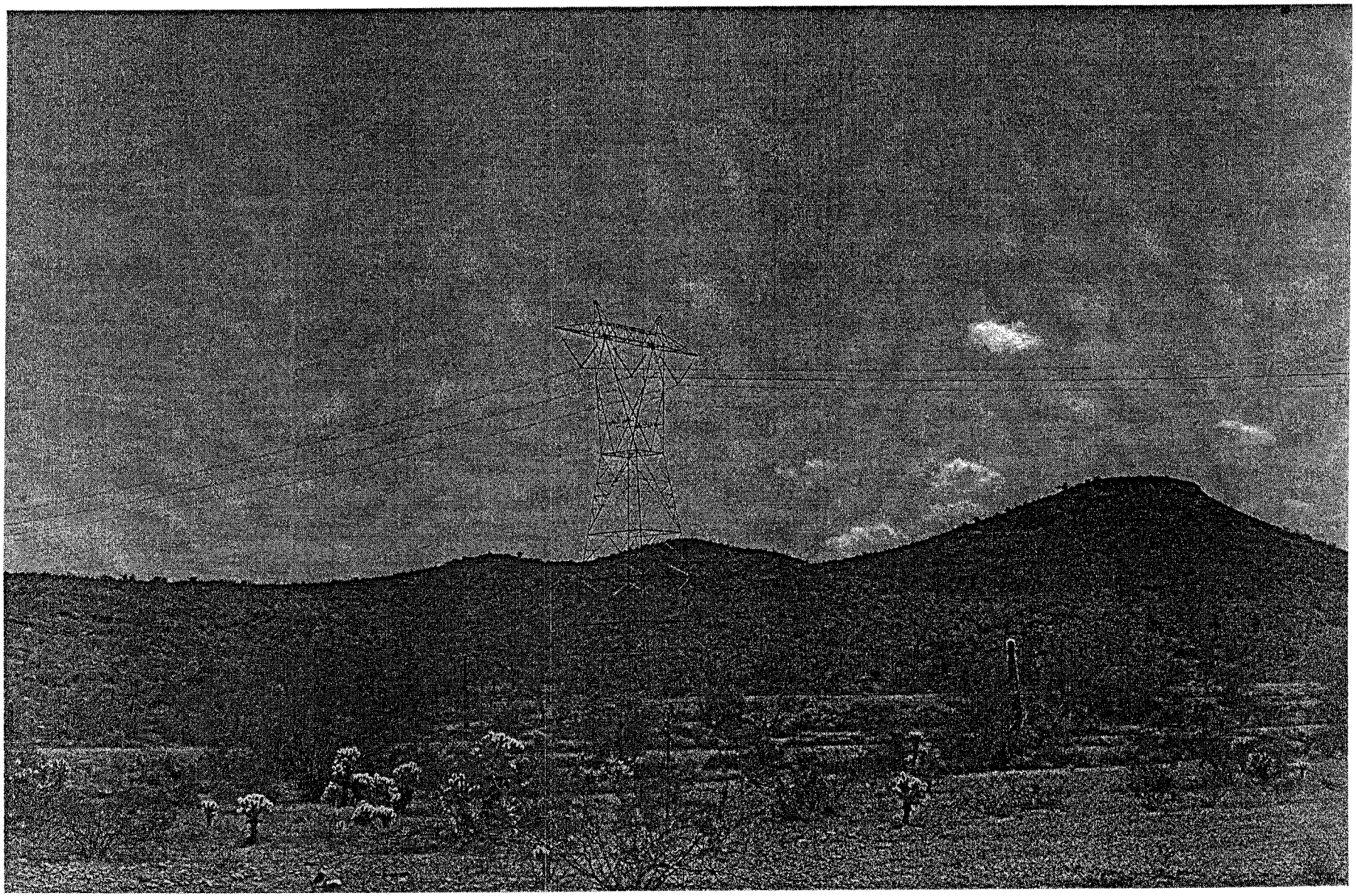












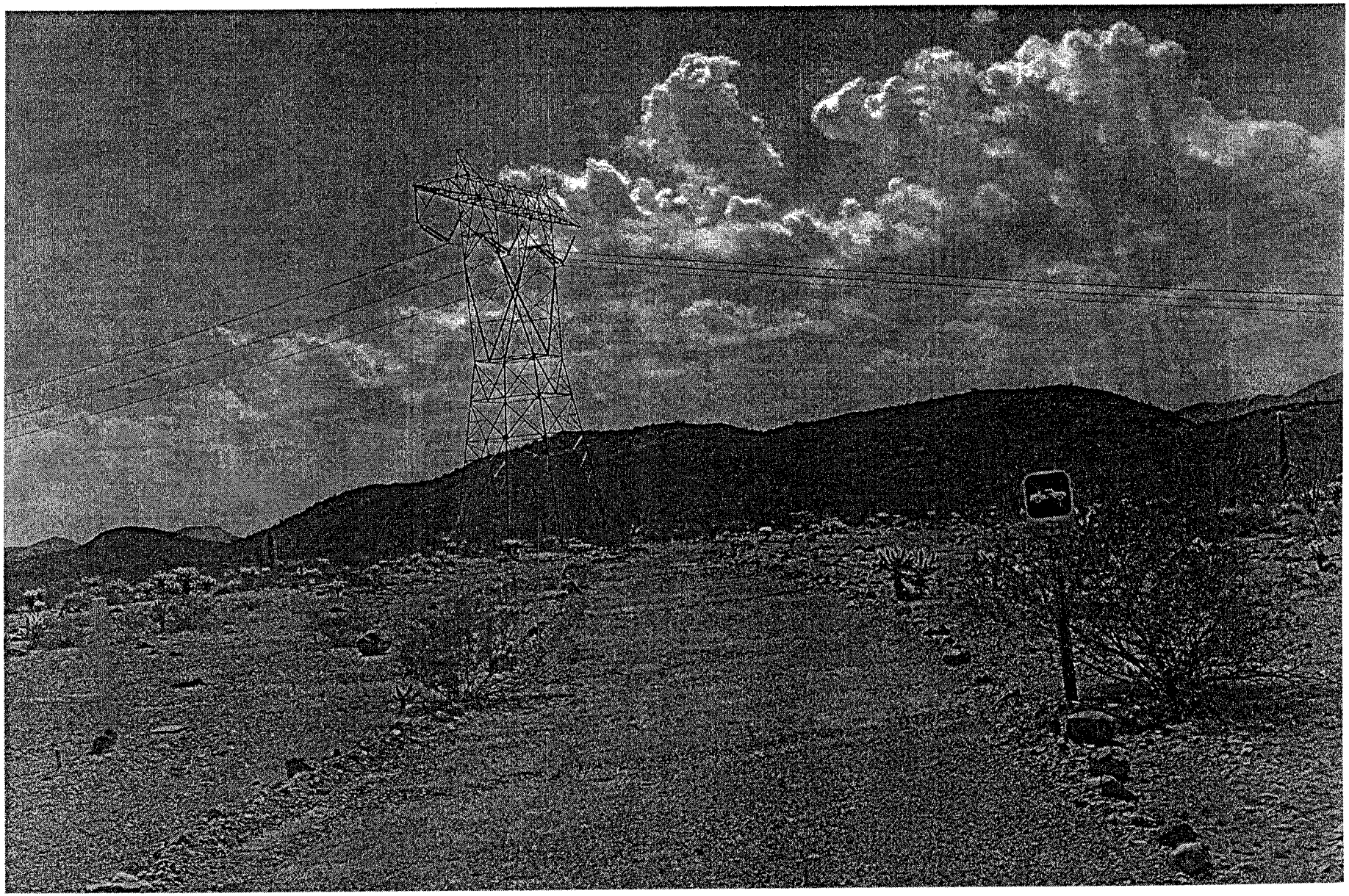


EXHIBIT
Sierra Club 6
admitted

Compatibility Determination

Proposed Use: Public Utility Right-of-Way for Southern California Edison (SCE) to provide for the installation and maintenance of a 500-Kilovolt electric transmission line, Devers Palo Verde #2 (DPV #2) across approximately 24 miles of Kofa National Wildlife Refuge (Refuge), a unit of the National Wildlife Refuge System (System) in Southwestern Arizona. This use is not considered an emergency, nor is it considered a priority use for Kofa NWR or the National Wildlife Refuge System.

Refuge Name: Kofa National Wildlife Refuge

Establishing and Acquisition Authority(ies): 1) Executive Order 8039; January 25, 1939; 2) Public Law 94-223, an amendment to the National Wildlife Refuge System Administration Act of 1966; [16 U.S.C. 668dd (a)(2); 90 STAT. 199]; February 27, 1976; And 3) Public Law 101-628; [104 STAT. 4469]; Arizona Desert Wilderness Act, Title III -Designation of Wilderness Areas to be Administered by the United States Fish and Wildlife Service; November 28, 1990.

Refuge Purpose(s): "...set apart for the conservation and development of natural wildlife resources, and for the protection of public grazing lands and natural forage resources." [Executive Order 8039]

"...consolidating the authorities relating to the various categories of areas that are administered by the Secretary of Interior for the conservation of fish and wildlife, including...game ranges...are hereby designated as the National Wildlife Refuge System...and shall be administered by the Secretary through the United States Fish and Wildlife Service." [National Wildlife Refuge System Administration Act of 1966, as amended]

"...certain lands in the Kofa National Wildlife Refuge, Arizona, which comprise approximately 510,900 acres and certain other public lands comprising 5,300 acres which are hereby added to and incorporated within such refuge (and which shall be managed accordingly)...areas designated under this title shall be administered...in accordance with the Wilderness Act..." [Arizona Desert Wilderness Act of 1990]

National Wildlife Refuge System Mission:

The mission of the System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Description of Use:

SCE proposes to construct a new 230-mile, 500-kilovolt (kV) electric transmission line, DPV#2,

between Devers Substation in California and Harquahala Generating Substation in Arizona (near Palo Verde Nuclear Power Plant), and to upgrade 48.2 miles of 230-kV transmission lines in California. The route would pass through approximately 24 miles of the Refuge (MP E53.3–MP E77.6), within the Harquahala to the Colorado River segment. The proposed electric transmission line is not within an existing ROW. It would be installed parallel and adjacent to the existing 500-kV electric transmission line (DPV#1) constructed in the early 1980's. Approximately 100 acres would be affected by the project within the 24-mile ROW segment on the Refuge. The project has been certified by the Fish and Wildlife Service (Service), Division of Realty to be outside the Refuge's designated wilderness.

As proposed, there would be a total of 85, 4-legged lattice towers installed on the Refuge during the installation of DPV#2. These towers will be installed within a 130-foot ROW; a distance wide enough to accommodate the new tower structure and to prevent arcing with DPV #1. The towers are approximately 96' wide at the top, 40' wide at the bottom and 150' tall. Each tower would be accessed via extension of existing spur roads. On average spur road extensions would be approximately 14" wide and 130' long. They would be graded initially, but maintained in an unimproved status into the long-term. The foot-print of each tower on the ground would vary, depending upon the location of the tower and the terrain in which it is installed. Construction would require short-term use of heavy equipment such as cranes, drill rigs, dozers, excavators, compressors, generators, and trucks. Helicopters would also be needed to transport construction materials and to string the conductors for the overhead line. Construction would be initiated in 2008 and completed within 2 years.

SCE's stated purposes for the Proposed Project are fourfold (Aspen Environmental Group 2006): 1) Increase California's Transmission Import Capability; 2) Enhance the Competitive Energy Market; 3) Support the Energy Market in the Southwest; and 4) Provide Increased Reliability, Insurance Value, and Operating Flexibility. The project is being proposed on the Refuge because of the existing 500kV electric transmission line (DPV#1) and associated ROW, and to avoid potential impacts to public lands administered by the Bureau of Land Management (BLM) north of the Refuge.

Availability of Resources: The issuance of the ROW for DPV#2 would be at no cost to the U. S. Fish and Wildlife Service (Service). The Service has a reimbursable agreement with SCE to cover all salary costs allocated to the project during the planning and construction phases. However, a considerable amount of time would be allocated by staff in attending meetings and monitoring construction during calendar years 2007–2008, which would take time away from work on other priority projects and activities. Refuge work most affected by the proposed includes wildlife habitat improvement projects; surveys, inventory and monitoring activities; wildlife research projects; and critical administrative duties. It is estimated that the Refuge Manager and Assistant Refuge Manager will spend approximately 40 hours each on the project over the 2-year period. It is estimated that the Refuge's Wildlife Biologist will spend over 800 hours on the project during the same period, with most of her time allocated to monitoring construction. All on-the-ground work to install DPV#2 will be handled by SCE or their contractors at no cost to the Service.

Anticipated Impacts of the Use:

I. The following impacts are summarized from the 2006 Final Administrative Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Refuge segment of DPV #2 (Aspen Environmental Group 2006):

Vegetation and Soils. There are 5 woody species and 8 cacti species that are protected under the Arizona Native Plant Law that would be impacted by the project on the Refuge. No Federal or State listed plant species occur on the Refuge. The Proposed Project would result in the removal of existing vegetation and disturbance of surface soils within the ROW. In addition, permanent loss of habitat would occur where new tower or pole foundations are installed, and where access and spur roads are constructed. Surface disturbance could occur during construction, operation, and maintenance of the Proposed Project especially when vehicles are driven over existing vegetation that has not been intentionally and regularly cleared to maintain utility access roads or firebreaks. Impacts would be related to movement of equipment and project personnel for monthly or annual project maintenance and during line-stringing/cable pulling. The most common type of surface disturbance is associated with rubber-tired or steel-tracked vehicles used to string/pull the line and transport personnel and materials along the project ROW. Potential impacts to plant communities could also be caused by the movement of construction/maintenance vehicles and equipment within the transmission line ROW. Impacts could include soil compaction and crushing of vegetation.

Non-Native Invasive Species. Introduction of non-native plant species would occur primarily during construction, but would also continue to occur during operation and maintenance phases of the Proposed Project. The introduction of non-native or noxious weeds would be related to the use of vehicles, construction equipment, or earthen materials contaminated with non-native plant seed, use of straw bales or mattes that contain seeds of non-native plant species, and enhanced public access to the project corridor during and after construction. Vehicles parking along access roads that contain populations of noxious weeds can also result in the introduction of these species into areas not previously infested.

Wildlife. Impacts to State listed and sensitive wildlife and plant species, such as desert tortoise and desert bighorn sheep, may occur as a result of removal of habitat and direct mortality resulting from construction and operational activities. Species such as the common chuckwalla, banded Gila monster, and desert rosy boa would have a high potential to be impacted by construction activities in this segment. While common chuckwalla has not been recorded in the vicinity of the Proposed Project, an occurrence of banded Gila monster was recorded in the Livingston Hills within three miles of the proposed ROW and the desert rosy boa was recorded in the western Kofa Mountains within five miles of the ROW.

Suitable habitat for western burrowing owl also occurs within this segment. The Proposed Project would cause direct and indirect impacts on this sensitive bird species through permanent and temporary loss of suitable habitat and the disturbance of nesting activities. Project construction could displace or result in the mortality of burrowing owls.

Due to the proximity of desert bighorn sheep lambing areas within the Refuge, impacts to the sheep during breeding and lambing periods would be potentially significant (Class II). Disturbances associated with construction may result in reduced reproductive success or mortality of young desert bighorn sheep as a result of abandonment.

In Arizona each of the Proposed Project segments contains Sonoran desert scrub habitat that has the potential to support desert tortoise. In addition, a juvenile desert tortoise was identified during surveys conducted in the Kofa to Palo Verde Valley segment west of the Dome Rock Mountains. Although Sonoran desert tortoise was not found during surveys of the other Arizona segments and the area has not been designated as critical habitat for this species, the habitat is still considered suitable for desert tortoise. In addition, desert tortoises are known to occasionally travel long distances of up to several miles or more and could move into the project area in any segment.

Recreation. Project construction activities create a number of temporary nuisances that would diminish the recreational value of the Refuge. For example, the noise, dust, and construction traffic generated during construction activities negatively affect a visitor's enjoyment of the recreation area. Recreationists may be less likely to visit this resource during project construction. The location of construction equipment may also temporarily preclude access to some recreation areas. Such a disturbance to recreational activities or a reduction in the visitation to the Refuge due to construction activities would result in potentially significant impacts (Class II).

The existing DPV#1 transmission line has already introduced an industrial component to the land use across the Refuge. While the Proposed Project would not introduce a new industrial use across an undeveloped recreation area, it would intensify the industrial nature of the ROW through the construction and operation of new towers and spur roads across the Refuge. The proposed transmission towers are large structures, approximately 150 feet in height. Given the substantial size of these structures and their industrial appearance, the proposed transmission towers would contrast with the natural landscape of the Refuge. New towers would be constructed across 24 miles of the Refuge, and as such, the Proposed Project would significantly increase the total amount of industrial development within the Refuge, further degrading its landscape and character. Long-term, operational visual impacts would be experienced by travelers and recreationists accessing the Refuge on Pipeline Road and Crystal Hill Road. Overall, development and operation of the project would change the character of the Refuge and would significantly diminish its recreational value. Impacts to the Refuge would be significant and unmitigable (Class I).

Noise. Construction activities occurring within the wildlife refuge would temporarily increase the noise within the Refuge. This would occur at the locations of construction activity and along all transport access routes, which would force all construction traffic to traverse the wildlife refuge. Within about 200 feet of the transmission line corridor, peak noise levels over 88 dBA and average noise levels over 65 dBA could occur during construction. Along access routes, approximately 75 dBA would occur with passing trucks.

Once operational, noise from the overhead transmission line would occur from corona discharge and minor inspection or maintenance activities. Inspection and maintenance along the overhead route

would not change substantially when compared to the existing conditions. Audible noise from corona discharge along a 500 kV line can be well above background ambient noise levels, especially during wet weather.

Air Quality. The project would generate localized pollutant emissions from the construction equipment over the entire construction duration. Minimal vehicular emissions associated with maintenance and repair of the transmission line would occur during operation of the powerline. Dust and equipment exhaust emissions would be caused by all construction activities especially where heavy amounts of travel would occur on unpaved roads and surfaces that would create fugitive dust. Use of construction equipment and emissions from motor vehicles would also adversely affect air quality because construction activities would emit pollutants that could contribute to existing violations of ambient air quality standards. The severity of impacts due to construction emissions depends on the local air quality and the regulatory requirements of each different local air quality management jurisdiction.

Visual Resources. Due to the relatively short duration of project construction (approximately 24 months), project construction impacts would generally constitute adverse, but less than significant (Class III) visual impacts. Within the Refuge, the Proposed Project would result in significant and unmitigable (Class I) visual impacts as the project parallels the existing DPV#1 transmission line. Long-term, operational visual impacts would be experienced by travelers and recreationists accessing the Refuge on Pipeline Road and Crystal Hill Road. For travelers on Crystal Hill Road and the Pipeline Road, the moderate visual quality, high viewer concern, and moderate-to-high viewer exposure lead to a moderate-to-high overall visual sensitivity of the visual setting and viewing characteristics.

Public Health and Safety. There remains a lack of consensus in the scientific community in regard to public health impacts due to Electric/Magnetic Fields (EMF) at the levels expected from electric power facilities. Further, there are no federal or State standards limiting human exposure to EMFs from transmission lines or substation facilities. For those reasons, EMF is not considered in the EIR/EIS as a California Environmental Quality Act/National Environmental Policy Act (CEQA/NEPA) issue and no impact significance is presented.

Cultural and Paleontological Resources. Although no known eligible cultural sites are located within the Areas of Potential Effect (APEs) for this segment, there are four known sites (AZ R:7:66, AZ R:7:61, AZ R:8:42 and AZ R:8:49) recommended as National Register of Historic Places (NRHP)-eligible that are located within the general corridor for this segment. Impacts to those or other newly discovered NRHP-eligible cultural resources could result from construction activities that require earth-disturbing effects. The construction impacts are most likely associated with erecting towers, creating tower pads, access road grading, digging of tower footings, and conductor pulling and splicing.

The potential to discover unanticipated cultural resources during construction exists throughout the Refuge segment of the Proposed Project and could reveal additional adverse effects to these resources. If unanticipated sites, features, and/or artifacts were discovered as a result of construction, and those are determined to be NRHP-eligible at the time of discovery, there would be an adverse effect. Adverse effects could be reduced by data-recovery investigations, but, by

virtue of the fact that such resources would be discovered after final project design and engineering, avoidance and protection of such resources would be infeasible. Therefore, if NRHP-eligible resources are impacted during construction, even after data recovery, effects would be adverse (Class I), under the regulations in the National Historic Preservation Act (NHPA).

The potential to discover unknown buried Native American human remains or sacred features, in the form of primary inhumations, cremations, ceremonial bundles, or mourning ceremony features during construction could exist, resulting in adverse effects. If unanticipated buried Native American human remains or sacred features were discovered as a result of construction, then there would be a significant and unavoidable impact to the remains (Class I), an adverse effect under the regulations in the NHPA.

Direct and indirect impacts may occur to sites within and in the vicinity of the project area during operation and long-term presence of the Proposed Project. Direct impacts could result from maintenance or repair activities, while increased erosion could result as an indirect project impact. This impact is potentially significant, but can be mitigated to a level that is less than significant (Class II).

The paleontological sensitivity of this segment varies from undetermined to high sensitivity depending on the rock unit encountered. For example, volcanic rocks would have low sensitivity (low possibility of fossil occurrence) and the Pleistocene older alluvium has a high sensitivity. Sensitive areas for paleontological resources are located from Mile Post (MP) E43 to E60, E65.5 to E68, and E71 to E73 and could be impacted by construction. In addition, there is potential to encounter undiscovered paleontological resources within this segment of the Proposed Project. This impact is potentially significant, but can be mitigated to a level that is less than significant (Class II).

Transportation and Traffic.

This segment would require transmission line stringing activity over the Refuge dirt roads in three places, which could require the temporary closure of these roads. However, compliance with required encroachment permits would ensure that potential impacts associated with short-term road closures are less than significant (Class III).

Road closures could disrupt the operations of emergency service providers. However, in the event that an emergency service provider vehicle were to approach a roadway temporarily blocked by overhead construction activities, SCE would be able to accommodate the emergency service provider vehicle by immediately stopping work to allow the passage of the emergency vehicle with minimal delay. Impacts would be less than significant (Class III) and no mitigation would be required.

The utility road at the west Refuge boundary (U. S. Highway 95) to approximately MP 79.5 (where the utility road joins Crystal Hill Road) is not a public access road. The public may see construction vehicles using this road and think that it is available for public use. Public use of this road would result in an adverse, but less than significant impact (Class III).

II. The following is provided by the Refuge Manager and other staff regarding the potential impacts of SCE-DPV#2 for the Refuge segment:

Wilderness. Wilderness impacts were not addressed for the Refuge segment in the EIR/EIS because the proposed ROW for DPV#2 is not within designated wilderness. If the total width of the ROW for DPV #2 does not exceed 130-feet as it is currently proposed, there will be no direct impacts to wilderness on the Refuge. If the ROW is expanded beyond 130 feet, there would be direct impacts to wilderness on the Refuge and the compatibility determination for DPV #2 would need to be modified to address impacts to this resource. In this regard, a recommendation was recently filed to widen the ROW beyond 130 feet along the Arizona portion of DPV #2 with the Arizona Power Plant and Transmission Line Siting Committee (Committee). In filing this recommendation the engineering staff of the Arizona Corporation Commission (Commission) believes that a wider ROW would better accommodate a tower collapse should one occur during inclement weather or for other reasons. A final decision on this recommendation is pending in the Committee and should be made by January 2007. Based on the above and pending future action by the Committee, the compatibility determination for DPV #2 does not address direct impacts to wilderness resources.

Non-Native Invasive Species. Powerline ROW's have been identified by the Arizona Invasive Species Advisory Council as a vector for the spread of invasive plants, because high levels of disturbance and habitat modification tend to favor a non-native flora. For example, powerline right-of-ways that run through intact vegetation in nearby southern California have been shown to be points-of-entry for several exotic species (D'Antonio and Haubensak 1998). Numerous infestations of Sahara mustard *(Brassica tournefortii)* and Mediterranean grass *(Schismus arabicus* and *S. barbatus)* have been documented along the SCE ROW in Kofa NWR. Introduction of invasive species occurs not only from construction vehicles during the project but also from increased vehicle traffic on roads upgraded and maintained for the project, as when the pipeline road was widened and upgraded for DPV #1 and subsequently became a major travel route across the refuge. Controlling invasive plant species continues to be a drain on refuge staff and resources long after the completion of DPV #1. An additional commitment would be required by the Refuge to control invasive plant species following the completion of DPV#2 and throughout its operation.

Radio Communications and Telemetry. Based on recent experiences in the field, DPV #1 may be having a negative impact on radio communications, and could also effect radio telemetry equipment when in use near the powerline. Interference and/or disruption to communications could be compounded by the installation of DPV #2; particularly in light of the fact that the Refuge is currently using a fully integrated digital system. Of particular concern is the impact of potential interference to communications along Crystal Hill and Pipeline Roads, which could become a significant safety issue for staff, particularly during the hot summer months. There are several recent examples where staff was unable to communicate with other mobile units in the field or with the base station when in close proximity to DPV #1. If interference increases with the second line, this could also negatively impact ongoing mountain lion research and future studies on the Refuge that may incorporate the use of radio telemetry equipment. Additional field analysis by qualified radio technicians is needed to substantiate the impacts of the DPV #1 (as well as the potential effects of DPV #2) on radio communications and telemetry equipment.

Bird Strikes. The EIR/EIS provides that bird strikes may occur along certain segments of DPV #2, but not within the Refuge segment. The potential for bird strikes clearly exists for that portion of DPV #1 within the Refuge, and DPV #2 may exacerbate this problem. The bird strike potential is thought to be at its highest during peak migration periods in the spring and fall when neotropical migrants are moving north-south through the Refuge and encounter the east-west ROW corridor. Although no specific information about bird strikes on the Kofa exists, accounts of avian fatality from collisions with powerlines and utility structures are abundant in scientific literature. Fatal impacts from these structures have been documented for nearly 350 species (Manville 1999), representing 15 orders and 35 families and subfamilies in 14 countries worldwide and 26 states, including Arizona and nearby California, in the United States (Hunting 2002). In some cases, the level of fatalities attributable to these collisions has been substantial and has contributed to declines in local and regional populations (Mathiasson 1999, APLIC 1994). Of the 35 avian subfamilies mentioned above, 26 have been documented on the refuge (USDI 1996). Bird surveys conducted from 1986-1991 on the refuge confirmed the presence of many species of migrants (KNWR 1986-1991). Applying the mortality rate of 521 fatal strikes/km measured at Mare Island, California by Hartman et al. (1993), to the 38.62 km linear extent of transmission lines on Kofa NWR, annual fatality could reach as high as 20,121 birds, a significant impact to migratory birds on the Refuge

Transportation. The EIR/EIS also provides that there would be impacts to transportation associated with the construction phase of DPV #2. Although impacts to recreational use and emergency services are covered in the document, the document fails to address the impact to the daily refuge management activities. During the 2-year construction phase of the project, there are likely to be conflicts between refuge use of the Crystal Hill and Pipeline Roads and that of the SCE and its contractors. Alternative routes exist to avoid certain segments, but not for the entire length of the powerline. Consequently, there may be areas of the Refuge that are inaccessible to staff for extended periods, or where staff may be inconvenienced by traveling to certain areas via alternative routes (e.g., high clearance/4-wheel drive roads). In addition, visitors to the refuge often drive on spur or ROW roads even though they are not designated public access roads. This creates an enforcement problem and leads to greater impacts to vegetation and wildlife. Careful planning and coordination could minimize these conflicts.

Wildlife. Studies on bighorn sheep conducted during construction of DPV#1 documented the importance of the New Water Mountains and Livingston Hills to bighorn sheep. The Livingston Hills were used for lambing, and rams frequently moved between the New Water Mountains and the Livingston Hills, a route that is now bisected by DPV#1 (Cochran et al. 1984) and would be further bisected by DPV#2. The authors stated the importance of having as few obstructions (fences, roads, housing) as possible between mountain groups occupied by bighorn (Cochran et al. 1984). The study also found that transmission line construction activities precluded normal ram crossings between the New Water Mountains and the Kofa Mountains/Livingston Hills (Smith et al. 1986). It is impossible to say what the cumulative impacts of 2 powerlines operating together would be on bighorn sheep movements, but the potential for habitat fragmentation and population isolation exists.

From comments provided by SCE representatives on the Draft EIR/EIS, it appears that they are unwilling to accommodate a reasonable period for sheep lambing on the Refuge. Lambing is one of the most critical life history stages, and one of the most significant bighorn life history parameters sensitive to impact (Smith et al. 1986). Ewes will seldom lamb in an area disturbed by outsiders, and permanent human occupancy near key lambing areas will cause bighorn to move away (Graham 1980). We would recommend that construction not occur during the most active lambing period (October – April). SCE believes that prohibiting construction during this period would essentially preclude construction. There is likely to be opportunities for compromise, but SCE is currently under the assumption that construction would occur on the Refuge at anytime during their 24-month construction window (calendar years 2007 and 2008). If construction occurs during peak lambing periods for desert bighorn sheep (October through April), there could be significant population impacts to this species in the New Water Mountains, Kofa Mountains and Livingston Hills.

The Kofa NWR desert bighorn sheep herd has historically been one of the largest in the state and was a major catalyst for establishing the refuge. The herd is a vital source of genetic diversity, both through emigration to nearby mountain ranges and through transplants throughout the southwest. The triennial sheep surveys conducted on the refuge revealed a decrease from an estimated 815 sheep to 623 sheep from 2000 to 2003. This downward trend appears to be continuing in 2006 with preliminary estimates for the population at 390 animals. While the reasons for this decline on the Refuge are unknown additional disturbance or fragmentation of sheep habitat on the refuge could exacerbate the problem and complicate future management efforts aimed at reversing this trend. As concluded in Graham (1980), actions which significantly increase human activity in key portions of bighorn ranges can do great harm.

The cumulative width of the transmission and ROW corridor for DPV #1 and DPV #2 could be large enough to discourage crossing by smaller animals such as reptiles, including the sensitive rosy boa, common chuckwalla, Gila monster, and desert tortoise. Because the absolute mobility of reptiles is considerably less than that of birds or larger mammals, they have a greater potential to be affected by barriers such as roads (MacNally and Brown 2001). The removal of vegetation necessary for construction and maintenance of DPV #2 could eliminate the necessary ground cover or protection needed by some species to cross the corridor and cause habitat fragmentation. The additional spur roads will increase the probability that these small, slow-moving animals will be hit by vehicles, either during construction or from unauthorized use by visitors after construction. Roads can significantly modify the distributions, movement patterns, and mate-location abilities of snakes (Shine et al. 2004). Although no specific data exits for the refuge, rosy boas appear to be significantly impacted by highways in southern Arizona (Rosen and Lowe 1994).

NWRS Mission and Goals. The significant and unmitigable impacts to recreation, cultural/archaeological resources and visual resources, as well as the potentially significant impacts to desert bighorn sheep and other important biological resources on the Refuge would prevent the Service from fulfilling the NWRS mission at this large and important refuge. The agency would therefore not be in compliance with the National Wildlife Refuge System Administration Act of 1966 and the National Wildlife Refuge System Improvement Act of 1997.

The proposed use would prevent us from achieving System goals as detailed in Service policy (601 FW 1), including Goal A (conserving wildlife and their habitats/maintaining biological integrity, diversity and environmental health/conservation of representative ecosystems and their processes) and Goal D (wildlife dependent recreation). The biological integrity, diversity and environmental health of the Refuge would be further degraded through destruction of habitat along the ROW for DPV #2. At the landscape level, the destruction of habitat associated with DPV #2 would affect our ability to conserve a representative example of the Arizona Upland habitat type within Sonoran Desert Ecosystem. Wildlife dependent recreation such as hunting and wildlife observation would also be negatively impacted on the Refuge by the proposed use. The recreational experience of these users would be degraded due to factors such as increased traffic during construction and changes in wildlife movement patterns and increased noise through the life of the project. Increased industrialization of the area could also impact these and other recreational uses in the vicinity of DPV #1 and DPV #2, by displacing users to other areas of the Refuge where the landscape is relatively undisturbed.

The project would also be in conflict with the Service's Appropriate Uses policy, which provides that all uses occurring on a refuge must be appropriate uses. In order for a use to be considered appropriate, a proposed use must meet at least one of the following three conditions: 1) the use is a wildlife-dependent use; 2) the use contributes to fulfilling refuge purposes, NWRS mission, or goals and objectives outlined in the management plan for the unit; or 3) The Refuge Manager has reviewed the use within the context of law and policy and determines it is appropriate. A proposed use is exempt from the criteria outlined above, if there is a prior, existing right for the use. DPV#2 fails to meet any of the above criteria for an appropriate use, and SCE does not have a prior, existing right for the use; therefore, the use is considered an inappropriate use on the Refuge.

Refuge Purposes, Goals and Objectives.

Concern over the significant and unmitigable impacts to recreation, and visual resources, as well as potential impacts to the desert bighorn sheep population, leads one to a similar conclusion regarding the Refuge's ability to achieve stated purposes, goals and objectives. The project would be in conflict with the Refuge's purposes as provided in Executive Order 8039, and the National Wildlife Refuge System Administration Act of 1966, as amended. Additionally, the Refuge would not achieve its specific objectives and management actions for wildlife and habitat management, recreation, public access, and protection of archaeological/cultural resources as contained in the 1996 Kofa National Wildlife Refuge and Wilderness and New Water Mountains Wilderness Interagency Management Plan and Environmental Assessment (USDI 1996).

Cumulative and Indirect Secondary Effects. Multiple ROW and associated powerlines may present a visual barrier to desert bighorn sheep, fragmenting the habitat north and south of the ROW and isolating the populations. SCE believes that ROW are not a concern for management of desert bighorn sheep based on their experience during construction of the DPV#1. We are unaware of data to support this assertion for multiple ROW in similar habitat. Consequently, the cumulative impact of multiple ROW between the Refuge's important desert bighorn sheep habitat and lambing grounds and the travel corridors between the two will continue to be a

concern for management of this population into the future. Cumulative impacts may also result from the construction and operation of DPV #2 within other wildlife populations on the Refuge, particularly those that are less mobile such as reptiles. The cumulative width of DPV #1 and DPV #2 could affect the distribution, mating abilities and movements of these animals within and between important habitats on the Refuge. More research is needed to determine the potential cumulative impacts of multiple powerlines on these species.

DPV#2 would result in cumulative impacts to recreation and visual resources. Increased noise associated with the operation of DPV #2 and further industrialization of the area would diminish the Refuge's recreational value. With the addition of DPV #2, visitor use along the route may decline and the quality of the visitor experience for uses such as sight-seeing, camping, hunting and wildlife observation and wildlife photography would be impacted. Finally, the additional structures associated with DPV#2 would further degrade the visual quality of the area as a whole. When the impacts to recreation and visual resources from DPV #2 are considered together the overall impacts would be cumulative, significant and unmitigable (Class I).

The proposed use could also result in cumulative, significant and unmitigable losses to archaeological/cultural resources on the Refuge. More detailed work would be required to assess the extent of the resources with the ROW and potential cumulative impacts associated with the construction and operation of DPV #2.

Mitigation Measures. The EIS includes proposed numerous mitigation measures to reduce or minimize the impacts of the project to the above listed resources and issues of concern. These can be reviewed in detail for each resource/issue in the mitigation section of EIR/EIS (Aspen Environmental 2006). In general, the proponent would be implementing specific techniques or approaches, or modifying the timing and duration of specific events to reduce impacts. For certain resources/issues, the proposed mitigation measures would reduce the impact to a less than significant level or acceptable level (air quality, transportation/traffic, vegetation/soils, and certain wildlife species). In other cases, the proposed mitigation measures are not adequate for the affected resources and where impacts could be significant (desert bighorn sheep movements and reproduction). Finally, there are a number of resources/issues where the impacts are significant and unmitigable (recreation, archaeological/cultural, visual). These resource impacts cause the greatest concern for the future management of the Refuge and prevent the Service from achieving its mandates under law and policy.

Public Review and Comment:

Public review of this compatibility determination will be accomplished as follows:

1. Posting a notice at the Refuge Office in Yuma, Arizona;
2. Soliciting public comments through the use of a News Release forwarded to all major newspapers in Arizona and posted on the Refuge's Public Website;
3. Mailing a postcard to interested agencies, groups and individuals regarding the availability of the document; and
4. Providing the document for public viewing at the Yuma County Library District.

Comments will be accepted for 30-days following release of the document to the public.

Determination (check one below):
_X_ Use is Not Compatible
____ Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:

None

Justification:

The proposed use would have significant and unmitigable impacts to a number of key resources at the Refuge, including recreation, cultural/archaeological resources, and visual resources. These losses are irretrievable in the long-term and would affect the overall character and management of the Refuge. There is also the potential for significant negative impacts to other important biological resources, but information is currently lacking to make this determination with any certainty for two adjoining powerlines. The biological resources that fall into this category include migratory birds, desert bighorn sheep, reptiles. Taken together with DPV #1, the negative impacts to these resources may be cumulative and could have greater implications on their management than is currently known.

DPV #2 would prevent the Service from achieving its mission and goals on a large and important Refuge. Of particular significance is Goal A (conserving wildlife and their habitats; maintaining biological integrity, diversity and environmental health/conservation of representative ecosystems and their processes) and Goal D (wildlife dependent recreation), which would not be achieved if the proposed use were implemented. The project would be in conflict with the Refuge's purposes as provided in Executive Order 8039, and the National Wildlife Refuge System Administration Act of 1966, as amended. Finally, the Service would fail to achieve specific objectives and management actions for wildlife and habitat management, recreation, public access, and protection of archaeological/cultural resources, as contained in the 1996 Kofa National Wildlife Refuge and Wilderness and New Water Mountains Wilderness Interagency Management Plan and Environmental Assessment (USDI 1996).

The proposed use would also be in conflict with the Service's Appropriate Uses policy, which provides that all uses occurring on a refuge must be appropriate. It fails to meet any of three criteria for an appropriate use and SCE does not have a prior, existing right for this use; therefore it is considered an inappropriate use for the Refuge.

Mitigation measures developed for the project reduce impacts for certain resources to less than significant or acceptable levels, but overall the unmitigable and potentially significant impacts to other key resources (recreation, cultural/archaeological, visual) outweighs any offsets provided through implementation of these measures.

Based on the above and in consideration of sound professional judgment and experience, knowledge of the Refuge and its resources, application of the best available science, wildlife management principles, and knowledge of managing and administering a Refuge, I believe that granting a ROW for DPV #2 would materially interfere with or detract from the NWRS mission, refuge purposes, and unit specific goals and management actions. Therefore, the proposed use is deemed incompatible and is eliminated from further consideration.

Signature: Refuge Manager _____
(Signature and Date)

Concurrence: Regional Chief _____
(Signature and Date)

Mandatory 10- or 15-year Re-Evaluation Date: None

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EXHIBIT

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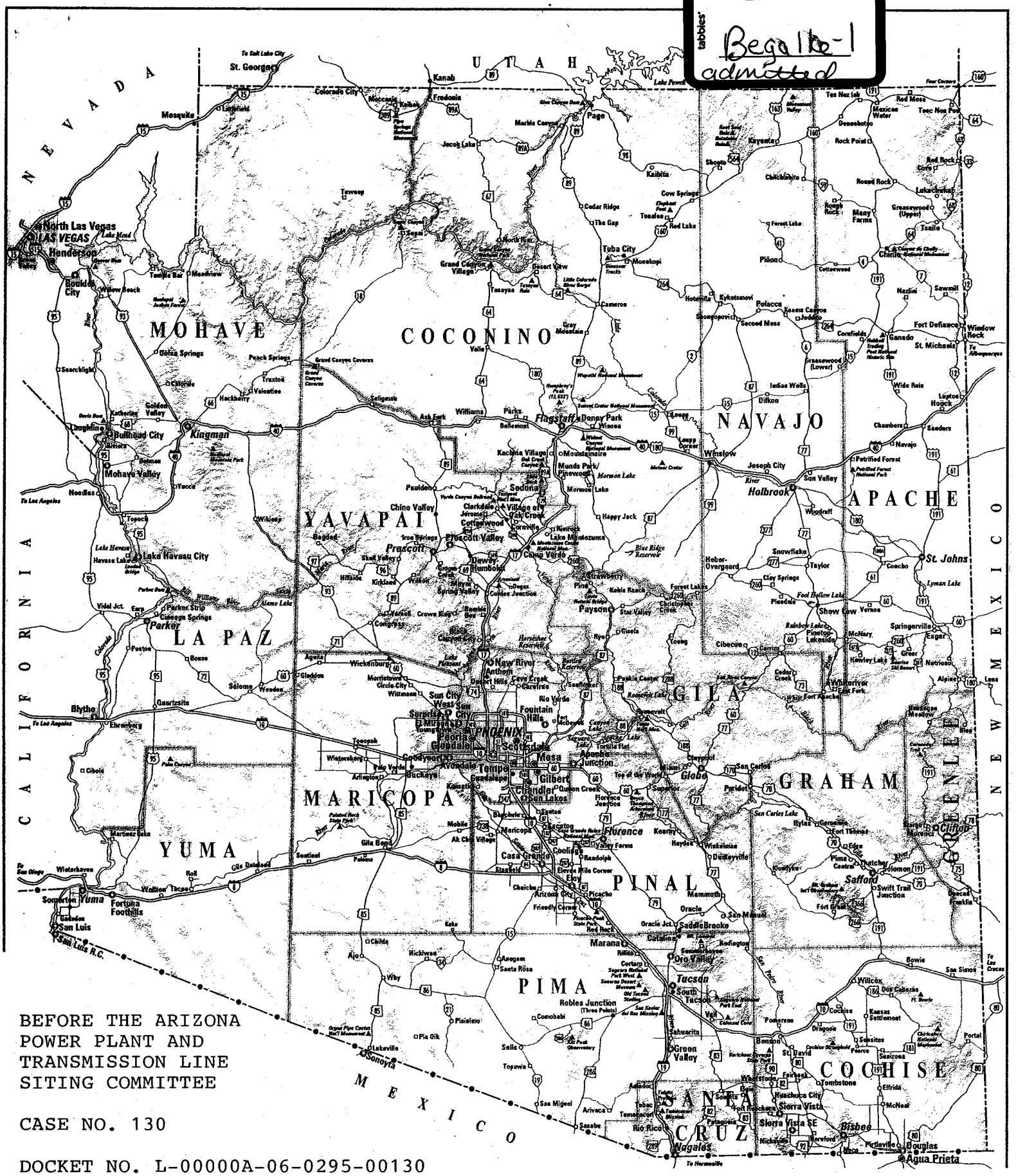
Begalke-1 admitted



BEFORE THE ARIZONA POWER PLANT AND TRANSMISSION LINE SITING COMMITTEE

CASE NO. 130

DOCKET NO. L-00000A-06-0295-00130

PRESENTATION BY DONALD G. ~~BEGALKE~~, INDIVIDUAL INTERVENOR, FOR DENIAL OF A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY TO THE DEVERS-PALO VERDE NO.2 500kV TRANSMISSION LINE PROJECT BY THE SOUTHERN CALIFORNIA EDISON COMPANY.

Before the Arizona Power Plant and Transmission Line Siting Committee

Case No. 130 Docket No. L-00000A-06-0295-00130

The Application by the Southern California Edison Company on their Devers-Palo Verde No. 2 500kV Transmission Line Project for a Certificate of Environmental Compatibility

Presentation to the Committee by Donald G. Begalke, Individual Intervenor, for Denial of the Certificate to the Applicant.

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Notes: Without calling any witness(es) nor having slides, the presentation is oral, accompanied by this packet so that Siting Committee Hearing Participants may follow along.

Except for this page, no page numbers appear on the sheets, which are identified by the color of the paper.

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BACKGROUND: Raised in Altoona, Pa. Donald G. Begalke earned a B.S. Degree in Education with a Mathematics Major May, 1965 from the Indiana University of Pennsylvania, Indiana, Pa.. After 3 years of teaching secondary math subjects in Ohio, he relocated to San Diego, Ca. to pursue better-paying employment opportunities. During Sept. 1974 property along 536th Ave. north of Dobbins Rd. in southwest Harquahala Valley, Az. was purchased. Don's oldest Brother, Robert, relocated from Seattle, Wa. to H.V. Dec. '74 to manage Santa Rosa plum orchards. Feb. 1975 Don planted his own S-R orchard while still managing the Graphic Arts Supply Company of San Diego. Nov. '76 Don relocated to his 1st Az. residence on 538th Ave. about 1/4th mile south of Baseline Rd. in H.V. 1977 went well including testing a golden apricot orchard and a pistachio orchard. Having been in small-size cities or San Diego, rural-life experiences allowed 1st-hand educations time after time. For example, early on one May or June morning while checking the drip-irrigation lines including cleaning the drip units, chasing and some yipping at maybe 25-30 yards away drew my attention. Two coyotes, at first glance thought to be dogs, were enjoying play activities. Then they would stop for drinks of water from orchard drip pools and rest. Then the coyotes would play again, and were entertaining for some 15 minutes before they moved on. As Summer intensified coyotes were allies to orchardists because they removed problematic ground squirrels and hares in sufficient numbers so that negative applications in orchards were unneccessary. Life's experiences in rural Az. were like classroom settings. Although progresses were continuing, supplemental employment was realized and caused my relocation to the Phoenix metro as weekends were filled with orchard duties. After my brother had severe medical circumstances and relocated, both of us were out of the orchard businesses. Before my retirement commenced Dec. 1, 2000, the last 17-1/2+ years of employment was with the Arizona Department of Economic Security as an Adjudications Specialist of which the last 10-1/2+ years as a Adjudications Supervisor with the Unemployment Insurance Program.

THE DPV1 HEARINGS: Notice about a pending DPV transmission line came from neighbors late Dec. 1977. Harquahalans attended meetings in numbers with SCE outreach staff at the elementary school, at Harquahala Lions Club meetings, and also in neighborhood meetings Jan.-Feb. 1978. Folks understood SCE's need to get their PVNGS share of power to Ca. - that made sense to us. Consistently

and repeatedly we pointed out routes where the line could be while harming no family or business. In addition we were introduced to the concept of an electrical grid, and the DPV line would be 1 of 3 lines connecting Az. to Ca. However, Harquahalans knew the valley would "take a hit" as SCE had 6 routes in their application. One Feb. day Brother Robert returned from a meeting to inform me that he had volunteered Don to speak at the March APP&TLSC Hearing for Harquahalans outside the irrigation district. We called ourselves the H.V. Environmental Assn., not truely an environmental organization as we were farmers, ranchers, orchardists, residents and property owners, because we added defense of the Eagletail Mtns. to our cause as that range was valued educationally and recreationally. Having been told that the hearing would be only one day, folks of the Assn. in attendance were frustrated by the lengthening SCE presentation. However, we were encouraged by numerous questions from the Siting Comm. After the mid-afternoon, finally the counsel for the irrigation district addressed the hearing. Subsequently, the late-hour announcement came that Harquahalans would have to come back for a 2nd day of the hearing. A very good rainfall occurred overnight, and news about Centennial Wash flooding determined "you'd better get out early and quickly" if you were going to the 2nd day of the DPV Hearing. Among valley folks south and southwest of the wash, I recall a youngster counting to 38 - that was roughly 60% of our attendees of the 1st day. When the hearing reconvened, Mrs. Valerie Melton, a young wife/mother of one boy/and "expecting", was HVEA initiatial witness, and eloquently told the Siting Comm. what life in the Valley was for a young family getting started in life together. For this Siting Comm. on DPV2, you may recall Mrs. Melton's presentations at the Public Comment Session the evening of June 26, 2006. Then "a younger-version of Don" addressed how important water was to living/producing in the Valley and how SCE's preferred transmission route and 3 alternatives - Dobbins Rd., Elliot Rd. and Thomas Rd alignments - would severely devastate lives' opportunities for folks in H.V. Before our next witness could take the oath, the Siting Comm. conferred and agreed with HVEA folks. The Committee voted that SCE would not build the 500kV line the preferred route along the Centennial Wash nor in the Alternatives along Dobbins Rd, Elliot Rd. nor Thomas Rd. Assured by the chairman, we "Thanked The Committee" and went home before noon. Later SCE selected the "far-south alternative" in H.V. for the DPV 500kV line - far-south meaning the 500kV line traversed undeveloped lands in south H.V. and went south of the Eagletail Mtns. into the

federal lands westerly. That was Case No. 34 to Harquahalans. Weeks later ACC Decision No. 49226 was the same routing for the DPV transmission line though our valley. Two years later, H.V. was told that a 2nd DPV Hearing would take place because SCE was experiencing difficulties with the federal agencies regarding the pathway of the line over federal lands in then Yuma County. My preparations as a HVEA witness were "from the mothballs". Then, something strange to our thoughts occurred. Word was received that presentations to the APP&TLSC would not be necessary as a precedent would be applied to any route(s) affecting valley residents and businesses. One pathway alternative/alignment was Thomas Rd. from east of Salome Hwy til meeting the then-preferred Centennial Wash alignment and departing the valley to the NW. In this DPV2 Hearing, that alignment includes both the applicant's preferred Harquahala Generation Station routing and the Harquahala West Alternative of this Case No. 130 - of which neither routing should be granted SCE. The Siting Committee voted out the Thomas Rd. Alternative in the 1980 DPV Case No. 48, - setting a precedent, which should be fully applied to today's Case No. 130 - and the routing approved was the "Far-North Alignment" above Interstate I-10 crossing the entire valley into then-Yuma County/now-La Paz County, harming no family nor business. Decision No. 51170 by the ACC affirmed the deletion/precedent of the Thomas Rd. Alternative in H.V. and SCE was granted the "northern" pathway in H.V. for what is now called the DPV1 transmission line.

HOW DID DON COME TO THE DPV2 HEARING: About January 15, 2006 a friend's email included an announcement about a Scoping Meeting to be held on Jan. 18th, time 2PM, at the Estrella Community College in Avondale, Az. Curious, attendance followed. Folks signed in, received materials and before the start had short opportunities to learn about the proposed DPV2 500kV line. The meeting began, explanations were presented, the proceedings were waning, and "me being me" blurted out "what is the need?" and commented that Az. needs its own generations because we do not have enough for ourselves and the growth demands. The room went silent, and eyes from Aspen and BLM personnel were aimed at a gentleman named Mr.Bob Stiens of SCE. Mr. Stiens hesitant answer was that DPV2 was needed to complete the grid. Immediately, I knew that answer wrong because of SCE's presentations in 1978 to the folks of H.V. Notice comments came from attendees, and subsequent scoping comments would be due Jan. 20th. Arizonans were receiving, and wrongfully, "short-sticks" from the CPUC/BLM in the scoping process that

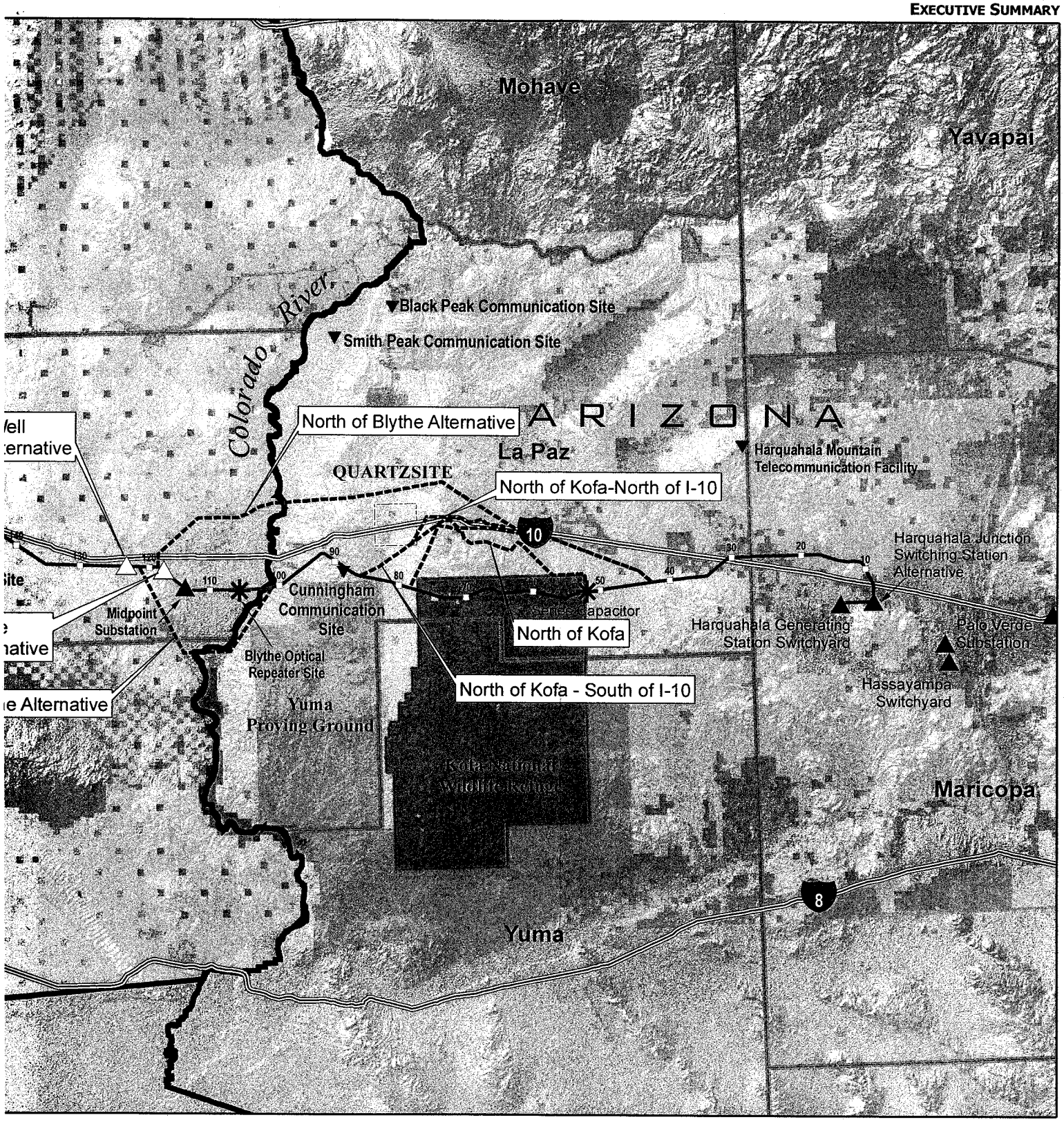
would lead eventually to a final EIR/EIS on the DPV2 proposal. That night of Jan. 18th I wrote some comments that were mailed the 19th, but the letter included that I'd be mailing an addendum; the latter was mailed Feb. 23rd, but Aspen phoned saying those additions would not be in the scoping booklet, but would be addressed in the draft EIR/EIS. 28 years had passed since farmers, ranchers, orchardists, residents and property owners had formed the HVEA, and with some no longer living and with others having relocated/retired, only a very small number remained who may oppose DPV2 because in 1978 SCE's outreach staff answered "no" to repeated inquiries about a "transmission freeway". Contacting the few HVEA folks could, attorney's fees was the big barrier to intervening. Thus, Don Begalke is participating in this DPV2 Hearing as an Individual Intervenor. The approach in this intervention is "public service", especially since rural and desert Arizona often has few or no participants in these proceedings. Opinion is that Arizona should require representation against projects for improved assessments, and for final determinations from hearings.

APPLICATIONS' DIFFERENCES: The Draft EIR/EIS, jointly by the CPUC/BLM is representative of SCE's DPV2 Application to the CPUC. Many items/parts of SCE's Ca. Application, for the Az. part of the DPV2 proposal, are not the same in SCE's Application to the ACC. A few differences are:

California Application:	Arizona Application:
6 Alternatives in Az.	2 Alternatives in Az.
(see Figure ES-3 from Draft/next page in this packet shows the 4 not in the Az. Application)	
List 4 Needs (Pg. ES-2, Draft)	2 Needs
Increase California's Transmission Import Capability is #1 Need	Importing Cost-Effective Power to Devers is #1 Need
10,000 Surplus MW in Az. (Pg. A-9, Draft)	6,000 Surplus MW in Az.
Merchant Generators creating the 10,000MW Surplus: Arlington, 2 Red Hawks, Mesquite, Harquahala, Gila River, West Phoenix No. 4 & No. 5, Santan Extension and La Paz	Merchant Generators not the same list
Merchants Contracted/Operating/Existing	Same List?
Informing the CPUC that Az. is a "Power Deficient" state, meaning Az. utilities do not produce enough power to meet demands and purchases from merchants & out-of-state.	SCE has abundant power, even with the loss of MW from the now-closed Mohave GS; reading the CPUC Website on SCE Decisions, only 1 of 72 regard generation; re purchasing.

The above differences marginalize facts and deliberations of the respective state's commissions. Is the Az. Application the "short stick"?

APPLICATION'S OMISSION: The alternative, shown by Mr. Layton of the ACC, using new directive of the Dept. Of Energy to connect federal-agency lands for a routing.



NS (unincorporated areas)

- Forest Service
- Nature Conservancy
- State Fish and Game
- State
- Private
- Substations
- Series Capacitor
- Construction Yard
- Communications Site

Devers-Palo Verde No. 2 Transmission Line Project

Figure ES-3

Alternatives Eliminated

IS SCE'S DPV2 APPLICATION TO THE ACC LAWFUL?: "Common Sense" is the basis for all applicants to be disclosed in an application for a transmission line or power plant. In this DPV2 application to the ACC, the Southern California Edison Company is the sole applicant.

However, in the DPV2 Application to the CPUC, as evidenced by Pg. B-19 (see copy of B-19 on the following page of this packet) of the CPUC/BLM joint Draft EIS-EIS, the Los Angeles Department of Water and Power is a co-applicant in the DPV2 project, and an Exchange Agreement was entered into on December 18, 1987. On Pg. B-19 in Table 3 "DPV2 Line Ownership", the first sentence reads: "LADWP has the obligation to acquire a 30.7 percent ownership interest in the DPV2 line". Although the wording is not what I call definite, the 1987 E.A.'s intent is 100% in force, and the LADWP is an "Applicant, too, of the DPV2 Proposal". At the beginning of this Hearing on June 27, 2006 I pointed out the LADWP was a co-applicant, and requested that SCE's Application be determined "not lawful".

Further, since the Draft EIR/EIS is dated "May 2006", the last sentence on Pg. B-19 reads: "Although most of the outstanding issues have been resolved, some still require further discussion between LADWP and CAISO". The LADWP is "contemplating" or definitely is in DPV2.

In Arizona State Law, Article 6.2, Subsection 40-360-02 "Plans; Filing; Failure to Comply; Classification", 40-360-02.A reads "Every person contemplating construction of any transmission line within the state during any ten year period shall file a ten year plan with the commission on or before January 31 of each year."

The LADWP has not filed a 10-yr. plan with the ACC, information that Mr. Dell Smith, Engineers Supervisor (by telephone, #602-542-7277), stated that "no one around here knows of such a filing". Mr. Dell requested that I check the ACC Website using Docket No. E-00000D-05-0040 to ensure whether LADWP had filed a 10-yr. plan. I checked E-00000D-05-0040, and LADWP had in fact not filed a plan. Thus, LADWP is not in compliance with Article 6.2 Subsection 40-360-02.E which states: "Failure of any person to comply with the requirements of subsection A, B or C of this section may, in the commission's discretion in the absence of a showing of good cause, constitute a ground for refusing to consider an application of such a person."

Siting Committee, I respectfully request your recommendation to the Arizona Corporation Commission be that Southern California Edison be denied a Certificate of Environmental Compatibility to their Application for the Devers-Palo Verde No.2 500kV Transmission Line Project.

Also, some other legal questions arise from reading the Draft EIR-EIS. On Pg. ES-2 of the Draft under Proposed Project Purpose and Need, the first objective or Need is "Increase California's Transmission Import Capability". Does that mean the State of California is an applicant in the Az. Application of DPV2? Does the meaning inform that all utilities in the State of California are also applicants? Has the Arizona Corporation Commission's counsel investigated the Arizona Law to determine the lawfulness of SCE's Az. DPV2 Application with respect to the previous two sentences and the primary need in SCE's DPV2 Application to the CPUC?

The California Independent System Operator was created by California legislation. Is CAISO a California State agency? Does California law authorize CAISO to operate transmission lines in Az.? What Az. law permits the CAISO to operate transmission lines in Az.? Has the ACC counsel investigated the lawfulness of CAISO's operations in AZ?

The above last two paragraphs establish the need for Az. State counsel's help with this DPV2 Application to the ACC.

Los Angeles Department of Water and Power

SCE and the Los Angeles Department of Water and Power (LADWP) have an existing contractual arrangement that provides for participation by LADWP in the DPV2 project. The Los Angeles–Edison Exchange Agreement was entered into on December 18, 1987 (Exchange Agreement). The Exchange Agreement is summarized in Table B-3.

Under the Exchange Agreement, LADWP will receive 30.7 percent of the DPV2 line capacity and share in 30.7 percent of the DPV2 project costs. The Exchange Agreement provides that the parties will enter into a participation agreement to more fully describe the parties' respective rights and obligations regarding the ownership of DPV2. Provided LADWP participates in DPV2, its transmission capacity between Palo Verde and Devers will remain essentially the same. LADWP's 368 MW of existing transmission service rights between Devers and Palo Verde will terminate and LADWP will acquire a 30.7 percent ownership interest in DPV2. LADWP's ownership share would equal 368 MW at the planned rating for DPV2 of 1200 MW.

Table B-3. Summary of Exchange Agreement

Eastern Transmission Service

- SCE shall make available to LADWP 368 MW of firm bidirectional transmission service between Devers and Sylmar for the life of DPV1 or upon construction of DPV2 the life of DPV2.
- SCE shall make available to LADWP 368 MW of firm bidirectional transmission service between Palo Verde and Devers beginning June 1, 1990 and shall continue service until the earliest of any of the following events: (i) the in-service date of the DPV2 Line, (ii) the in-service date of any other transmission line connecting Palo Verde and Devers in which LADWP has obtained either an ownership share or entitlement to transmission service, (iii) the date when the DPV1 Line is permanently removed from service, (iv) four years after SCE has obtained the CPUC approval, pursuant to California Public Utilities Code Section 851 to transfer rights of way for DPV2 to LADWP, or (v) upon 12 months' prior written notice by LADWP, on or after January 1, 2003; provided, however, that upon written notice by SCE, provided within three months following the date of such notice by LADWP, such termination date may be extended for an additional period not to exceed 24 months, if and to the extent necessary to allow SCE to reflect fully the revenue impact of such termination in its CPUC and FERC jurisdictional rates.
- SCE shall make available to LADWP 100 MW of firm bidirectional transmission service over SCE's transmission facilities between Palo Verde and Sylmar through May 2012.

Northwest Transmission Rights

- LADWP shall make available to SCE from LADWP's ownership share of the extra-high voltage (EHV) Pacific DC Intertie Line, 500 MW of firm bidirectional Transmission Capacity on the EHV DC Line between Sylmar and the Nevada-Oregon border.
- SCE shall make available to LADWP 320 MW of bidirectional Transmission Capacity on the EHV Pacific AC Intertie Lines.
- The exchange of Pacific Intertie transmission service terminates when SCE's rights to the Pacific AC Intertie terminate.

Castaic Service

- LADWP shall make available to SCE 200 MW from the Castaic Power Plant for a term of five years from the effective date of the Exchange Agreement. This provision expired on December 18, 1992.
- Commencing upon the effective date of the Exchange Agreement and continuing for a term of 22 years, LADWP shall use its best efforts to make Additional Service available to SCE at LADWP sole discretion. Additional Service is any weekly service for spinning reserve, generation and pumping purchased by SCE.

DPV2 Line Ownership

- LADWP has the obligation to acquire a 30.7 percent ownership interest in the DPV2 line.
- SCE shall use its best efforts to construct DPV2 with a minimum 1,200 MW Transmission Capacity Rating. LADWP has the option to purchase firm bi-directional transmission service over DPV2 to make up a total of 368 MW in the event DPV2 Transmission Capacity Rating is less than 1,200 MW.

Source: SCE, 2005a, Section 2.3

LADWP has not yet committed to participate in DPV2; however, SCE stated on April 14, 2006 that it believes that the parties are close to finalizing an agreement that would provide for SCE's construction of DPV2 as proposed. Although most of the outstanding issues have been resolved, some still require further discussion between LADWP and the CAISO.

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ENVIRONMENTS: In today's world everybody is impacted by a diverse continuum of environments. Regarding this DPV2 application, the following are some:

THE AGRICULTURAL ENVIRONMENT: Siting Cases No. 34 and 48 plus ACC Decisions No.49226 and 51170 have already been cited in presentations during this hearing. SCE "doesn't get it" with respect to farming, ranching, family and other life principles in Harquahala Valley. 28 and 26 years respectively have passed since the previous "NO"s to SCE regarding the Thomas Rd. Alternatives. This Case No. 130 includes a preferred routing, an transmission alignment again, along Thomas Rd. There is no reason to harm the H.V. lands along that road nor to make an agricultural community the victim of an unnecessary proposal. Additionally, the name of the project is the Devers-Palo Verde No. 2 500kV Transmission Line proposal. SCE would not be importing power from H.V., but from the PVNGS. Impacting Harquahala in any way is totally wrong, and a "NO" to SCE is deserved.

THE ARIZONA RATEPAYER ENVIRONMENT: Using my own methods, a determination resulted early-on that DPV2 will cause Arizonan's electric rates to increase. An out-of-Az. utility, SCE, should not have a project that causes electrical bills to increase. Take notice on the page following in this packet of a photocopied news release dated May 19, 2006 - the "$230 million in prices for local utility customers between 2009 and 2014". The news release was in Tab 4 of a supplement SCE presented at this hearing as well as another similar article in the Arizona Republic, also dated May 19, 2006. Yes, offsets may reduce that amount, but then $230 million could be too low. Mr. Matthew Rowell of the ACC submitted a packet titled "Ratemaking Impacts" of DPV2 projected for 2010; on Pg. 6 the conclusion reads: "the impact on Arizona consumers is unclear, and will vary by utility." The bottom line is: if one Arizonan has a rate increase of 1 penny on any bill, that is too much of a rate increase caused by SCE. Az. utility transmission lines have not caused Californians' rate increases; in reciprocity the DPV2 should not cause Arizonans ratepayers harm. No out-of-state utility's project should be built "on the backs" of Arizona ratepayers, for whom the answer to SCE must be NO!!

THE COMPLIANCE ENVIRONMENT: We must be thankful to the Sierra Club for their discovery about the DPV1 towers in Copper Canyon not being the required towers from Case No. 48 and ACC Decision No. 51170. SCE might want to blame the BLM for their noncompliance in that canyon. However, the 1981 agreement between the BLM and SCE occurred before the DPV1 Line was built through Copper Canyon. SCE had the responsibility in 1981 to inform and request the ACC for any line exception. SCE, why did you not act responsibly with respect to towers in Copper Canyon? SCE, what did you think about our Commissioners in 1981 - were they horrible people or what?? Opinion is, SCE, that you were downright immature and disrespectful in 1981 and for roughly 25 years before the Sierra Club reported your noncompliance with Case No 48/Decision No. 51170. SCE, regarding compliance and other issues, you can not be trusted. Based on that truth, Arizona must tell SCE "No Project" in this Case No. 130.

THE HUMAN ENVIRONMENT: NW Az. was severely abused by SCE with respect to SCE operations of their -majority-owned Mohave Coal-Fired Generating Station near Laughlin, Nv. SCE refused to upgrade Mohave, to correct severe emissions' problems at Mohave. For years and years SCE's pollutions and polutions severely affected air qualities not only in NW Az. but also to distant locales in Coconino County, Az. Many Arizonans had breathing difficulties because of SCE's polutions - SCE's disregard for humans' healths. SCE's Mohave air polutions extended into the Grand Canyon, and national media displayed those polutions on TV, talked about them on radio and published them in print. SCE's pollutions negatively affected tourism at the Grand Canyon, creating in minds that the canyon was no longer an enjoyable outing. Associately, Az. businesses were affected in the greater Grand Canyon area and in NW Az. Folks have their own health problems in life without SCE making life miserable by creating pollution problems. SCE had to be taken to court for their Mohave pollutions. Rather than improve circumstances, SCE chose the court decision to shut down the Mohave Plant. That Nov. 2005 closure identifies SCE's abuse of and SCE's disrespect toward Arizonans - SCE just did not care!! In reciprocity, Arizona's answer to SCE in this DPV2 matter must be "NO"!!

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.

THE KOFA ENVIRONMENT: At the Hearing SCE had a consultant present a "visual tour" of the DPV in Az. We did not see enough transmission photosimulations, especially where 3 500kV lines would occur. One stop of the tour was in the Kofa National Wildlife Refuge, and the stop displayed an unnatural swath along Pipeline Rd. west of a mesa in the lower New Water Mtns. The consultant cited the unusual dimentions of the swath widthwise - as wide as 65' or .... When the tour stop was shown on the screen, I saw scarring even though the consultant did not. The scarring was from blading too deeply, and the sight reminded me of my blading errors on Grandfather Keasey's farm - boy, did I get heck for the deepness of some cuts affecting grasses for grandfather's cattle. When I first visited the Pipeline Rd. swath July 19, 2006, the scene was worse than in the photosimulation because the length of 1-1/2 to 2 miles impacting the mind. The day after our Hearing date of June 26th, locally contacting the El Paso Natural Gas Company, I was referred to the company's Regional Director of Government Affairs, Mr. Loren Locker. Telephoning, (713)420-2603 Houston, Tx., Mr. Locker reported he was aware of the section along Pipeline Rd., whatever happened at that Kofa location occurred before he began his current position with EPNG, if his company had had a line breakage the work would not exceed their 50' right-of-way, and EPNG repairing would not result in roadside topography unnatural to the refuge. On June 26th SCE's consultant could not explain what that swath along Pipeline Rd. was; had the consultant contacted the USFWS' Kofa Manager? I did, but Mr. Paul Cornes, telephone no. (928)783-7861, stated he has only been at Kofa a little over 2 years, and that the grasses alongside the Pipeline Rd. swath have not grown back from the damage done by the removal over too much of the soils needed for the grasses to regrow. After obtaining a copy of SCE's permit, under the FOIA, for Kofa I again visited Kofa on August 3, 2006, this time traveling west-to-east, and walked part of the damaged swath - I began to think "construction", the site being a construction staging location for part of the DPV1 500kV Line, all the towers' parts, all the construction machinery and vehicles, transporting vehicles etc. If I would be conducting an adjudication again as had for state government, based on "available evidence" the decision would be that SCE bladed the swath along Pipeline Rd. when erecting the towers et al for DPV1. The day after our Aug. 22nd Hearing date, I again telephoned Mr. Cornes of the USFWS regarding Kofa, and our conversation changed to recent blading of spur roads to the DPV1 towers in the refuge. That day a FOIA letter request was mailed Mr. Cornes - please, read the copy of my letter that is in this packet presentation on 3-ringed, white paper. As of typing this sentence, no response has been received to the request. Also in this packet is a copy of Kofa's answer to the CPUC/BLM from the Draft EIR/EIS that DPV2 does not meet the USFWS' missions for the Kofa Refuge. Combined with the Visual Environment, see 3rd paragraph below, with respect to the Kofa Environment, Arizona must tell SCE "No" to DPV2, and deny the Certificate of Environmental Compatibility to SCE's transmission line proposal.

THE RECREATIONAL ENVIRONMENT: A second SCE consultant from the EPG firm commented on the Crystal Hill area of the Kofa Refuge informing of the camping and hiking activities. However, he did not inform us that an exemption for nontool rock hounding around Crystal Hill has been provided by the USFWS. Rock hounding is a popular activity not only around Kofa's Crystal Hill locale, but around the Quartsite, Az. area also. Winter visitors come to Quartsite and Kofa by the thousands, including staying for weeks and some for months - they enjoy the general outdoors' experiences of that La Paz County area. During February Quartsite is host to 150,000+ folks during 2-weeks (I think), a "fest" if you will, for rock-hounders, traders, sellers, recreationists and more. The estimate of annual visitor population to the Kofa Refuge ranges 45-50,000 people. A high percentage of that Kofa population is associated with Crystal Hill, Pipeline Rd. and Quartsite. Placing DPV2 in Kofa could curtail the visitor population and the more-robust Quartsite that progress has established in recent years. For those reasons Arizona must say "No" to SCE on the DPV2 proposal because the line will harm the growth of recreation in Kofa and activities around the central La Paz County area. Additionally, recreation occurs along the Colorado River's eastern shores between Cibola National Wildlife Refuge, Az. and Ehrenberg, Az. After a phone call from a gentleman-farmer in Ehrenberg, on July 14th I made a daytrip to see the power line he was referring to. Learning he farms on both sides of the river, I had to inform him that I had no position on the Ca. part of DPV2. Since the visit was over by midmorning, a visit to the Cibola Refuge was decided/enjoyed. Departing the refuge and traveling on the Cibola Rd. northward toward Ehrenberg healthy wildlife

August 23, 2006
PO Box 17862
Phoenix, Az. 85011-0862

Mr. Paul Cornes
Manager, and Compliance Officer
Kofa National Wildlife Refuge
U.S. Fish and Wildlife Service
356 West First Street
Yuma, Arizona 85364

Dear Compliance Officer Cornes:

Thank you again for your time discussing the Kofa Refuge regarding Devers-Palo Verde No.1 500kV Transmission Line across the refuge, and the roads that the Southern California Edison Company uses to have access to maintain the line and the towers.

Under the Freedom of Information Act, may I have the following:

1. the report explaining the recent (late-July or early-August) damage to the spur roads, by blading, to the DPV1 Towers recently discovered in the Kofa Refuge. Was the Kofa landscape adjacent to the spur roads also damaged? Please inform which spur roads by tower number (like "78-1", found on a tower near an accompanying danger sign) if you can, and some physical explanation where the spur roads are along Pipeline Road.
2. any compliance schedules that the Southern California Edison Company has filed with your Kofa Compliance Office for January-August 2006, and any associated refuge report or document establishing whether SCE is in compliance or not.

As you know Ms. Barbara Rose of the USFWS in Albuquerque had me send a FOIA Request to Mr. Bill Green, USFWS FOIA Coordinator in Albuquerque, to receive a copy of Permit (E-2) 500kV Electric Transmission Line to SCE on DPV1 through the Kofa National Wildlife Refuge. Ms. Rose's cover letter, with the permit copy, is dated August 1, 2006, and contains the following: "In Reply Refer To: R2/NWRS-RE FOIA # 2006-00841". May my July 24, 2006 FOIA Request Letter, with the information in this paragraph, allow you to release the reports/schedules asked for in the second paragraph of this letter.

As stated in our telephone conversation of August 18, 2006, I am an Intervenor in the Hearing on the SCE Devers-Palo Verde 500kV Transmission Line Proposal before the Arizona Power Plant and Transmission Line Siting Committee. The hearing has had four days thus far, the last of the 4 being August 22, 2006 as we are "in continuance" til September when four more days are scheduled.

If I can assist you in this additional FOIA request, my home (and only) telephone number is: (602)279-3402. If your office now works on Mountain Daylight Time, the best time to reach me by phone is 7-10AM MDT (or 6-9 MST, Az. Time now).

Enclosed are two 39-Cent U.S. Postage Stamps for a FOIA reply, if they are required. If not required, please, use them to mail out some Kofa informations to other Citizens.

Sincerely yours,

Donald G. Begalke

enclosures: 2 stamps
copy - file

was enjoyed outside the refuge including deer - had no seen 5 deer in one place for many years. Also, spotting folks along the Colorado River's banks, discussions informed that folks from both Ca. and Az. enjoy river activities in that undeveloped recreational locale. Folks in Az. need places to go to, and perhaps Arizona Parks could look at that recreational area. Yes, DPV1 disects the undeveloped area before crossing the river, but DPV2 could be a barrier to better recreational activities in rural Az. Why not have better recreation in La Paz County rather than curtailment by DPV2; say "No" to DPV2.

THE SAFETY ENVIRONMENT: Some safety discussion occurred at this Hearing regarding transmission towers. Other safety subjects have been omitted. With any nuclear power plant, associated transmission lines are also concerns with respect to acts of violence. If you are from Maricopa County, you may recall the 2004 media presentations on the PVNGS and transmission lines such as DPV1. SCE has not presented a witness from their regulatory division. With respect to Homeland Security issues, is SCE in compliance with requirements of the Nuclear Regulatory Commission and/or other regulatory agencies assessing DPV1? If DPV2 would be erected, what magnifications of dangers and necessary protection plans does SCE? Arizona has a large population in Maricopa County, and a greater population inclusive of a southeast to northwest area expanding wider easterly.

THE VISUAL ENVIRONMENT: We also heard the 2nd EPG consultant's presentation on DPV2 and visuals. He applied BLM criteria to viewerships in the Kofa Refuge. If you have worked with the BLM in any area of Az., you have learned the BLM's standards are not as good as standards of other agencies because agencies' missions are different. USFWS criteria for Kofa reasonably are different than the BLM's might be. Furthermore, folks do not think BLM assessments when they're outdoors enjoying a refuge or some other nice places in Az. Most folks do not even know that BLM has criteria on viewing scenery. The adage of "in the eye of the beholder" determines amounts of pleasures folks attain from their experiences in scenic countrysides. Already residents in a "desert dell" about ½ mile east of the Intersection of Court House Rd and Salome Hwy view 2 500kV lines from H.V. onward to the PVNGS. What will their assessment be viewing a DPV2 500kV line be? Combining the paragraphs on The Kofa Environment and The Recreational Environment with this Visual Environment paragraph, DPV2 would be a big visual impairment to Arizonans.

WITH RESPECT TO THE ENVIRONMENTS ADDRESSED IN THIS PRESENTATION, SCE'S DPV2 PROPOSAL DOES NOT MEET STANDARDS, AND ARIZONA MUST RECOMMEND TO THE ACC A DENIAL FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY TO THE SOUTHERN CALIFORNIA EDISON'S APPLICATION.

Table D.3-6. Consistency with Applicable Land Use Plans and Policies

Agency Regulating Visual Resources	Regulation or Policy	Project Consistent?	Method of Consistency
U.S. Bureau of Land Management Yuma District	**Lower Gila South Resource Management Plan**		
	VRM Classifications are specified (Classes II and III in the project area) in the Resource Management Plan ***(see above for description of Class II and Class III management objectives)***.	Yes	The Proposed Project would span the Colorado River, which is assigned a VRM Class II from riparian border to riparian border. The visual change associated with the conductor span only would be low and would meet the VRM Class II objective of a low degree of visual change. The Proposed Project would also cross BLM Yuma District lands with VRM Class III designations in the following areas: (a) north of the Eagletail Mountains, (b) across the Ranegras and La Posa Plains, and (c) through Copper Bottom Pass in the Dome Rock Mountains to the Colorado River. The low-to-moderate levels of change that would be caused by the project in these areas would meet the VRM Class III objective of a moderate (or lower) degree of visual change. While the new line would not repeat the basic elements of the existing natural features in the landscape, it would repeat the characteristics of the existing line. Although the project would be visible, it would not dominate the view of the casual observer. See Figures D.3-7A and D.3-7B for views of La Posa Plain, and Figures D.3-8A (existing view) and D.3-8B (simulation) for views of the Colorado River crossing.
U.S. Fish and Wildlife Service Kofa National Wildlife Refuge	**Kofa National Wildlife Refuge & Wilderness and New Water Mountains Wilderness Interagency Management Plan and EA, 1996. Page 29, Management Strategy, Objective 1: Preservation of Wilderness Values.**		
	Objective 1: Preservation of Wilderness Values	No	The Proposed Project would result in the placement of new structures within the Refuge, which would adversely affect views from Crystal Hill Road and Pipeline Road. The new structures would cause a noticeable increase in structure prominence and industrial character and would result in a moderate-to-high degree of additional view blockage of the background Livingston Hills. The construction of new or use of existing access and spur roads may also result in increased land scarring. Therefore, the project would not be consistent with the objective of maintaining or enhancing the wilderness values of naturalness by minimizing visual impacts of development. See Figures D.3-5A (existing view) and D.3-5B (simulation) for views of the Kofa NWR.
U.S. Bureau of Land Management California Desert District	**California Desert Conservation Area (CDCA) Plan-1980 as amended.**		
	Interim VRM Class II Designations. In the absence of established Visual Resource Management (VRM) Classes in the CDC Plan, Interim VRM Classes have been developed for those BLM lands within the Alligator Rock ACEC ***(see above for description of Class II management objectives)***.	No	The Proposed Project would cross BLM lands in the Alligator Rock ACEC with an interim VRM Class II designation. The moderate levels of visual change that would be caused by the project in these areas would not meet the VRM Class II objective of a low degree of visual change. The new line would not retain the existing character of the landscape nor would it repeat the basic elements (form, line, color, and texture) of the existing natural features in the landscape. See Figures D.3-11A (existing view) and D.3-11B (simulation) for views of the Alligator Rock ACEC.

THE ARIZONA-CALIFORNIA INTERFACE/SUBREGIONAL GRID:

Please, turn to the page in this packet identified as "Figure A-1 Regional Transmission System", a copy of Pg. A-11 from the CPUC/BLM joint Draft EIR/EIS. This map was selected as a tool for this presentation because participants at this Hearing are familiar with A-11 transmission layout having read the 3 volumes of the Draft EIR/EIS. The map has a location problem, possibly as an overlay moved when a photo was taken. Correctly the North Gila Plant should be east of Yuma, and not in far SE Ca. The Mohave Plant should be adjacent to the Colorado River in Nv., and both McCullough and Eldorado Substations are entirely in Nv.

Generally most transmission lines of Figure A-1 are east-west pathways or SE-to-NW. Where is the system strength? The system for an Az.-Ca. Interface/Subregional Grid is not a grid today.

If utilities cooperate with each other, as we have heard at this Hearing, why is there no 500kV north-south transmission line, say from Yuma, Az. to the Mead Substation. Think of "Yuma-Mead" as a leg of a chair, and think of the remaining transmission lines as rungs to the "leg". Without the leg(s), rungs have great difficulty supporting weight(s) on the chair - a collapsable chair. Placing a duplicate rung, DPV2, aside rung DPV1, does not prevent collapsing.

In the Western U.S.A. Electric Grid DPV2 might appear to be "something - ?", but DPV2 fails as a "grid value" to the Az.-Ca. Interface/Subregional Grid that includes the S. Nv. area between our two states.

DPV1 is not a failure!! DPV1 is functioning as expected, some might give it an "excellent" rating. However, DPV1 IS UNDERUTILIZED!! With some upgrading DPV1 could become a better east-west pathway in our Subregion and in the Western Grid. At this Hearing one DPV2 allegation has been an overall 50 MW increase to Ca. DPV1 could already carry the 50 MW, and an upgraded DPV1, to a raing of 2,250 MW would be better at carrying additional MW to Ca..

When Committee Witness Mr. Bob Smith was before us at this Hearing, I provided him a few examples of system interruptions, no matter the cause. Mr. Smith had some answers, but rescheduling loads on the current system is not as easy as words. Problems on east-west pathways could be redirected better with a north-south pathway to reach destinations. If a good north-south pathway is available, the times for supplemental power to outage service areas would decrease. A substantial north-south pathway, Mead-to-Yuma if you will, would make our Subregion stronger, and the Western Grid stronger.

At least one 500kV north-south pathway must be in place first for the Az.-Ca. Interface to be strengthened. This north-south line must be a collaboration of the commissions and utilities/-cooperatives of both states. Why hasn't collaboration been part of building a strong Subregional Grid?

DPV2 is "overkill" in the same pathway as DPV1, providing almost "no purpose at all" to our Az.-Ca. Subregional Grid. Siting Committee, I respectfully request that your recommendation to the ACC be a denial of the Certificate of Environmental Compatibility to the Southern California Edison Application on the Devers-Palo Verde No. 2 500kV Transmission Line Project.

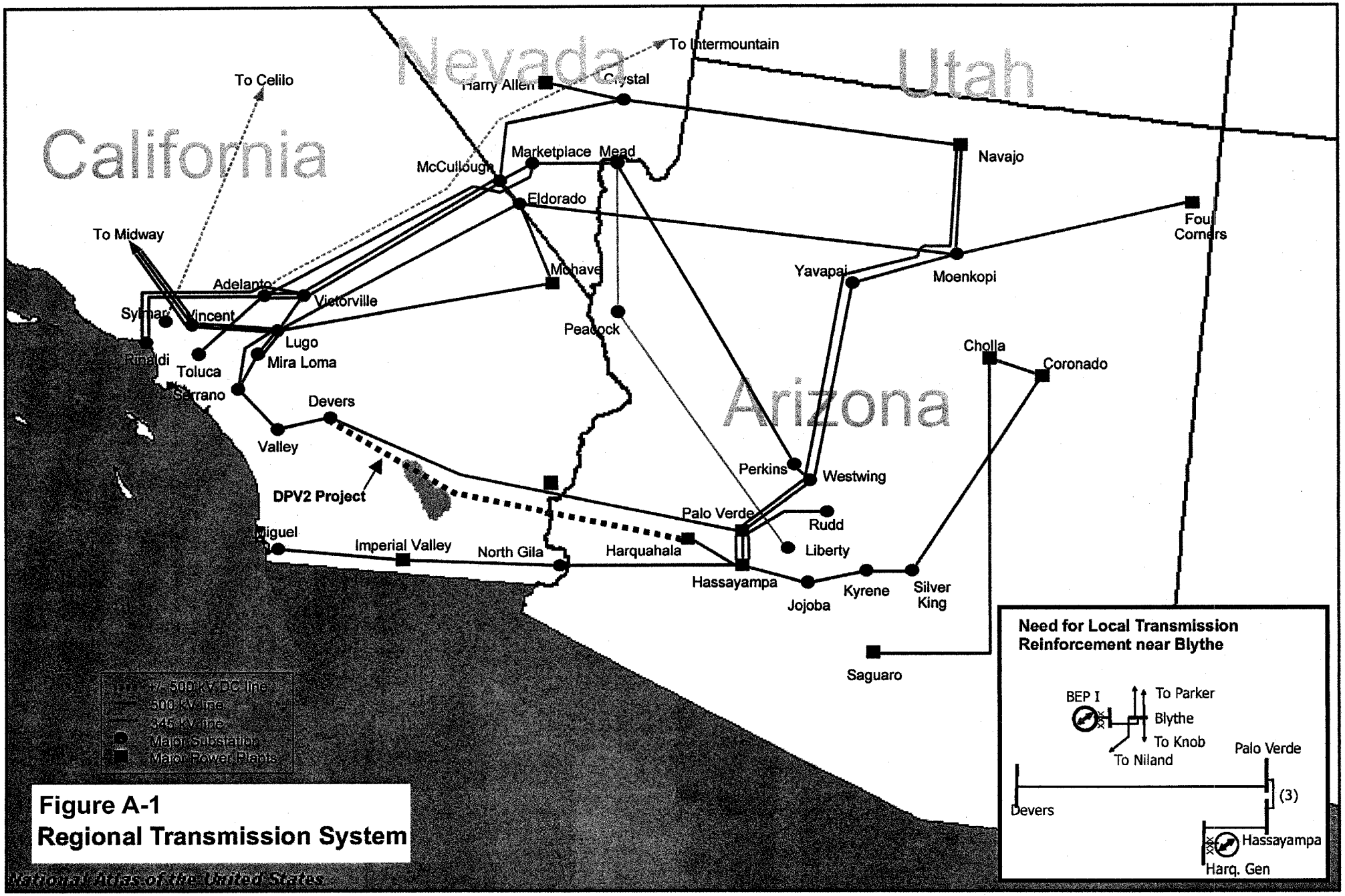

Figure A-1
Regional Transmission System

CALIFORNIA'S TRANSMISSION IMPORT CAPABILITY:

(Primary DPV2 Need per CPUC/BLM Draft EIR/EIS is to "Increase California's Transmission Import Capability"equaling the Primary DPV2 Need in SCE's Application to ACC)

TRANSMISSION LINES IN THE AZ.-CA. INTERFACE/SUBREGIONAL GRID ARE BEING UNDERUTILIZED, NOT SET FOR BETTER CAPABLE RATINGS (MW CAPACITIES). THE STATS BELOW UNDERSCORE THAT CALIFORNIA WILL HAVE "MORE-THAN-ABUNDANT" IMPORT CAPABILTY BY 2009, AND THAT DPV2 IS NOT NEEDED AT ALL FOR THE 1,200 MW BEING REQUESTED BY SCE/CA. SCE EMPHAZIES THE "OFFSEASON"; SO WILL WE.

At this Hearing Mr. Pfeifenberger reported that the current Load on DPV1 was 1,034 MW. See the Packet on "Testimony of Robert Kondziolka and Bob Smith", and Frame 12 for the "Allocation of Rating (MW) of "Path 49" 345kV and 500kV transmission lines "EOR" (east of the Colorado River). *In crossexamining Mr. Bob Smith, if all 500kV lines were upgraded to Ratings of 2,250 MW, more MW could be imported to California., and estimates would allow for reserves. The Liberty-Mead Line is a 345kV Line, and for this demonstration, am estimating its upgrade could be to 600 MW.

Without DPV2, Ca.'s Transmission Import Capabilities of today/offseason 2006, with 2250 MW & 2009:

Line(s) Usable	+MW Today	+MW-Off S.	+MW"2250"*	+MW 2009-Off S.
DPV1 (1802)	768	768	968*	768
Perkins Mead/9300 (1300)	200	300	400*	645***
Moenkopi-Eldorado (1555)	0	0	300*/**	300
Navajo-Crystal (1422)	0	200	200*	200
Hassayampa-North Gila (1526)	200	300	524*	500
*Liberty-Mead (450)	0	100	150*	100
Total Addional Capacity	1,166	1,566	2,542*	2,513

**would require a switchyard w/Perkins-Mead/9300, improving our Subregional Grid.
***see Pg. Ap.1-15 in Vol. II of the Draft EIR-EIS, 9300 Project considered "in this EIR/EIS as a cumulative project" with added import capability of 645 MW.

SPECIAL NOTE: In the Draft EIR/EIS on Pg. ES-30 and ES-31 of Vol. I, read Section 2.3.4 "Non-Transmission Alternatives" beginning with "New Conventional Generation", SCE reports that the following plants are Alternatives: (1) near the Devers Substation, a new plant (similar to the 456 MW Ocotillo Energy Project) could be built; (2) near the Etiwanda Substation, new facilities could be built - no estimate of MW and (3) near the Valley Substation the Calpine Corp received CPUC approval in June 2005 for the 810 MW plant, which is currently under construction.

Each new generational plant by itself was rationaled out as an alternative because of not being an import from Az. SCE would import power from the 3 plants above onto their transmission lines, in Ca.and have in-excess of 1,266 MW because the estimated MW from "(2)" is not reported. Together, the 3 new plants in SCE's own service area would provide 1,600 more MW without DPV2.

SCE HAS ABUNDANT GENERATION NOW, AND INTO THE FUTURE. WITH UPGRADES OF TRANSMISSION LINES IN THE AZ.-CA. SUBREGIONAL GRID, PLUS WHAT WOULD BE NEW GENERATIONS IN THEIR OWN SERVICE AREA. EVIDENCE SHOWS THAT DPV2 NEED NOT BE ERECTED BECAUSE OVER 4,000 ADDITIONAL MW IS AVAILABLE TO SCE BY 2009.

SITING COMMITTEE, I RESPECTFULLY REQUEST THAT YOUR RECOMMENDATION TO THE ACC BE A DENIAL TO SCE FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY IN THE MATTER OF THE DPV2 500kV TRANSMISSION LINE PROJECT APPLICATION.

2 SPECIAL NOTES: In the Draft EIR/EIS the CPUC?BLM documents SCE's bad congestion being in Nv.-Ca. At this hearing we are presented with a congestion map "ovaling" an area of NW Az. - see same map on P.21 top frame of Kondziolka/Smith testimony packet. SCE has five 500kV lines from Nv. to their service area in Ca. Changing 2 of those lines to "Direct-Current" capabilities would greatly eliminate congestion. As many visits to ACC offices have occurred since May, staff have consistently answered my repeated question "does SCE know?" with "all utilities know what is happening" in the Western Grid. Thusly, look at P.25 bottom frame of Kondziolka/Smith packet and the "New DC". SCE is no less technically knowledgable than other utilities about using DC lines.

At this hearing SCE witnesses show different versions of the Trans-West Express than has APS. Another questioner beside me commented that the different version had not been seen before. An allegation was stated to us that the Trans-West would not be built if DPV2 was not built. Trans-West may or may not be built, and whichever becomes reality is likely not to be affected by "no DPV2".

Before the Arizona Power Plant and Transmission Line Siting Committee

Case No. 130 Docket No. L-00000A-06-0295-00130

Summary:

Applicant Allegations of Need:

"Brings needed cost-effective power to California citizens" (SCE Supplemental Packet)
"Increase California's Transmission Import Capabilities" (CPUC/BLM Draft EIR/EIS)
"Strengthens the southwestern transmission system" (SCE Supplemental Packet)

Evidence:

-California's Import Capabilities are more than abundant today, and as 2009 will come the capabilities, without DPV2, will be double the subliminal request for 1,200 MW.
-The current Az.-Ca. Interface/Subregional System is not a grid, and is dominated by east-west transmission lines. The Applicant's DPV2 is also east-west, is duplicitous of DPV1 which is underutilized and does not support a grid for the Az.-Ca. Subregion. Every line in the Subregion is underutilized, creating wrong thoughts of needing lines; if existing lines were better utilized, and the Subregion had one north-south pathway somewhat aligning the Colorado River, a grid would be formed with strength.
-The Applicant has a negative environmental record in Az., and was taken to court, plus is not in compliance with ACC Decision No. 51170 regarding DPV1 Towers in the Copper Canyon. The DPV2 Line negatively impacts the Kofa Wildlife Refuge, and also both recreational and visual environments. Evidence establishes that Arizona ratepayers will encounter higher electric bills, and that will not help the Az. utilities-ratepayers environment.

Request:

I respectfully request the Arizona Power Plant and Transmission Line Siting Committee recommend that the Arizona Corporation Commission issue a Denial of a Certificate of Environmental Compatibility to the Southern California Edison Company on the Application for the Devers-Palo Verde No. 2 500kV Transmission Line Project.

Donald G. Begalke, Individual Intervenor
PO Box 17862, Phoenix, Az. 85011-0862

EXHIBIT

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 500 kV ALTERNATING CURRENT TRANSMISSION LINE AND RELATED FACILITIES IN MARICOPA AND LA PAZ COUNTIES IN ARIZONA ORIGINATING AT THE HARQUAHALA GENERATING STATION SWITCHYARD IN WESTERN MARICOPA COUNTY AND TERMINATING AT THE DEVERS SUBSTATION IN RIVERSIDE COUNTY CALIFORNIA.	CASE NO. 130 DOCKET NO. L-00000A-06-0295-00130 EXHIBIT "BEGALKE-2" admitted CLOSING ARGUMENTS OF INTERVENOR DONALD G. BEGALKE February 27-28, 2007

Before my 1977 activism in Case No. 34, most redundant from Harquahalans to Edison's outreach staff on DPV1 was: "Are you planning a transmission freeway to California?". Prophetic to SCE's DPV2 proposal is "Edison's need for DPV2?"

At the first Public meeting in Arizona January 18, 2006 regarding DPV2, the first question asked was: "What's the need?" - Edison's need for DPV2? Throughout this Case No. 130 Hearing, not one Edison witness answered that the need was to transmit electricity to Edison's service area for supplying Edison's customers' energy needs. Accompanyingly, not one Edison witness stated that their own customers needed 1,200 more MW by 2009. The Scoping Report with a questionable "February 2006" was the first document providing a "need answer" for 1,200 MW - please see Appendix B-

Page 3, top frame where it reads "... California ... California ... California ... California", meaning: the State of California, NOT FOR EDISON/EDISON'S CUSTOMERS!!!!

California means "CAISO"/CAISO needs the 1,200 MW to deliver to various Ca. service areas. We have learned that CAISO had to approve a DPV2 proposal before Edison could apply in either Ca. or Az., meaning CAISO is a co-applicant in DPV2. As have said before, Edison's Case No. 130 Application is unlawful per 40-360.03 because CAISO is not on the application. Checking the ACC website, CAISO is not recognized in the system. Speaking with ACC personnel, they know of CAISO but can not inform when or if ever CAISO has filed a 10-year plan with the ACC. Arizona's utility system is defined as "regulated utility". On October 30, 2006 when CAISO personnel were Siting Committee witnesses, on Page 3 of their accompanying, paper power-point presentation, we read that CAISO IS A UTILITY. When Edison's Mr. Mackness answered that CAISO is operating DPV1, and has been since about March 31, 1998, a request to the Commissioners was made for another DPV1 adjudication regarding the line operations by CAISO and its levying tariffs, fees etc for the Arizona portion of "Line 1" . Thus, not only has Edison not presented DPV2 as their need for their customers, and Edison did not file their application with a co-applicant to the ACC, but Edison can not operate DPV2 because of a 1997 State of California law, and that Ca. statue is in conflict with Arizona's regulated-utility system. Case No. 130 must end in denying a CEC for DPV2.

Most egregious of the Edison presentations at this hearing was on "congestion". The witness from the git-go did not state to us that all of those 5 or 6 transmission lines from S. Nv. into Ca. were not all owned by Edison. Yes, we can understand the severity

of Ca.'s congestion in that area, but the leadership to overcome that very bad problem is the responsibility of the CPUC. We've heard Edison's Counsel, Mr. Campbell, state: "utilities cooperate with each other all the time", but the increasing Ca. congestion remains because the Ca. utilities and other entities must not be working together on any congestion resolves. At the time when writing my intervention for Case 130, my use of the expression "using Arizona" was my reason to be part of this hearing. ARIZONA MUST NOT BE USED BY SCE NOR CALIFORNIA TO AVOID RESOLVING A VERY BAD CA. CONGESTION PROBLEM. Arizona had no part of designing the transmission-line system in their state, and Arizona did not create the noncooperations among the electrical energy entities involved in those transmission lines. Throughout the U.S. utilities are using "direct-current transmission lines" to overcome congestions, and per Committee Witnesses Kondziolka and Bob Smith DC lines will soon exist in Az.

Speaking of utilities' noncooperations, Edison's preferred route to the Harquahala Generation Station appears to interfere with that plant being part of the Palo Verde Hub established by our Arizona utilities. Additionally, the Staff's Mr. Jerry Smith was frank with us in pointing out Edison applied to the ACC without consideration of Colorado River energy companies in the subregional-grid interface area of our two states. Two of those interface companies are Arizona Intervenors in this Case No. 130: the Mohave Electric Cooperative represented by Counsel Udall, and the Central Arizona Project represented by Counsel McCann. Edison's noncooperativenesses also extend to not working for a "north-south" link of the subregional interface, needed for a stronger grid, for overcoming interface interruptions and for decreasing outage times.

If Edison's proposal would be granted a CEC, we have learned that Arizonans' electric bills and natural-gas bills would increase beginning 2009 because of DPV2. Commissioners Hatch-Miller and Mayes expressed their concerns on the increases to Arizonans, published May 19, 2006. Both Commissioners wrote letters to SCE about $230 million electric increases to Arizona ratepayers 2009-2014. SCE's answers at this hearing to the letters were very incomplete, also were speculative and guesses based on unknowns. No dollar amounts were even mentioned on the natural-gas rate increases. Arizonans' rates are rising fast enough based on our own utilities' needs and services, and we should not be subject to any rate increases because of an out-of-state utility project.

Committee Witness Bob Smith stated that Arizona would likely receive no incoming electricity via DPV2. Cost differentials would be the inhibitors. As power would leave the PVNGS and/or the Hassayampa Switchyards via DPV2 westward to Ca., no electricity could be delivered to W. Az. service areas and Az. customers. DPV1 is a "taker line". DPV2 would be another "taker" as no electricity would go to Arizona businesses and residents. "No line at all has the same result" to Western Arizonans, evidence answering Commissioner Mayes inquiry of "Does Arizona need DPV2?"

Environmentally, SCE has a horribly poor record in our State. First, and for 24-25 years already, SCE has operated DPV1 out-of-compliance with the CEC granted from ACC Case No. 48/Decision No. 51170 of 1980, and they've profited billions and billions or trillions and trillions while being environmentally noncompatible. Moreover, for all or parts of three decades Edison's management of the Mohave Generation Station, Laughlin,

Nv. spewed pollutions/possibly poisons on Arizonans, Nevadans and Utahans depending on the winds. Regarding our instate northwestern and northern neighbors, Edison caused folks' illnesses, especially breathing, and other medical problems. To my knowledge Edison has never apologized to affected Arizonans, nor ever reimbursed those folks for the medical expenses incurred. Edison's "Mohave yucks" affected N. Az. forests, weakening trees and making them more susceptible to other bad impacts like the bark-beetle infestations. Our U.S. "treasure", named the Grand Canyon, was terribly polluted by Edison so much that cross-canyon views were blocked, and visitors were medically affected also. Arizona Tourism took hits because of Edison. DPV1 has ruined the Kofa National Wildlife Refuge's northern area with the "industrial smacks" of the towers and the lines, plus folks can not enjoy that portion of the refuge because of the metals, of the wires and of destroyed landscapes by numerous spur roads and unnatural "concretes". The USFWS's determination against DPV1 was overturned by national politics. On DPV2, FWS states the line is not compatible with Kofa. For a company that has a horrible environment record in our State, Edison deserves no compatible determination from the Siting Committee nor the ACC.

Do you detect a blood-pressure increase as these arguments are presented? I am ready for a rant, but the time restriction for further arguments may be a blessing.

SITING COMMITTEE,

THE FOLLOWING CLOSING ARGUMENTS HAVE BEEN DETERMINED BY DOCUMENTS ENTERED INTO RECORD, BY TESTIMONIES OF WITNESSES AND BY IN-PERSON LOCATION VISITS IN ARIZONA, CALIFORNIA AND

NEVADA:

01. EDISON DOES NOT DEMONSTRATE AN EDISON NEED FOR DPV2 TO TRANSMIT ELECTRICITY TO THEIR SERVICE AREA TO SUPPLY THEIR OWN CUSTOMERS.

02. EDISON DOES NOT DEMONSTRATE AN EDISON NEED OF 1,200 MW OF ELECTRICITY FOR THEIR OWN CUSTOMERS' NEEDS.

03. THE WRONG COMPANY HAS APPLIED FOR DPV2. CAISO AND/OR THE CPUC SHOULD HAVE APPLIED TO THE ACC FOR DPV2 AS CAISO DELIVERS MW TO THE NUMEROUS UTILITY SERVICE AREAS IN THE STATE OF CALIFORNIA.

04. CAISO HAS NOT FILED A TEN-YEAR PLAN WITH THE ACC.

05. THE DPV2 APPLICATION IS UNLAWFUL PER 40-360.03 AS CAISO IS NOT A COAPPLICANT; CAISO WOULD OPERATE THE DPV2 LINE.

06. THE STATE OF ARIZONA MUST NOT BE USED BY CA./CA.UTILITIES AS THE ANSWER TO AN UNRESOLVED CA. CONGESTION PROBLEM FROM S. NEVADA INTO CA. THAT CONGESTION WILL STILL EXIST.

07. EDISON DEMONSTRATES NONCOOPERATIVENESSES WITH ARIZONA UTILITIES AND COMPANIES.

08. ARIZONANS' ELECTRIC BILLS WILL INCREASE BECAUSE OF DPV2.

09. ARIZONANS' NATURAL-GAS BILLS WILL INCREASE BECAUSE OF DPV2.

10. NO ELECTRICITY WILL BE DELIVERED INTO ARIZONA BY DPV2.

11. DPV2 CAN NOT BE USED TO DELIVER WESTWARD-BOUND

ELECTRICITY TO ARIZONA SERVICE AREAS AND TO ARIZONANS.

12. EDISON IS OUT OF CEC COMPLIANCE WITH DPV1.

13. EDISON HAS A VERY HORRIBLE ENVIRONMENTAL RECORD IN THE STATE OF ARIZONA.

14. THE U.S. FISH AND WILDLIFE SERVICE HAS DETERMINED THAT THE DPV2 PROPOSAL IS NOT COMPATIBLE WITH THE KOFA NATIONAL WILDLIFE REFUGE.

SITING COMMITTEE,

01. RESPECTIVELY, DECIDE TO RECOMMEND TO THE ARIZONA CORPORATION COMMISSION THAT THE CASE NO. 130 APPLICATION OF THE SOUTHERN CALIFORNIA EDISON COMPANY FOR A DEVERS - PALO VERDE NO. 2 500 kV TRANSMISSION LINE BE DENIED A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY.

02. RESPECTIVELY, ALSO DECIDE RECOMMENDING TO THE COMMISSION THE WIDTH OF THE DEVERS - PALO VERDE CORRIDOR BE REDUCED TO 130 FEET.

03. RESPECTIVELY, FURTHER RECOMMEND TO THE COMMISSION THAT A REASSESSMENT BE MADE ON ARIZONA LAWS TO STRENGTHEN ARIZONA'S "REGULATED UTILITY" SYSTEM.

SINCERELY YOURS,

Donald G. Begalke, Intervenor
PO Box 17862, Phoenix,
Arizona 85011-0862

Begalke's Case No. 130 Closing Arguments Worksheet 02/28/2007

Arizona's Utilities Industry is defined: "Regulated Utility".

The "regulator" by Arizona Law is the Arizona Corporation Commission.

If a utility has a need for a long-distance transmission line, having filed a 10-year plan with the ACC, an application for the line is submitted to the ACC for a CEC.

Filing the application means the utility will be capable to do the following, under the ACC's regulatory authority:

- Construct the line.
- Schedule and load electricity onto the line.
- Deliver electricity over the line to said utility's service area to their customers in said service area.
- Assess charges, levies and/or tariffs from operating the line.
- Submit rates to the ACC for approval.
- Determine their customers' electric usages and send out bills, collecting the monies to pay all their expenses etc.
- Maintain the the long-distance line.
- Submit reports, additional plans and ... to the ACC.

For the Arizona portion of the proposed Devers - Palo Verde N0.2 500kV Line, the Southern California Edison Company, a utility regulated by the California Public Utility Commission under California Law because DPV2 has been designated a line in the "CAISO Grid". SCE:

- Will not be scheduling and loading electricity onto DPV2 in Arizona.
- Will not be assessing charges, levies and/or tariffs from Arizona operations of DPV2.
- Will not be submitting "charges ... tariffs" to the ACC for approval.

APLICANT SCE DOES NOT MEET THE STANDARDS REQUIRED OF A UTILITY FOR A LONG-DISTANCE TRANSMISSION LINE TO BE REGULATED BY THE ARIZONA CORPORATION COMMISSION UNDER ARIZONA LAW. APPLICANT SCE'S REQUEST FOR A DPV2 CEC MUST BE DENIED.

EXHIBIT "BEGALKE-3"
admitted