

A. Introduction

On April 11, 2005, Southern California Edison Company (SCE) submitted to the California Public Utilities Commission (CPUC) an application for a Certificate of Public Convenience and Necessity (CPCN), accompanied by its Proponent's Environmental Assessment (PEA) for the Devers–Palo Verde 500 kV No. 2 (DPV2) Transmission Line Project (Proposed Project). The CPUC identifies the DPV2 Project as Application A.05-04-015. This Draft Environmental Impact Report/Environmental Impact Statement (Draft EIR/EIS) has been prepared by the California Public Utilities Commission as Lead Agency under the California Environmental Quality Act (CEQA) and the U.S. Department of the Interior, Bureau of Land Management (BLM) under the National Environmental Policy Act (NEPA) to inform the public and to meet the needs of local, State, and federal permitting agencies to consider the project proposed by SCE (or “the Applicant”).

The project proposed by SCE is described briefly below, and in detail in Section B of this EIR/EIS. This EIR/EIS does not make a recommendation regarding the approval or denial of the project; it is purely informational in content, and will be used by the CPUC and BLM in considering whether or not to approve the Proposed Project or an alternative.

This EIR/EIS evaluates and presents the environmental impacts that are expected to result from construction and operation of SCE's Proposed Project, and presents recommended mitigation measures that, if adopted, would avoid or minimize the significant environmental impacts identified. In accordance with CEQA and NEPA requirements, this EIR/EIS also identifies alternatives to the Proposed Project that could avoid or minimize significant environmental impacts associated with the project as proposed by SCE (including the No Project Alternative), and evaluates the environmental impacts associated with these alternatives. Based on this environmental impact assessment, as well as the relative sensitivities of impacts in the study region, this EIR/EIS identifies the Environmentally Superior Alternative as required by CEQA and NEPA.

The contents of this Draft EIR/EIS reflects input by government officials, agencies, nongovernmental organizations, and concerned members of the public during the EIR/EIS scoping period following the CPUC's publication of the Notice of Preparation (NOP) of an EIR/EIS (October 25, 2005) and the BLM's publication of the Notice of Intent (NOI) (December 7, 2005). During these comment periods, several public involvement activities were completed: distribution of the NOP, NOI, and a scoping meeting notice, establishment of an Internet web page and a telephone hotline, eight public scoping meetings (November 2005 and January 2006), and meetings with a number of affected local jurisdictions (see details in Section H). Consultation with agencies also continued after the formal scoping period ended.

This section is organized as follows: Section A.1 briefly gives a historical background of the Devers–Palo Verde 500 kilovolt (kV) No. 1 (DPV1) Project and the DPV2 Project and describes the DPV2 Project as currently proposed by SCE; Section A.2 explains the area's electric system and presents information related to the need for the Proposed Project. Section A.3 describes agency use of the EIR/EIS, and includes a brief description of the CPUC and BLM processes for consideration of project approval; and Section A.4 presents a Reader's Guide to this EIR/EIS, explaining how it is organized.

A.1 History and Overview of Proposed Project

A.1.1 Historical Background of DPV1 and DPV2 Projects

Southern California Edison Company (SCE) submitted an Application for a Certificate of Public Convenience and Necessity (CPCN) and Proponent’s Environmental Assessment (PEA) to the CPUC for the Devers–Palo Verde 500 kilovolt (kV) No. 1 (DPV1) project in 1978. The CPUC prepared a Final Environmental Impact Report (FEIR) for the DPV1 project and issued a CPCN for DPV1 in 1979. A Record of Decision (ROD) also was issued by the Bureau of Land Management (BLM) and U.S. Nuclear Regulatory Commission (NRC), which approved the DPV1 project.

Electrical systems and siting studies were conducted prior to construction of the DPV1 line. A regional siting study was conducted by SCE in 1976-1977 to identify alternative routes between Devers Substation and the Palo Verde Nuclear Generating Station (PVNGS) within a 6,000-square-mile area. Several alternative routes were evaluated in the DPV1 Draft Environmental Impact Statement (DEIS) prepared by the U.S. Department of the Interior, Bureau of Land Management (BLM) and Nuclear Regulatory Commission (NRC) (BLM and NRC, July 1978). These agencies selected the preferred route for the DPV1 transmission line that was constructed in 1982 following State approvals by the CPUC and the Arizona Corporation Commission (ACC).

After construction of the DPV1 line, applications to construct the Devers–~~Palo Verde Harquahala~~ No. 2 500 kV (DPV2) line between Devers Substation and PVNGS were submitted by SCE in 1985. The CPCN application and PEA included the proposed route and four alternative routes that were also considered in the DPV1 studies that were completed in 1978. Following reviews of SCE’s PEA (1985) and the CPUC EIR (1987) in compliance with the California Environmental Quality Act (CEQA) and subsequent filing and review of SCE’s 1988 Amended Application and PEA (SCE, 1988), the CPUC issued a decision approving the DPV2 project as then proposed. The Interim Order issued in December 1988 granted a CPCN to SCE that allowed construction of the project, conditioned upon compliance with an environmental mitigation program and other conditions as specified in the CPUC Final EIR (1987).

The BLM approved the DPV2 project and the proposed route following completion of a Final Supplemental EIS (BLM, 1988) in compliance with NEPA, and issued a Record of Decision in 1989. Later that year, the BLM issued a Right-of-Way Grant to SCE for the construction, operation, and maintenance of DPV2 across federal land, pursuant to Title V of the Federal Land Policy and Management Act of 1976. In 1989, the U.S. Fish and Wildlife Service issued a Certificate of Right-of-Way Compatibility for the portion of the DPV2 route that crosses the Kofa National Wildlife Refuge in Arizona, but a Right-of-Way Permit was never issued. In 1997, intervening events, including electric industry restructuring, led SCE to request abandonment of construction of the DPV2 project, and the CPUC granted SCE’s request. Previous agency approvals and other actions pertaining to the DPV2 project are described as follows, and listed in Table A-1.

Table A-1. Previous DPV2 Agency Approvals and Other Actions

Document	Date	Agency	Action
CPCN Application including PEA	12/85	CPUC	Initial filing
Draft Environmental Impact Report	03/87	CPUC	State of California public and agency review
Supplemental Draft Environmental Impact Statement	05/87	USDOJ/ BLM	Review in compliance with NEPA
Final EIR	08/05/87	CPUC	Compliance with California Environmental Quality Act
Arizona Certificate of Environmental Compatibility Application filed (Case No. 76)	11/16/87	ACC	Filed application for State of Arizona review (withdrawn)
Amended CPCN Application/PEA filed (No. 85-12-012)	08/88	CPUC	Incorporated SCE/Division of Ratepayer Advocates cost/benefit study
Addendum to FEIR	09/88	CPUC	Review required for amended PEA
Final SEIS	10/88	USDOJ/ BLM	Proposed Project and route adjacent to DPV1 approved
Interim Opinion (Decision No. 88-12-030)	12/09/88	CPUC	Interim Order Granting conditional approval for CPCN and route
Record of Decision	02/21/89	BLM	Approved project and preferred route in compliance with NEPA
Certificate of Right-of-Way Compatibility	03/01/89	USFWS	Certified compatibility of 500 kV transmission line on KOFA NWR land
Right-of-Way Grant (CA-17905/AZ-23805)	08/11/89	BLM	Right-of-way permitted across federal land
SCE Ten-Year Plan filed	02/28/94	ACC	Notice of SCE's plan to construct in Arizona

Source: SCE, 2005a.

The route that was proposed in the 1985 Application and PEA, and 1988 Amended Application and PEA, followed the existing DPV1 line and terminated at PVNGS. The eastern termination point of the 500 kV transmission line that is proposed in the current application is the Harquahala Generating Station Switchyard, located approximately 15 miles northwest of PVNGS. The distance of the proposed route between Devers Substation and the Harquahala Generating Station is approximately 230 miles, following the existing DPV1 line for a distance of 225 miles. Therefore, the proposed Devers-Harquahala route would require the construction of new transmission line from the Harquahala Generating Station switchyard, for a distance of 4.8 miles east to the junction with the DPV1 corridor, adjacent to the existing Harquahala-Hassayampa 500 kV transmission line. Because the currently proposed route does not go as far as PVNGS, it is approximately 10 miles shorter than the route proposed in the previous DPV2 applications.

The proposed route for the DPV2 transmission line is located generally parallel to SCE's existing DPV1 transmission line route. The majority of the proposed Devers-Harquahala 500 kV transmission line would be constructed within the 130-foot-wide ROW on public land granted in perpetuity to SCE for the DPV2 project by the BLM in 1989. The ROW was granted for a total of 149.9 linear miles of public land between Devers and PVNGS, 57.2 miles in California and 92.7 miles in Arizona, including land managed by the BLM, USFWS, U.S. Department of Defense (DOD), and U.S. Bureau of Reclamation (BOR).

A.1.2 Devers–Palo Verde No. 2 500 kV Project as Currently Proposed

SCE proposes to construct a new 230-mile, 500 kV electric transmission line between Devers Substation in California and Harquahala Generating Substation in Arizona (referred to as “Devers-Harquahala” or D-H) and also to replace 48.2 miles of 230 kV transmission lines in California (referred to as “West of Devers” or WOD upgrades). The upgraded lines would connect directly to the Devers 230 kV bus. The entire project would span 278 miles, with approximately 176 miles in California and 102 miles in Arizona. Section B presents a detailed description of the Proposed Project; the general location is illustrated in Figure ES-1 in the Executive Summary. The Proposed Project is the Environmentally Superior Alternative/Environmentally Preferred Alternative with three exceptions.¹ Each of the components of the Proposed Project is described below.

Devers-Harquahala

- Construction of a 500 kV transmission line from the Harquahala Generating Station switchyard, located near the Palo Verde Nuclear Generating Station (PVNGS) west of Phoenix, Arizona, to SCE's Devers Substation (Devers), located near Palm Springs, California
- Construction of the Midpoint Substation approximately 10 miles southwest of Blythe, California, and adjacent to the proposed Devers-Harquahala 500 kV transmission line (this is an optional component of the Proposed Project that SCE may not construct)
- Construction of a new optical repeater facility 3 miles west of Blythe, California, within the DPV2 ROW
- Construction of two series capacitor banks, each adjacent to an existing DPV1 series capacitor bank: one in Arizona approximately 55 miles west of the Harquahala Switchyard and one in California approximately 64 miles east of Devers near I-10
- Installation of a dead-end structure, circuit breakers, and disconnect switches at the Harquahala and Devers Switchyards
- Construction and installation of telecommunication systems related to the Proposed Project, including a new telecommunications facility on Harquahala Mountain and a new Optical Ground Wire (OPGW) on the Devers–Harquahala transmission line towers.

West of Devers

- Replacement two existing 230 kV lines with a new double-circuit 230 kV line and reconductoring of a third 230 kV line² for a distance of 40 miles between Devers Substation and San Bernardino Junction in San Bernardino County, California
- Reconductoring of 4.8 miles of 230 kV transmission line between San Bernardino Junction and Vista Substation, also located in San Bernardino County, California

¹ As discussed in Section E, alternatives in the areas near Palo Verde Nuclear Generating Station and the Alligator Rock ACEC were found to be environmentally superior/preferable. In the West of Devers segment, the Proposed Project is environmentally superior/preferable, but it may not be feasible.

² Reconductoring involves removal of the existing conductors on an existing tower, and installation of new, larger capacity conductors. This is generally done with no change to the tower itself, although in some cases towers need to be strengthened or replaced.

- Reconductoring of 3.4 miles of 230 kV transmission line between San Bernardino Junction and San Bernardino Substation located in San Bernardino County, California.

System Improvements

- Construction of a 500 kV shunt line reactor bank and associated disconnect switches within Devers Substation; and
- Installation of Special Protection Scheme (SPS) relays at the Devers, Padua, and Vista Substations in California, and the PVNGS, Hassayampa, and Harquahala Switchyards in Arizona.

A.1.3 Past Documents

This EIR/EIS utilizes information from the following existing documents that covered portions of the Proposed Project (in chronological order):

Devers–Palo Verde 500 kV Transmission Line Project

- Devers–Palo Verde 500 kV Transmission Line: Environmental Report (1978)
- Palo Verde–Devers 500 kV Transmission Line: Final Environmental Statement (1979, February)
- Devers–Palo Verde 500 kV Transmission Line: Final Environmental Impact Report (1979, April)

Devers–Palo Verde 500 kV No. 2 Transmission Line Project

- Devers–Palo Verde #2 500 kV Transmission Line Project: Engineering Report (1987, January)
- Devers–Palo Verde #2 500 kV Transmission Line Project: Draft Environmental Impact Report, Volume I Project Specific Analysis (1987, March) and Volume II Engineering and Environmental Assessment of Transmission Line Planning Issues for the Southern California Transmission System (1987, March)
- Second Devers to Palo Verde 500 kV AC Transmission Line: Final Need and Alternatives Report, Volume II: Appendices (1987, April)
- Devers–Palo Verde No. 2 500 kV Transmission Line Project: Supplemental Draft Environmental Impact Statement (1987, May)
- Devers–Palo Verde No. 2 500 kV Transmission Line Project: Final Environmental Impact Report, Volume 1 and Volume 2 (1987, August)
- Devers–Palo Verde #2 500 kV Transmission Line Project: Amended Proponent's Environmental Assessment (1988, August)
- Second Devers to Palo Verde 500 kV AC Transmission Line: Second Supplemental Report on Need and Alternatives (1988, September)
- Devers–Palo Verde No. 2 500 kV Transmission Line Project: Addendum to the Final Environmental Impact Statement (1988, September)
- Devers–Palo Verde No. 2 500 kV Transmission Line Project: Final Supplemental Environmental Impact Statement (1988, October)
- Devers–Palo Verde 500 kV No. 2 Transmission Line Project: Proponent's Environmental Assessment (2005, April)

Documents for Other Projects Near the DPV1/DPV2 Corridor

- Desert Southwest Transmission Line Project (DSWTP): Final EIS/EIR (2005, October)
- Blythe Energy Project Transmission Line Modifications (BEPTL): Petition for Post-Certification Amendment (2004, October) and CEC ~~Final-Revised~~ Staff Assessment/~~Draft Environmental Assessment~~ (~~expected-September~~, 2006).

A.1.4 CPUC Proceeding on the Economic Assessment of Transmission Lines

In addition to environmental issues, which are considered under CEQA/NEPA and are addressed in this EIR/EIS, the DPV2 project has raised other non-environmental issues for the CPUC's consideration, including the need for the project and ratemaking issues. Therefore, as a coordinated but independent proceeding, the CPUC has opened an Order Instituting Investigation (OII) (I.05-06-041) to consider appropriate principles and methodologies for assessment of the economic benefits of transmission projects, including DPV2, that are submitted for CPUC approval.

The application that SCE submitted for DPV2 on April 11, 2005 (A.05-04-015) is supported in a large part with an evaluation of DPV2's economic benefits, which SCE states is consistent with the Transmission Economic Assessment Methodology (TEAM) developed by the California Independent System Operator (CAISO). The OII initiating I.05-06-041 noted that, in considering SCE's proposed DPV2 project, CAISO staff performed an independent economic assessment of DPV2 using the TEAM approach. The OII identifies that the scope of I.05-06-041 shall include, but not be limited to, the following issues:

- What general principles or methodologies should be employed in assessing the economic benefits of transmission projects within the CPUC's jurisdiction?
- Is the CAISO's TEAM approach a reasonable methodology for assessing the economic benefits of transmission projects?
- What validation is needed by the CPUC in order to rely on a CAISO assessment of need in a CPUC transmission project certification proceeding? If the CPUC determines in a transmission project certification proceeding that a CAISO assessment of need has been adequately validated, are there additional requirements that must be met in the CPUC's determination of economic benefits? For those transmission project certification cases where there is no validated CAISO assessment of need, what requirements should the CPUC adopt for consideration of economic benefits?

As the OII stated, the CPUC's investigation regarding the appropriate methodology for assessment of the economic benefits of transmission projects will be undertaken while an environmental assessment of the DPV2 project is underway (in A.05-04-015). Consistent with that guidance, assigned Administrative Law Judge (ALJ) Charlotte TerKeurst stated that evidence regarding DPV2 should be received in two phases. Phase 1 would address economic methodology and need issues, with testimony to be received and evidentiary hearings to be held on a consolidated basis with I.05-06-041. Phase 2 in A.05-04-015 would address environmental and routing issues related to DPV2, with evidentiary hearings after the Draft EIR/EIS is released. Phase 1 issues would be addressed through one or more interim decisions or in a decision following Phase 2 hearings in A.05-04-015. Table A-2 depicts the schedule of the parallel processes for Phases 1 and 2 of the General Proceeding.

Table A-2. CPUC General Proceeding Schedule

Phase I		Phase 2	
CAISO Report and Workshops	September 2005	First Pre-Hearing Conference	July 20, 2005
Comments and Direct Testimony	October 2005	Scoping Memo for General Proceeding	August 26, 2005
Direct and Rebuttal Testimony	November–December 2005	Ruling Addressing Schedule and Other Procedural Matters	September 27, 2005
Evidentiary Hearings	January 2006	Testimony Exchanged	June 2006
File Briefs	February 2006	Evidentiary Hearings	July 2006
Proposed Decision	May 2006	ALJ's Proposed Decision	November 2006
		Final Decision by CPUC	December 2006

A.2 Purpose and Need for the Proposed Project

As stated in SCE's PEA submitted to the CPUC in April 2005, the DPV2 project is primarily driven by the need to provide additional high-voltage electrical transmission infrastructure to enhance competition among energy suppliers, and increase reliability of supply, which will enable California utilities to reduce energy costs to customers by about \$1.1 billion over the life of the project. Specifically, DPV2 will increase transmission capacity by 1,200 megawatts (MW), allowing California access to cost-effective energy in the southwestern United States, and thereby displacing higher-cost generation in California (SCE, 2005a).

A.2.1 Statement of Purpose and Objectives

As was demonstrated in the 2000-2001 electricity crisis, the market for electricity in California is susceptible to volatile commodity prices, the exercise of market power, and the risk of supply shortages. Development of new transmission facilities to gain greater access to generation may help California avoid or limit similar experiences. Additionally, development of new transmission facilities to areas where generation has been more easily sited and constructed may spur development of new competitive generation to provide further insurance against future electricity crises.

As stated by SCE in the PEA, the objectives for building DPV2 are to:

- Increase California's access to low-cost energy by adding 1,200 MW of transmission import capability into California from the Southwest. This is expected to substantially benefit California by reducing energy costs.
- Enhance competition among generating companies supplying energy to California.
- Provide additional transmission infrastructure to support and provide an incentive for the development of future energy suppliers selling energy into the California energy market.
- Provide increased reliability of supply, insurance value against extreme events, and flexibility in operating ~~the Southwest's California's~~ transmission grid.

These objectives are discussed below in more detail. In addition, the CAISO conducted an independent review of DPV2 and also found the DPV2 project to be a necessary and cost-effective addition to the CAISO-controlled grid.³ The CAISO Board approved the DPV2 project on February 24, 2005 and

³ <http://www.aiso.com/docs/09003a6080/34/e4/09003a608034e440.pdf>.

directed SCE to proceed with the permitting and construction of the transmission project, preferably to be completed by the summer of 2009.

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. The Southwest region currently has over 6,000 MW of surplus generation, which may be imported into California. The Southwest Transmission Expansion Planning (STEP)⁴ working group independently concluded a similar magnitude of generation is available for import into California. Increased access to energy in the Southwest is forecasted to lower total energy costs and substantially benefit California consumers. As described in Section A.2.3 below, SCE's economic analysis demonstrates that DPV2 provides \$1.1 billion of benefits to California consumers over the life of the project, and has a benefit-cost ratio of 1.7:1.

Enhance the Competitive Energy Market

As a public policy matter, California can encourage investment in new generation infrastructure through (1) the construction of needed high-voltage transmission lines and (2) through reducing the time to permit such transmission lines. For example, on May 8, 2004, regulatory agencies in California adopted the *Energy Action Plan* for California. The *Energy Action Plan* concluded that adequate, reliable, and reasonably priced energy supplies can be achieved, in part, by upgrading and expanding the electricity transmission and distribution infrastructure and reducing the time needed before facilities are brought online.⁵ In particular, "Action IV" of the *Energy Action Plan* states that ([t]he State will reinvigorate its planning, permitting, and funding processes to assure that necessary improvements and expansions to the bulk electricity grid are made on a timely basis."

Transmission infrastructure is necessary for a competitive market, and is vital to integrating new generation additions.⁶ The Federal Energy Regulatory Commission (FERC) recently stated that FERC's Goal 1 is to "Promote a Secure, High Quality Environmentally Responsible Infrastructure through Consistent Policies." Under this goal is objective 1.1:

⁴ STEP's Purpose and Scope states "Southwest Transmission Expansion Plan (STEP) is a sub-regional planning group that was formed to address transmission concerns in the Arizona, southern Nevada, southern California, and northern Mexico area. As a result of a large amount of new generation developed in this area, it was apparent to many that the transmission grid would be inadequate to efficiently deliver that power to the major load areas. The goal of STEP is "To provide a forum where all interested parties are encouraged to participate in the planning, coordination, and implementation of a robust transmission system between the Arizona, Nevada, Mexico, and southern California areas that is capable of supporting a competitive efficient and seamless west-side wholesale electricity market while meeting established reliability standards." (See, Jan. 17th 2003 PDF file at: <http://www1.caiso.com/docs/2003/01/22/2003012211380012544.pdf> and the May 8th, 2003 document at <http://www1.caiso.com/docs/2003/05/13/2003051315061917183.pdf>).

⁵ The California Energy Commission's Electricity and Natural Gas Infrastructure Assessment Report (December 2003) available at <http://www.energy.ca.gov> (<http://www.energy.ca.gov/reports/100-03-014F.PDF>). Similarly, the report highlights the need for additional transmission infrastructure investment, particularly to support generation infrastructure.

⁶ See R.04-01-026, Order Instituting Rulemaking on policies and practices for the Commission's transmission assessment process (January 28, 2004) (Attachment B, Report of Current Planning Process for Investor-Owned Utilities).

- Expedite appropriate infrastructure development to ensure sufficient energy supplies; and
- Identify transmission and pipeline projects with high public interest benefits and facilitate their speedy completion, consistent with the Commission’s (FERC) statutory mandates and due process.⁷

The California Legislature, likewise, has encouraged investment in transmission facilities to facilitate competition in the generation market. It has stated that reasonable expenditures to expand transmission facilities are in the public’s interest, if made for the purpose of facilitating competition in electric generation markets.⁸

DPV2 is expected to enhance competition among energy suppliers by increasing access to the California energy market, providing siting incentives for future energy suppliers, and providing additional import capability. Facilitating a competitive energy market in the Southwest may also create employment opportunities, which are beneficial to the economy and industries in Arizona and California.

Support the Energy Market in the Southwest

The Western Electricity Coordinating Council (WECC) transmission system is an interstate regional system (including northwestern Mexico and two western Canadian provinces) that links power generation resources with customer loads in a complex electrical network. DPV2 will expand this network and increase the ability for California and the Southwest to pool resources for ancillary services, and provide emergency support in the event of generating unit outages or natural disasters.

Provide Increased Reliability, Insurance Value, and Operating Flexibility

DPV2 would 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; i.e., DPV2 will provide a hedge against low-probability, high-severity events such as short- and long-term outages of generating facilities, substations, and transmission lines. For example, if an earthquake disabled lines from the Pacific Northwest into California, then a line importing power from the Southwest, such as DPV2, would provide significant benefits above what is quantified by DPV2’s economic analysis. In fact, some experts conclude that past experience demonstrates that high-voltage transmission lines can pay for themselves in just a few years because of the benefits they provide during low probability, high-impact events.⁹

⁷ See Federal Energy Regulatory Commission Strategic Plan FY2004-FY2008, September 10, 2003, <http://ferc.gov/about/strat-docs/09-29-03-detail-strategic-plan.pdf>.

⁸ Cal. Pub. Util. Code § 454.1 (“(a) Reasonable expenditures by transmission owners that are electrical corporations to plan, design, and engineer reconfiguration, replacement, or expansion of transmission facilities are in the public interest and are deemed prudent if made for the purpose of facilitating competition in electric generation markets, ensuring open access and comparable service, or maintaining or enhancing reliability, whether or not these expenditures are for transmission facilities that become operational.”)

⁹ http://www.electricpowergroup.com/Downloads/Planning/Planning_CA_FutureTrans_Grid_Final_Task1.pdf

A.2.2 Electric Supply Issues

This section describes the electricity system (generation and transmission) in Arizona and southern California as background for understanding the context of the Proposed Project.

Power Plant Construction Boom in Arizona Generation Resources in the Palo Verde (AZ) Area

Merchant power plant developers have been attracted to Arizona by the availability of natural gas infrastructure, the low cost of land, and a favorable regulatory environment. Major interstate pipelines from gas fields in west Texas, New Mexico, and the Rocky Mountains traverse the State and converge in western Arizona. About 40 miles west of Phoenix, the Palo Verde and Hassayampa area of Maricopa County is becoming known as “Power Town” with possibly the highest concentration of generating plants in the nation.

Table A-3 illustrates how dramatically the generation in western Arizona has expanded in recent years. Nearly 10,000 MW of generation located near Palo Verde is either recently completed or anticipated to come online before the proposed DPV2 in-service date of 2009. As stated in the project objectives, SCE intends to use DPV2 to deliver the lower-cost power available from these competitive plants in Arizona directly to its customers in the SCE service area.

Table A-3. Recent Generation Additions in Western Arizona

Power Plant	Owner	Arizona Location	Capacity & Online Date
Arlington Valley	Duke Energy	Hassayampa Area	570 MW in 2002
Red Hawk	Pinnacle West Energy	Hassayampa Area	1,000 MW in 2002, and 1,000 MW by 2007
Mesquite Power	Sempra Energy Resources	Hassayampa Area	1,265 MW in 2003
Harquahala Generating Project	PG&E National Energy Group	Hassayampa Area	1,170 MW in 2003
Gila River	Panda Energy/Tampa Electric	Gila Bend Area	2,080 MW in 2002 and 2003
West Phoenix 4 & 5	Calpine and Pinnacle West	West Phoenix Metro Area	545 MW in 2002
Santan Expansion	Salt River Project	East Valley Phoenix Area	825 MW by 2006
La Paz Energy	Allegheny Energy Supply	La Paz County	1,080 MW by 2006

Arizona-to-California Transmission Capacity

Electricity is currently imported to southern California from Arizona through three major transmission corridors: the 500 kV Palo Verde-to-Devers path; the North Gila-to-Imperial Valley path (i.e., the Southwest Power Link or SWPL, near the Mexico border); and to the north through southern Nevada. The major transmission lines are shown in Figure A-1 (see enclosed CD).

The import pathpaths to southern California (east of the Colorado River, or EOR) ~~are currently constrained to is currently rated at 8,055 MW roughly 7,550 MW by the existing system,~~ and the existing 500 kV DPV1 line is allocated 1,800 MW ~~carries about 1,950 MW~~. The proposed DPV2 could provide about 1,200 MW of additional capacity on the combined paths into southern California.

Southwest Transmission Expansion Plan

The primary forum for regional transmission planning in ~~this region, the southwest is~~ called Southwest Transmission Expansion Plan (STEP). STEP is a sub-regional planning group for transmission and generation stakeholders in Arizona, Nevada, and southern California. Since its formation in late 2002, STEP

has reviewed dozens of upgrade scenarios to enhance the deliverability of low-cost power from new generation facilities, primarily in Arizona.

The current STEP recommendations include many “short-term” upgrades in California and Arizona. Some were approved by the CAISO board in June 2004. These include upgrades to increase the capacity on the Hassayampa–North Gila–Imperial Valley line (SWPL) and increase the capacity of the existing DPV1 500 kV line. ~~Additional short term upgrades in Arizona could be used to bring the combined capacity of the import paths (east of the Colorado River) from the present 7,550 MW to 9,000 MW using a plan called EOR (East of River) 9000.~~

STEP also envisions longermid-term upgrades such as new 230 kV and 500 kV lines between Arizona and California and a line into San Diego. In its March 2004 Status Report and October 2004 meeting, STEP identified the following recommendations for new transmission between Arizona and California:

- Rebuild the four 230 kV lines west of Devers (included in DPV2)
- Install new Harquahala-Devers 500 kV line (the major component of DPV2)
- Create a connection of the Blythe Substation to the Devers–Palo Verde 500 kV line
- Add a new 230 kV double-circuit line north out of Blythe to Parker Substation.

CAISO Board Approval

In June 2004, the CAISO Board approved the “STEP Short-Term Transmission Upgrades.” These upgrades increase the ability of the existing transmission system to import power from Arizona without adding any new transmission lines. These short-term upgrades are planned to be in place in June 2006. Additional upgrades are planned for the existing transmission lines between Arizona and Nevada. However, even after these additions have been completed, the CAISO analysis indicated that there will still be substantial congestion on the grid between Arizona and California.

DPV2 is an economic transmission project as described under Section 3.2.1.1 of the CAISO Tariff. As provided in Section 3 of the CAISO Tariff, SCE submitted a report to the CAISO for their use in evaluating the cost-effectiveness of constructing the DPV2 Project.¹⁰ SCE’s analysis conformed to the principles and methods the CAISO has outlined in its Transmission Economic Assessment Methodology (TEAM), and demonstrates that DPV2 is cost effective to ratepayers in the CAISO area.

The CAISO completed an independent analysis of the benefits of DPV2 using TEAM and concluded that the project would further reduce this congestion and would provide significant reliability and economic benefits to CAISO ratepayers as well as the Western interconnection as a whole. The DPV2 Project would improve reliability by increasing voltage support in southern California and enhance system operational flexibility by providing CAISO operators with more options in responding to transmission and generation outages (CAISO, 2005).

The Proposed Project’s primary economic benefit would be the increased ability to import low-cost generation from the southwest and displace higher-cost generation in California. The DPV2 Project would also provide access to additional capacity that can serve to meet the State’s resource adequacy requirements and lower transmission system power losses. DPV2 would significantly augment the transmission infrastructure critical to support competitive wholesale energy markets for California consumers.

¹⁰ On April 7, 2004, SCE provided a report entitled “Devers–Palo Verde No. 2 Cost-Effectiveness Report.”

As part of the evaluation of the Proposed Project, alternatives to the project were considered such as other transmission projects and new generation. Demand-side and renewable resources were not considered alternatives since the CAISO stated that it believes these resources should be maximized first, before other traditional resources are considered. For its analysis, the CAISO reviewed several alternatives. One alternative the CAISO examined was the East-of-River (EOR) 9000 transmission project, which upgrades lines between Nevada and Arizona. The CAISO's analysis indicated that the EOR 9000 project would be complementary to DPV2 and is therefore appropriately included in the base case.

Another alternative examined by the CAISO was siting additional in-state generation. The resource mix the CAISO used in the study assumed additions of gas-fired plants known to be under consideration. The mix also met California's adopted renewable portfolio standards. Because the southwest has less expensive permitting, land, emission-offset, and labor expenses, the CAISO estimated the fixed costs of a new combined-cycle plant to be about 13 percent less in Arizona than in California. The CAISO also estimated that with the addition of the PVD2 costs the fixed costs associated with the delivery of Arizona generated energy would be approximately 25 percent more expensive than California generation. However, the CAISO also expects that California generation interconnection costs — those necessary to make California generation deliverable to load — would offset the fixed cost differential noting that these interconnection costs could be substantial. In addition, the CAISO expects units in the southwest to have approximately 10 percent lower operating costs due to lower natural gas costs forecast for that region. Thus, from strictly a net energy cost perspective, the CAISO ratepayer is expected to benefit from having access to lower cost units in the southwest. Constructing new in-state gas-fired generation would also not increase access to the more diverse fuel supply available in the southwest.

Therefore, overall the quantified benefits of the DPV2 project as concluded in the CAISO's evaluation include (CAISO, 2005):

- A reduction in production costs (energy cost savings)
- Operational savings (reduced uneconomic generation dispatch for reliability purposes)
- Capacity savings (lower capacity costs from the Southwest)
- NOx emission reduction (displacement of inefficient California generation with more efficient Southwest generation)
- Loss reduction (WECC total system losses are reduced due to increased transmission capacity).

The energy benefits were determined in accordance with the TEAM and the CAISO estimated that benefits from the Proposed Project would exceed its costs under a wide range of future system conditions. Because no single point estimate can adequately capture its value, the CAISO calculated its costs and benefits under a number of likely system conditions. The CAISO analysis indicated that expected benefit-cost ratio for CAISO Ratepayers would range from 1.2 to 3.2 depending on input assumptions and allocation of transmission congestion rents (CAISO, 2005). The CAISO's analysis of DPV2 further indicated that the project scope and cost appear to be appropriate.

Based on findings of the independent review that indicated the economic and reliability benefits of the DPV2 Project, the CAISO Board approved the project on February 24, 2005 and directed SCE, as the project sponsor, to proceed with the necessary permitting and construction of the project, preferably to be completed by the summer of 2009.¹¹

¹¹ CAISO Board of Governors Approval of PV Devers No. 2 Transmission Project: <http://www.caiso.com/docs/09003a6080/34/e4/09003a608034e440.pdf>.

Imperial Irrigation District, Desert Southwest Transmission Project

The Imperial Irrigation District (IID) operates a transmission system south of the Devers–Palo Verde corridor. A major upgrade to this system, called the Desert Southwest Transmission Line Project (DSWTP) was proposed by IID and BLM in 2003. ~~and~~ The Final EIS/EIR was published in October 2005 and BLM issued a Record of Decision for it on September 15, 2006. The DSWTP proposal includes a new 500 kV transmission line between a new Keim Substation (near Blythe, CA) and Devers Substation. According to IID, the purpose of this project is to access new generation facilities near Parker (Arizona) and Blythe (California).

The IID and Western systems at Blythe are isolated from the higher-voltage SCE system, and therefore, the new generation in Blythe creates a need for either the IID DSWTP or some other major transmission connection in Blythe. SCE may propose to provide this connection with DPV2. Elements of the IID DSWTP project appear to overlap with the proposed SCE DPV2 project and the project proponents may explore options of building only one of the proposed 500 kV lines between Blythe and Devers Substation.

Blythe Energy Project Transmission Line Modifications

The ~~proposed~~ Blythe Energy Project Transmission Line Modifications project, ~~currently under review~~ at approved by the California Energy Commission (CEC) on October 11, 2006, would allow electrical output from the Blythe Energy Project (BEP) to be delivered to the southern CAISO-controlled electrical transmission system. There are two distinct components to the proposed BEP transmission line modifications: the Buck Boulevard Substation to Julian Hinds transmission line component and the Buck Boulevard Substation to the Devers–Palo Verde transmission line component.

The Buck Boulevard Substation to Julian Hinds transmission line component includes:

- Upgrades to Buck Boulevard Substation.
- Installation of approximately 67.4 miles of new 230 kilovolt kV transmission line between the Buck Substation located adjacent to the BEP and the Julian Hinds Substation located approximately 60 miles to the west.
- The proposed transmission line route would generally follow SCE's existing 500 kV DPV1 transmission line.
- Transmission line structures would be concrete, single-pole structures.
- Upgrades to the Julian Hinds Substation.

The Buck Boulevard Substation to the Devers–Palo Verde transmission line component includes:

- Upgrades to Buck Boulevard Substation.
- Installation of approximately 6.7 miles of a new 230 kV transmission line (initially operated at 161 kV) between the Buck Boulevard Substation and SCE's existing DPV1 500 kV transmission line.
- Transmission line structures would be concrete single-pole structures.
- Construction of a new 161 kV to 500 kV substation (“Midpoint Substation”) at the point of inter-connection with SCE's existing DPV1 500 kV transmission line.

A.2.3 Project Need and SCE's Economic Analysis

SCE examined DPV2's impact on total production costs, and uncertainty of major assumptions to determine the project's expected economics. Using production cost models, SCE estimated total production costs in California with and without the project and found that total energy production costs for electricity consumers in the CAISO area would be over \$1 billion lower with the project than they would otherwise be without the project. SCE determined that the lifecycle benefits of DPV2 are greater than the lifecycle costs of constructing and operating DPV2.

To provide confidence in these results, SCE analyzed DPV2's benefits over a wide range of load forecasts, natural gas prices, and available hydro-generation, providing ample analysis of volatility affects. This analysis was performed using stochastic tools (also known as Monte Carlo Analysis). This type of analysis is important as it provides an expected value of benefits over a wide range of possible futures. SCE's cost-effectiveness analysis of DPV2 determined that the benefit-cost ratio is 1.7:1.

DPV2's economic benefits are largely derived from lowering California energy costs, with the main component of economic benefit centered around the assumption that energy prices for ratepayers in the CAISO area would be expected to fall 2 percent with the addition of DPV2 (energy prices would be \$37.36/MWh without DPV2 and \$36.75/MWh with DPV2 in the CAISO area [2010 nominal]).¹²

Description of Assumptions

SCE first evaluated DPV2 in the context of its July 2004 LTPP,¹³ which identifies the baseline assumptions used in the benefits analysis of DPV2. The baseline assumptions were designed around the overall intent and "loading order" of the joint agency Energy Action Plan.¹⁴ The 2004 LTPP was found reasonable and adopted¹⁵ by the CPUC on December 16, 2004, subject to modifications that do not significantly affect the need, timing, or cost effectiveness analysis of DPV2.

In performing its analysis for DPV2, SCE updated the LTPP assumptions for gas prices, loads, and resources to better reflect more recent forecast conditions. In addition, SCE incorporated in this analysis as many of the Commission directed modifications as appropriate in order to maintain consistency with other regulatory forums that also make use of SCE's 2004 LTPP assumptions and analysis.¹⁶ Those modifications include the acceleration of resource adequacy requirements from 2008 to 2006, updated natural gas prices, and updated procurement activities since the initial filing. In addition to these modifications, the 2004 LTPP also was updated for announced resource additions and retirements (generation and transmission alike), load forecasts throughout the WECC, and generic resource additions due to changes in the load forecast. Major assumptions in the adopted 2004 LTPP include:¹⁷

¹² Estimated average 2010 energy prices for region under the operational control of the CAISO (does not include capacity prices). Market prices are weighed against total annual load.

¹³ Rulemaking (R.)04-04-003. SCE's LTPP can be found at <http://www3.sce.com/law/cpucproceedings.nsf/vwUFiling?SearchView&Query=long+term+procurement+plan&Start=1&Count=30>. Specifically, the analysis performed to evaluate DPV2's economics ties directly to SCE's Medium Load Scenario.

¹⁴ State of California Energy Action Plan, adopted May 8, 2003. http://www.energy.ca.gov/energy_action_plan.

¹⁵ Decision (D.)04-12-048.

¹⁶ For example, the California Energy Commission's IEPR Compliance Filing (Docket 04-IEP-1D), Advanced Metering Initiative (R.02-06-001), and the SCE's 2006 General Rate Case, Phase 2 (A.04-12-014).

¹⁷ A more detailed description of SCE's LTPP can be found in Rulemaking (R.)04-04-003.

- SCE meeting 20 percent Renewable Portfolio Standard by 2010 per the Energy Action Plan
- Mohave Generating Station Units No.1 and 2 shutdown on December 31, 2005
- Mountainview Generating Station operational by summer of 2006
- San Onofre Nuclear Generating Station (SONGS) steam generator replacement in 2009-2010 time frame
- Compliance with Southern California Import Transmission nomogram import limits
- Significant increases in cost effective energy efficiency and demand response programs

Results of the Economic Analysis

DPV2's transmission revenue requirement will be paid by ratepayers of utilities (Participating Transmission Owners, or PTOs) whose facilities are under the operational control of the CAISO. SCE estimated benefits and revenue requirements based upon DPV2's estimated average service life.

The economic benefit of DPV2 is \$1.1 billion, comprised of energy cost savings (\$1.07 billion), and third-party transmission use revenues (\$30 million). With the addition of DPV2, the revenue requirement used to develop rates for both CAISO wheeling service and Existing Transmission Contracts will increase, and the benefit calculation reflects the increasing revenues from existing and forecast transmission service users. Edison estimates wheeling service and Existing Transmission Contracts' (ETCs) benefits will provide approximately \$0.6 million annually of increased revenue to SCE from certain ETCs and approximately \$2.4 million annually of increased CAISO wheeling revenues to SCE or about \$30 million (2005 NPV) over the life of the project. This estimate includes only the revenues to SCE, and does not reflect increased revenues to other CAISO entities. If these revenues were taken into account, the benefit would be greater.

The 2005 present value revenue requirement for DPV2 is estimated at \$650 million. With a benefit-cost ratio of about 1.7:1, DPV2 was found to be a cost-effective project for ratepayers in the CAISO area.¹⁸

Non-Quantifiable Benefits

Some examples of potential benefits not quantified in DPV2's benefit-cost ratio of 1.7:1 include:

- **New Generation Development.** Developing the DPV2 could attract new generation development east of Devers Substation, such as in the Blythe and Palo Verde areas, providing additional supply to the California energy market. If new generation is developed, then DPV2's benefits should increase due to increased access to this new low-cost generation.
- **Market Power.** DPV2 also may provide benefits by reducing the potential for generators to exercise market power. By helping to increase the quantity of generation and number of suppliers available to serve California markets, DPV2 should help to increase competitive pressure on generators. This, in turn, should help to reduce the ability for generators to exercise market power as California experienced in the energy crisis.
- **Emergency Value.** A new transmission line such as DPV2 could provide benefits during an emergency outage of another major import line or generating facility. For instance, if fire or an earthquake disables lines from the Pacific Northwest into California, then a line importing power from the Southwest, such as DPV2, would provide benefits above what is quantified in this report. A similar emergency value could accrue during the long term or untimely outage of generation located in Southern California.

¹⁸ Ratepayers in the CAISO area are those served by utilities, which are CAISO Participating Transmission Owners who have placed their transmission facilities under the operational control of the CAISO.

Using a production simulation modeling assessment to evaluate a transmission project will undervalue a transmission project, since it will not capture the benefits listed above. These benefits are difficult to quantify because they involve uncertainties that are hard to predict. But historically, transmission lines can pay for themselves in just a few years because of low probability, but high-impact events.¹⁹

As discussed under project objectives, DPV2 would provide real economic benefit to ratepayers by providing access to low-cost energy, supporting SCE's energy procurement goals, and enabling competitive new generation to develop, and providing significant operational benefits because grid operators have more facilities in which to depend upon.

A.3 Agency Use of This Document

The proposed route crosses federal, State, private, and tribal lands. The majority of the proposed Devers-Harquahala 500 kV transmission line would be constructed within the ROW located on federal lands, granted in perpetuity to SCE for the DPV2 project by the U.S. Department of Interior (DOI), BLM in the 1989 ROD and Right-of-Way Grant. The ROW crosses approximately 57 miles of public land in California and approximately 79 miles of public land in Arizona. The majority of the proposed route is within utility corridors designated in the BLM's Resource Management Plans (RMPs), and approved in compliance with the National Environmental Policy Act (NEPA) by the BLM following completion of a Final Supplemental Environmental Impact Statement (FSEIS) in 1988 and ROD in 1989. Also, the USFWS issued a Certificate of Right-of-Way Compatibility (CRC) in 1989 for the portion of the proposed Devers-Harquahala 500 kV transmission line that crosses the Kofa NWR in Arizona, but a Right-of-Way Permit was never issued.

SCE has submitted an application and PEA to the CPUC so that the CPUC may issue a CPCN for the project and issue and certify an EIR for the California portion of the project pursuant to CEQA. SCE has also submitted an application to the BLM for an Amended ROW Grant and, if approved, the BLM would issue a Notice to Proceed, allowing construction to be administered by the BLM in California and Arizona. Finally, the Arizona Corporation Commission (ACC) must issue a Certificate of Environmental Compatibility to an applicant, such as SCE, before the applicant can construct a transmission line. Thus, for a project that traverses State and federal land in California and Arizona, the CPUC and ACC will conduct permitting processes within their respective states, while the BLM will conduct permitting on federal land in both states.

A.3.1 CPUC Process

Pursuant to Article XII of the Constitution of the State of California, the CPUC is charged with the regulation of investor-owned public utilities, including SCE. The CPUC is the lead State agency for CEQA compliance in evaluation of the SCE's proposed DPV2 Project, and along with BLM has directed the preparation of this EIR/EIS. This EIR/EIS will be used by the Commission, in conjunction with other information developed in the Commission's formal record, to act on SCE's application for a Certificate of Public Convenience and Necessity (CPCN) for construction and operation of the Proposed Project. Under CEQA requirements, the CPUC will determine the adequacy of the Final EIR/EIS and, if adequate, will certify the document as complying with CEQA. The CPUC will also act on SCE's application for a CPCN. If it approves a project with significant and unmitigable impacts, it must state why in a "Statement of Overriding Considerations," which would be included in the Commission's decision on the application.

¹⁹ <http://www.electricpowergroup.com/Downloads/Planning/Planning CA FutureTrans Grid Final Task1.pdf>.

The CPUC has assigned Administrative Law Judge (ALJ) Charlotte TerKeurst to oversee the hearings on the Proposed Project, and Commissioner Diane Grueneich is the Assigned Commissioner for the CPCN application. The Notice of Preparation (NOP) describing the Proposed Project was published on October 18, 2005. ~~The ALJ, in accordance with her Scoping Memo, will issue a Proposed Decision on the project in November 2006.~~ The ALJ's Proposed Decision, and the Evidentiary Hearings, will cover issues of project need, project cost, and other considerations. The CPUC expects a final decision from the Commission in ~~December 2006~~early 2007.

A.3.2 BLM Process

The Proposed Project would traverse federal BLM land in both California and Arizona. Although the Proposed Project would be located primarily within SCE's existing easement, there may be some areas where additional ROW would need to be acquired. Therefore, SCE would be required to apply for a Right-of-Way Grant Permit from BLM to implement the project. The issuance of a Right-of-Way Grant Permit is considered a proposed action and would trigger the NEPA process.

Therefore, the BLM is the federal Lead Agency for the preparation of this EIS/EIR in compliance with the requirements of the National Environmental Policy Act (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). NEPA mandates that federal agencies consider the environmental consequences of a wide variety of proposed actions. Specifically, NEPA requires federal agencies to prepare an EIS for "proposals for legislation and other major federal actions significantly affecting the quality of the human environment." When the federal agency determines that a proposed action may "significantly affect the quality of human environment," production of an EIS is required (42 U.S.C 4332 (2)(c)).

The EIS preparation process consists of a series of procedural steps to ensure an adequate and open analysis of environmental issues. The BLM Handbook (Chapters IV.2. and IV.3) specifically notes that when analyzing impacts, effects on future generations and on long-term productivity of resources and the irreversible and irretrievable commitment of resources should be considered as well as direct physical impacts to existing populations and resources. Impacts of all alternatives must be compared because BLM must select a preferred alternative. The process provides and encourages opportunities for interagency coordination and public involvement. The NOI describing the Proposed Project was published in the Federal Register on Wednesday, December 7, 2005 (Volume 70, Number 234, pages 72845-72846) announcing the preparation a joint EIS/EIR addressing a proposed 500 kV transmission line project.

Once approved internally, the Draft EIS/EIR will be printed,²⁰ filed with the U.S. EPA, and issued for public review and comment. Chapter VIII of the BLM Handbook presents guidance on all of the administrative procedures for completing and circulating a BLM EIS. The public review period must be at least 60 days from the date the Draft EIS/EIR is transmitted to the U.S. EPA. Depending on the comments received and any additional analysis, the BLM is required to either select or revise the preferred alternative, if necessary. The BLM will then issue the Final EIS/EIR. BLM will issue a press release announcing the Final EIS/EIR, which will be available to the public for 30 days. BLM may only make a decision on the Proposed Project after completion of the 30-day availability period.

²⁰ Printing must occur in accordance with BLM Manual Section 1551, which specifies standards for BLM-printed materials, including paper, ink, and design. However, given that this is a joint CEQA/NEPA document, these issues must be agreed upon by both the CPUC and the BLM.

Unlike under CEQA, after the Final EIS is prepared, the lead agency must circulate the Final EIS for at least 30 days prior to making a decision on the proposed action. Once the Final EIS is finalized, the Final EIS must be filed with the U.S. EPA's Office of Federal Activities for notification in the Federal Register. The 30-day time period for public review of a Final EIS is measured from the date of the publication in the Federal Register. The lead agency may adopt an EIS only after it determines that the EIS meets the standards for EIS adequacy under NEPA. After EIS has been adopted, the lead agency should make a decision on the proposed action, which may not be made until 90 days after publication of the NOI for the Draft EIS or 30 days after EPA has published the notice that the Final EIS has been filed, whichever is later. After preparing and adopting the EIS, and after making a decision on the proposed action, the lead agency must prepare a Record of Decision (ROD) explaining why the lead agency has taken a particular course of action. The BLM expects to make a decision in late October-2006 or early 2007.

A.3.3 Arizona Corporation Commission Process

Approximately 106 miles of the proposed alignment would traverse lands in Arizona, the majority of which would be on BLM lands. This portion of the alignment would extend from the State border at Blythe to switchyards in Hassayampa and Harquahala. Although Arizona does not have an equivalent to the CEQA process, the Arizona Corporation Commission (ACC), which governs electrical transmission line siting, requires environmental analysis to be performed for new transmission lines.

The Arizona Power Plant and Transmission Line Siting Committee (Siting Committee) and the ACC are responsible for the environmental review on State-jurisdictional land in Arizona, and the BLM has jurisdiction for environmental review for federal land. Pursuant to Arizona Revised Statute 40-360 et seq., the ACC will conduct the environmental review of the Arizona portion of the project.

The ACC must issue a Certificate of Environmental Compatibility to an applicant, such as SCE, before the applicant can construct a transmission line. To begin the Certificate of Environmental Compatibility process, SCE must prepare and submit an application to the ACC to build the transmission line. The application itself is usually little more than a few pages, but the environmental studies performed by the applicant and attached as exhibits or appendices to the application may fill hundreds of pages. Exhibits and appendices typically include such items as reports on land use, biological resources, scenic and recreational areas, historic and archaeological sites, and noise/communication interference. This application would serve the same general purpose as the PEA submitted to the CPUC. The ACC then reviews the project for compliance with Arizona environmental laws and analyzes purpose and need.

The application will be distributed to the members of the Arizona Power Plant and Transmission Line Siting Committee. This committee has 180 days from the date the application is filed to come to a decision, unless an extension is approved by the applicant. The committee holds a public hearing for the project, at which testimony and exhibits from the applicant and interveners are presented. Witnesses for the parties are also cross-examined at the hearing and committee members may also ask questions of the witnesses. After the committee has received all of the information regarding the project, committee members consult on the project and vote to grant or deny the Certificate of Environmental Compatibility.

If the Certificate of Environmental Compatibility is granted, the certificate is forwarded to the ACC for review and action. The ACC must confirm, deny, or modify the certificate granted by the committee. Even if the committee refuses to grant a Certificate of Environmental Compatibility, the ACC, as final decision-maker,

may still issue a certificate. Decisions on certificates are also made in open meetings with opportunities for additional public comment.

Staff of the ACC ~~have had~~ indicated a preference that SCE time the filing of its application for a Certificate of Environmental Compatibility to coincide with the CPUC’s and BLM’s issuance of their draft environmental document. This is to allow the Siting Committee and ACC to complete their environmental permitting process concurrently with the final decision by the CPUC and BLM. (The ACC process timelines are shorter than CEQA and NEPA.) Therefore, SCE ~~has stated its intention to file~~ its application with the ACC ~~on May 1, 2006~~ in late April 2006.

A.3.4 Other Agencies

Several other State and federal agencies will rely on information in this EIR/EIS to inform them in their decision over issuance of specific permits related to project construction or operation. In addition to the CPUC, BLM, and ACC, State agencies such as the Department of Transportation, Department of Fish and Game, Regional Water Quality Control Board, and Office of Historic Preservation would be involved in reviewing and/or approving the project. On the federal level, agencies with potential reviewing and/or permitting authority include the U.S. Fish and Wildlife Service, Advisory Council on Historic Preservation, and the Occupational Safety and Health Administration.

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 SCE to comply with local building, design, and safety standards to the greatest degree feasible to minimize project conflicts with local conditions. 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.

A.3.5 Permits Required for the DPV2 Project

Table A-4 lists the federal, State, and local permits and authorization required for the Proposed Project.

Table A-4. Permits or Other Actions Required Prior to Construction of the DPV2 in Arizona and California

Agency	Jurisdiction	Permit
FEDERAL		
Bureau of Land Management (BLM)	Construction on or in lands administered by the BLM	<ul style="list-style-type: none"> • Amendment to Right-of-Way Grant / Record of Decision / Notice to Proceed for transmission line • Amendment to Right-of-Way Grant / Record of Decision / Notice to Proceed and Temporary Use Permits for Harquahala Telecomm Facility • Temporary Use Permit
U.S. Department of Defense – Army	U.S. Army Military Facilities	<ul style="list-style-type: none"> • Right-of-Way Grant on Yuma Proving Ground – BLM land withdrawal
U.S. Fish and Wildlife Service	Federal Listed, Threatened, and Endangered Species	<ul style="list-style-type: none"> • Certificate of Environmental Compatibility for the Kofa NWR • Right-of-Way Grant – crossing Kofa NWR and Coachella Valley NWR • Consultation for Section 7 of the Endangered Species Act • Habitat Conservation Plans – Riverside County

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A. INTRODUCTION

Table A-4. Permits or Other Actions Required Prior to Construction of the DPV2 in Arizona and California

Agency	Jurisdiction	Permit
U.S. Army Corps of Engineers	Construction or operation of facilities which may result in any discharge into U.S. navigable waters	<ul style="list-style-type: none"> • Section 10 Permit – crossing Colorado River • Section 401/404 Permit – streambed alteration/crossing
Federal Aviation Administration	Airports and airline safety	<ul style="list-style-type: none"> • 7460(1) Permit and Notice to Airmen – Shavers Summit Airport and “Airstrip” near Const. D-151
U.S. Bureau of Reclamation	Construction on or in land administered by the U.S. Bureau of Reclamation	<ul style="list-style-type: none"> • Right-of-Way Grant – crossing CAP Canal
Federal Communications Commission (FCC)	Licenses/permits related to FCC frequencies and paths	<ul style="list-style-type: none"> • Telecomm Permit (as required)
Federal Energy Regulatory Commission (FERC)	Ratemaking for transmission facilities	<ul style="list-style-type: none"> • Ratemaking
TRIBAL LAND / BUREAU OF INDIAN AFFAIRS		
Agua Caliente Indian Reservation	Tribal lands	<ul style="list-style-type: none"> • Conditional Use Permit or a land acquisition process to be determined by consultations between Agua Caliente Tribe and SCE.*
Morongo Band of Mission Indians	Tribal lands	<ul style="list-style-type: none"> • Right-of-Way Grant/Easement
ARIZONA – STATE		
Arizona Corporation Commission	Transmission, substation, and generation projects	<ul style="list-style-type: none"> • Certificate of Environmental Compatibility
Arizona Department of Transportation	Arizona streets and highways	<ul style="list-style-type: none"> • Encroachment/Crossing Permits • U.S. 95 between Const. D-35 and D-36 • I-10 between Const. D-35 and D-36 • I-10 between Const. D-112 and D-113
State Historic Preservation Office	Any archaeological and paleontological work	<ul style="list-style-type: none"> • Consultation for Section 106 of the National and Arizona State Historic Preservation Act
Arizona State Land Department	State lands and Arizona Native Plant Law	<ul style="list-style-type: none"> • Right-of-Way Easement
Arizona Department of Game and Fish		<ul style="list-style-type: none"> • TBD
Arizona Department of Environmental Quality	La Paz County	<ul style="list-style-type: none"> • Air Quality Permit for Harquahala Mountain Engine/Generator (if greater than 325 hp) – prior to installation of engine.
Arizona Department of Environmental Quality		<ul style="list-style-type: none"> • Stormwater Pollution and Prevention Plan
ARIZONA – LOCAL AND REGIONAL		
Maricopa County	County roads and highways, flood control/drainage channels	<ul style="list-style-type: none"> • Road/Highway Encroachment/Crossing Permit • Flood Control/Drainage Channel Encroachment/Crossing Permit
La Paz County	County roads and highways, flood control/drainage channels	<ul style="list-style-type: none"> • Road/Highway Encroachment/Crossing Permit • Flood Control/Drainage Channel Encroachment/Crossing Permit
Harquahala Irrigation District	District irrigation/drainage channels	<ul style="list-style-type: none"> • Encroachment/Crossing Permit
Palo Verde Irrigation District	District irrigation/drainage channels	<ul style="list-style-type: none"> • Encroachment/Crossing Permit
Maricopa County Air Quality Department	Maricopa County	<ul style="list-style-type: none"> • Earthmoving Permit

Table A-4. Permits or Other Actions Required Prior to Construction of the DPV2 in Arizona and California

Agency	Jurisdiction	Permit
Cities	City roads and highways, flood control/drainage channels, lands	<ul style="list-style-type: none"> • Road/Highway Encroachment/Crossing Permit • Flood Control Channel • Encroachment/Crossing Permit • Temporary Use/Occupancy Permit – Material and Storage Yards
CALIFORNIA – STATE		
California Public Utilities Commission	Transmission, substation, generation projects 50 kV and above	<ul style="list-style-type: none"> • Certificate of Public Convenience and Necessity
California Independent System Operator	Purpose and Need for new transmission, substation and generation projects	<ul style="list-style-type: none"> • Interconnection approval
State Lands Commission	State lands	<ul style="list-style-type: none"> • Right-of-Way Easement
California Department of Fish and Game	Manage fish, wildlife, plant resources and habitats	<ul style="list-style-type: none"> • Streambed Alteration 1602 Permit (if required)
California Department of Transportation, District 7	CA streets and highways Code 660-711.21 CCR 1411.1-1411.6	<ul style="list-style-type: none"> • Overload Permit • Road/Highway Encroachment/Crossing Permit (as required)
Department of Water Resources	Water crossings, such as Colorado Aqueduct	<ul style="list-style-type: none"> • Colorado Aqueduct Encroachment/Crossing Permit (as required)
Department of Toxic Substances Control	Hazardous Waste Control Act of 1972	<ul style="list-style-type: none"> • EPA Hazardous Waste Generator ID
State Historic Preservation Office	Any archaeological or paleontological work	<ul style="list-style-type: none"> • Cultural Resources Use Permit, Field Use Authorization, or an ARPA Permit (if required) • Consultation for Section 106 of the National Historic Preservation Act
California Air Resources Board	State-wide	<ul style="list-style-type: none"> • Portable Engine Registration for specified non-mobile portable engines.
CALIFORNIA – LOCAL AND REGIONAL		
Riverside County	County roads and highways, flood control/drainage channels	<ul style="list-style-type: none"> • Road/Highway Encroachment/Crossing Permit • Flood Control/Drainage Channel Encroachment/Crossing Permit
San Bernardino County	County roads and highways, flood control/drainage channels	<ul style="list-style-type: none"> • Road/Highway Encroachment/Crossing Permit • Flood Control/Drainage Channel Encroachment/Crossing Permit
Regional Water Quality Control Board, Region 4 (LA County)	Clean Water Act, Section 401	<ul style="list-style-type: none"> • 401 Certification • Storm Water Construction General Permit 99-08-DWD • National Pollutant Discharge and Elimination System (NPDES) Permit • Waste Discharge Requirements (WDRs)
Palo Verde Irrigation District	District irrigation/drainage channels	<ul style="list-style-type: none"> • Encroachment/Crossing Permit
Coachella Valley Water District		<ul style="list-style-type: none"> • Utility Clearance and Encroachment Permit
Mojave Desert Air Quality Management District	Eastern Riverside County	<ul style="list-style-type: none"> • Air Quality Permit for Midpoint Substation Engine/Generator (if greater than 50 hp) – prior to installation of engine. • Air Quality Permits for portable engines greater than 50 hp not registered under the CARB Portable Engine Registration Program

Table A-4. Permits or Other Actions Required Prior to Construction of the DPV2 in Arizona and California

Agency	Jurisdiction	Permit
South Coast Air Quality Management District	Riverside County and San Bernardino County	<ul style="list-style-type: none"> • Fugitive Dust Control Plan • Air Quality Permits for portable engines greater than 50 hp not registered under the CARB Portable Engine Registration Program
Cities	City roads and highways, flood control/drainage channels, lands	<ul style="list-style-type: none"> • Road/Highway Encroachment/Crossing Permit • Flood Control Channel • Encroachment/Crossing Permit • Temporary Use/Occupancy Permit – Material and Storage Yards • Regional Water Quality Control Board – Storm Water Pollution Prevention Plan • Fugitive Dust Control Plans (only for cities in Coachella Valley with SCAQMD approved fugitive dust control ordinances)
OTHER UTILITIES		
El Paso Natural Gas Pipeline	Activities in area of pipelines	<ul style="list-style-type: none"> • Pipeline Encroachment/Crossing Permit
Southern California Gas Pipeline	Activities in area of pipelines	<ul style="list-style-type: none"> • Pipeline Encroachment/Crossing Permit
AT&SF Railroad	Activities in area of railroad	<ul style="list-style-type: none"> • Encroachment/Crossing Permit Const. D-2738 and D-2739
Imperial Irrigation District	Crossing of transmission lines	<ul style="list-style-type: none"> • Line crossing permit for two 161 kV transmission lines
Metropolitan Water District	Crossing of transmission lines and aqueduct	<ul style="list-style-type: none"> • Line crossing permit for Julian Hinds-Mirage 220 kV transmission line and Colorado River Aqueduct crossing

Source: SCE, 2005a

* December 16, 2005, the Agua Caliente Band of Cahuilla Indians submitted a letter to the CPUC and the BLM stating that the Proposed Project would cross the exterior boundaries of its Reservation, and that the project would be subject to a 1979 ordinance passed by the Tribe that regulates the development of public utility projects on tribal lands (see Appendix 8 on the enclosed CD). In its letter, the Tribe states that it will require SCE to secure approval of a Conditional Use Permit (CUP) for this portion of the route. SCE has stated that the Proposed Project would traverse allotments that are owned by tribal members, but that these allotments have not been incorporated into the boundaries of the Reservation. Therefore, land acquisition issues for this portion of the route would be negotiated between SCE, [Bureau of Indian Affairs \(BIA\)](#), and members of the Agua Caliente Band of Cahuilla Indians.

A.4 Reader’s Guide to This EIR/EIS

A.4.1 Incorporation by Reference

SCE’s Proponent’s Environmental Assessment (submitted as part of its Application No. A.05-04-015 for the DPV2 Project) contains certain information that is incorporated by reference in some sections of this EIR/EIS. This document is available for public review during normal business hours at the CPUC’s Central Files (505 Van Ness Avenue, San Francisco), in local libraries (see Section I), and also via the Internet at the CPUC website at <http://www.cpuc.ca.gov/environment/info/aspn/dpv2/dpv2.htm> and at the BLM website at http://www.ca.blm.gov/palmsprings/devers_paloverde.html.

A.4.2 EIR/EIS Organization

This EIR/EIS is organized as follows:

Executive Summary. A summary description of the Proposed Project, the alternatives, their respective environmental impacts and the Environmentally Superior Alternative.

Impact Summary Tables. A tabulation of the impacts and mitigation measures for the Proposed Project and alternatives.

Section A (Introduction/Overview). A discussion of the background, purpose and need for the project, briefly describing the proposed DPV2 Project, and outlining the public agency use of the EIR/EIS.

Section B (Project Description). Detailed descriptions of the proposed DPV2 Project.

Section C (Alternatives Process and Description). Description of the alternatives evaluation process, description of alternatives considered but eliminated from further analysis and the rationale thereof, and description of the alternatives analyzed in Section D.

Section D (Environmental Analysis). A comprehensive analysis and assessment of impacts and mitigation measures for the Proposed Project and several alternatives, including the No Project Alternative. This section is divided into main sections for each of 13 environmental issue areas (e.g., Air Quality, Biological Resources) that contain the environmental settings and impacts of the Proposed Project and each alternative. At the end of each issue area analysis, a Mitigation Monitoring table is provided.

Section E (Comparison of Alternatives). Identification of the CEQA/NEPA Environmentally Superior Alternative and a discussion of the relative advantages and disadvantages of the Proposed Project and alternatives that were evaluated.

Section F (Cumulative Impacts). A discussion of the cumulative scenario and impacts with regard to the Proposed Project and alternatives.

Section G (Additional CEQA and NEPA Considerations). A discussion of environmental justice, growth-inducing impacts, significant irreversible and irretrievable changes, significant environmental effects which cannot be avoided if the Proposed Project is implemented, and the relationship between short-term uses and long-term productivity of the environment.

Section H (Proposed Mitigation Monitoring, Compliance, and Reporting Plan). A discussion of the CPUC's and BLM's mitigation monitoring program requirements for the project as approved by the CPUC and BLM.

Section I (Public Participation). A brief description of the public participation program for this EIR/EIS.

Section J (Glossary)

Section K (Index)

Appendices:

- Appendix 1 Alternatives Screening Report
- Appendix 2 Policy Screening Report (on enclosed CD)
- Appendix 3 Tower Height Tables
- Appendix 4 Persons & Organizations Consulted (on enclosed CD)
- Appendix 5 Preparers of this Document (on enclosed CD)
- Appendix 6 EMF Design Guidelines for Electrical Facilities (on enclosed CD)
- Appendix 7 Biological Resources (on enclosed CD)
- Appendix 8 Cultural Resources / Tribal Consultation (on enclosed CD)
- Appendix 9 Air Quality Data (on enclosed CD)
- Appendix 10 Detailed Maps (not provided electronically due to SCE’s security restrictions; please request paper copies if needed)

A.5 References

- CAISO (California Independent System Operator). 2005. Memorandum to ISO Board of Governors: Palo Verde–Devers No. 2 500 kV Transmission Project. Prepared by Armando J. Perez, Director of Grid Planning, and Anjali Sheffrin, Director of Market Analysis. <http://www.aiso.com/docs/09003a6080/34/cf/09003a608034cf20.pdf>. Dated February 11. Accessed December 9.
- SCE (Southern California Edison). 2005a. Proponent’s Environmental Assessment Devers–Palo Verde No. 2 Transmission Line Project. April 11.