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Decision No. 90552 July 17, 1979

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

In the matter of the application )  
of SOUTHERN CALIFORNIA EDISON )  
COMPANY for a certificate that )  
the present and future public )  
convenience and necessity require )  
or will require construction and )  
operation by applicant of a single )  
circuit 500 kV transmission line )  
between Palo Verde Nuclear Gen- )  
erating Station in Arizona and )  
Devers Substation in California. )

Application No. 572 )  
(Filed April 21, 1977; )  
amended April 21, 1978)

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Attorneys at Law, for applicant.  
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Attorney at Law, for P.O.W.E.R.,  
People Outraged With Energy Ripoffs;  
Barbara Karshmer, Attorney at Law, for  
Agua Caliente Band of Cahuilla Indians;  
Daniel K. Spradlin, Attorney at Law,  
on behalf of Alan P. Watts, for Cities  
of Anaheim and Riverside; Thomas F.  
Crampton, for California Department of  
Water Resources, Energy Division; and  
Manning W. Puette, Attorney at Law,  
for San Diego Gas & Electric Company;  
interested parties.  
Jasper Williams, Attorney at Law, and  
Richard Tom, for the Commission staff.

INTERIM OPINION

Southern California Edison Company (SCE) seeks a certificate of public convenience and necessity to construct and operate a single circuit 500 kV transmission line approximately 235 miles in length between the Palo Verde Nuclear Generating Station (PVS) in Arizona and its Devers

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Substation in California. SCE states that the proposed 500 kV transmission line is needed to reliably deliver 585 megawatts (MW), its 15.8 percent ownership share, of the power from Units 1, 2, and 3 of the PVS<sup>1/</sup> to its main 220 kV Los Angeles Basin System. Arizona Public Service Company is the project manager and a participant in the PVS project. Other PVS participants include El Paso Electric Company, Public Service Company of New Mexico, and Salt River Project. The original application sought certification for the 128-mile segment of this line between the California-Arizona border near Blythe, California and Devers Substation in Riverside County, California. An Environmental Data Statement (EDS), as then defined in Rule 17.1 of the Commission's Rules of Practice and Procedure entitled Environmental Report, Devers-Palo Verde 500-kV Transmission Line dated April 1977, was filed as a separate exhibit by SCE with the original application.

D.88005 dated October 18, 1977 in A.56050 states in part:

"1. No utility subject to Section 1001 shall begin construction of any line, plant, or system, whether in California or otherwise, without first obtaining from this Commission a certificate that the present or future public convenience and necessity require or will require such construction. This Commission may exempt from this requirement, upon written application requesting such exemption, utilities whose primary service area is outside California.

"2. Electric generating plants to be constructed outside California by Southern California Edison and San Diego Gas & Electric Company require prior certification by this Commission."

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<sup>1/</sup> SCE indicated that Units 1, 2, and 3 would each have an estimated capacity of 1,235 MW of electrical power.

In regard to existing out-of-state plants supplying power to SCE, D.88005 states that "[n]o certificates were sought, no complaints or petitions requesting them were filed, and no certificates were granted. The Commission is not barred from exercising its jurisdiction now merely because it had not exercised it before. . . ."

The amended title block, used herein, describes the entire transmission line for which a certificate of public convenience and necessity is sought, including the line segment in Arizona.

The EDS considers a preferred route between PVS and Devers (the Brenda Route in California), two basic (not full length) alternate routes and 14 subalternate routes. Nine of the subalternate routes are located in California.

Two supplemental EDS's identified as Harquahala-Tonopah Supplement and Supplement 2, Harquahala-Tonopah and Yuma Proving Ground, filed by SCE with the amended application, describe proposed subalternate transmission line routes within the State of Arizona.

SCE seeks certification pursuant to the Commission's General Order (G.O.) No. 131-A. G.O. No. 131-A was issued pursuant to the provisions of Public Utilities Code Sections 451, 534, 701, 702, 761, 762, 768, 770, and 1001. The Commission is the lead agency for preparation and approval of the Environmental Impact Report (EIR), pursuant to Rule 17.1 of the Commission's Rules of Practice and Procedure. The first amended application was filed to confirm with the out-of-state certification requirement.

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SCE states that: (1) PVS Unit 1 is scheduled to be on line in May 1982, Unit 2 in May 1984, and Unit 3 in May 1986; (2) it proposes to begin construction of the subject transmission line in July 1980, to complete the line in December 1981, and to place it in operation on January 1, 1982, prior to placing PVS Unit 1 on line; and that (3) PVS Units 1, 2, and 3 are grandfathered and do not require certification herein.<sup>2/</sup>

SCE estimated the cost of the entire transmission line at approximately \$81,935,000, including an allowance for funds during construction and inflation. Late-filed Exhibit 5-6-7 contains SCE's more detailed environmental assessment of proposed ancillary facilities than contained in the EDS and cost estimates. The comparable cost estimates for these ancillary facilities totals \$28,300,000<sup>3/</sup>, 25.7 percent of SCE's total capital cost of \$110,235,000. SCE's amended application utilizes too narrow an interpretation of Sections 5 and 6 of G.O. No. 131-A in omitting the major costs for ancillary facilities needed to place the transmission line in service.

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<sup>2/</sup> SCE filed A.58449 for preconstruction certification for its participatory rights to power from PVS Units 4 and 5. San Diego Gas & Electric Company (SDG&E) filed A.58461 for its preconstruction participatory rights to power from PVS Units 4 and 5.

<sup>3/</sup> Expansion of Devers Substation	\$24,000,000
Telecommunications	1,300,000
Series Compensation	3,000,000
Total	<u>\$28,300,000</u>

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EIR Process

SCE states that its environmental report was prepared pursuant to the provisions of the National Environmental Policy Act of 1969 (NEPA), the California Environmental Quality Act of 1970 (CEQA), and the State of Arizona Revised Statutes Section 40-360, et seq., for use with applications before the U.S. Nuclear Regulatory Commission (NRC), the U.S. Bureau of Land Management (BLM), the California Public Utilities Commission, and the Arizona Powerplant and Transmission Line Siting Committee (APT). Copies of the EDS were submitted to other public agencies having expertise in the various areas of environmental concern involved in the project. Where necessary, the Commission requested SCE to correct or amend the EDS.

The EDS and comments thereon were independently evaluated and analyzed by the Commission staff and were incorporated into a Draft EIR.

On September 26, 1978 the staff issued a notice of completion of the Draft EIR. The Office of Planning Research, State Clearinghouse, acknowledged receipt of the Draft EIR and assigned State Clearinghouse No. 78091213 to the project. Copies of the Draft EIR were mailed in accordance with the Resources Agency Guidelines.

Notice to the public of completion of the Draft EIR was published in Riverside County in the Enterprise, the Desert Sun, and the Palo Verde Valley Times.

After hearings, a final EIR was compiled by the staff and issued on April 13, 1979.

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Other Environmental Reviews

BLM (which administers 135 miles of public lands along SCE's preferred transmission line and 133 miles of federal lands, including 95 miles of BLM administered lands along the Kofa Route, an alternate study route suggested by BLM) and NRC jointly prepared a Final Environmental Statement (ES) in February 1979. The ES states that the electrical power capacity of PVS Units 1, 2, and 3 would be 1,280 MW per unit. Construction permits for PVS Units 1, 2, and 3 were issued by NRC after an evaluation of an ES which, inter alia, considered a 147-mile transmission corridor from a proposed substation near Williams, Arizona to SCE's Mojave Generating Station in Clark County, Nevada. When the Kaiparowits Project was canceled, this line was no longer the best route to transmit power from PVS to SCE's Devers Substation near Palm Springs, California. Therefore, the joint ES evaluates possible replacement routes for that corridor. This decision deals with certification of the alternate corridor.

A BLM decision to approve, disapprove, or defer granting the right-of-way is pending.

APT must issue a Certificate of Environmental Compatibility (CEC) before a utility can construct new power plants or transmission lines larger than 115 kV in Arizona. After extensive consultation with federal and local governments and with local groups in Arizona, and after making further studies, an amended CEC for SCE's transmission line was issued by APT and approved by the Arizona Corporation Commission on July 25, 1978. The CEC was for portions of SCE's original preferred route and for another segment, which is shown in Figure 1-2 of the Final EIR filed in this proceeding. A secondary alternate route segment, north of the Yuma Proving Ground, was also approved by APT.

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Other regulatory approvals, including the authorization contained in this decision, are needed prior to construction of SCE's transmission line.

Hearings

After notice, hearings in this matter were conducted by Administrative Law Judge Jerry Levander in the cities of Blythe, Palm Springs, and Los Angeles between January 23 and 26, 1979. The matter was submitted on the latter date subject to the receipt of late-filed exhibits, which have been received, briefs, and reply briefs on issues raised by the cities of Anaheim and Riverside (A&R), by the Agua Caliente Band of Cahuilla Indians (ACB)<sup>4/</sup>, and for further evidence and argument on objections to and proposed alternate routings across land in Sections 29 and 30 of Township 4 South, Range 7 East, SBB&M.<sup>5/</sup>

SCE requested deferral of this decision, if possible, pending issuance of BLM's Final ES and federal approval of the project and issuance of construction permits. SCE desired to avoid reopening this proceeding to resolve conflicting requirements. To accomplish this goal, SCE takes the position that Commission action on the subject application is not required until April 28, 1979, as the time did not start running until the amended application was filed on April 28, 1978.<sup>6/</sup>

SCE agreed to a 90-day extension of time permitted by law for Commission action on this application.

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4/ ACB and A&R filed closing briefs.

5/ This additional material is received as Exhibit 9-1. The Final EIR addresses the issues raised in the exhibit.

6/ The amendment was filed on April 21, 1978. The 90-day extension runs until July 20, 1979.

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SCE's Methodology

SCE's route selection studies were conducted in two stages. The initial stage consisted of a regional evaluation of numerous potential transmission line routes within a study area leading to the identification of several key alternate routes of minimum environmental sensitivity. These key alternates were then intensively studied for final evaluation and selection of preferred and alternate routes.

The study area was defined to include reasonable possibilities for the location of a 500 kV transmission line between PVS and Devers Substation, considering environmental, right-of-way, and engineering parameters. The study area encompasses approximately 5,000 square miles in Arizona and 7,000 square miles in California and includes portions of Maricopa and Yuma Counties in Arizona, Riverside, and San Bernardino Counties in California (see Plate 2, Section 1.5.1 of the EDS).

A professional interdisciplinary study team, experienced in environmental impact assessment, was established to undertake the transmission line location study. Data was collected and analyzed on natural and sociocultural aspects of the environment in the following areas: physiography and major drainages, geology and soils, vegetation and wildlife, cultural and natural resources, current and planned land uses, and scenic resources.

SCE considered engineering, governmental constraints, minimizing right-of-way requirements, and environmental parameters in its route selection.

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Description of Facilities in California

The Brenda and Kofa Routes enter California south of the city of Blythe in the southern portion of Riverside County and proceed northwesterly to Devers Substation generally paralleling Interstate Highway 10 (I-10) through largely desert and mountainous areas of Riverside County. These routes bypass the cities of Blythe, Indio, and Palm Springs and several smaller communities.

SCE proposes to: (a) establish a 200-foot maximum right-of-way within most of the approved two-mile wide corridor; (b) acquire wider rights-of-way, if necessary, due to the proximity of the proposed route to other transmission lines and structures (e.g., 240-foot right-of-way is proposed for a routing paralleling a major gas transmission line to minimize induction currents in the gas line); (c) use two-legged freestanding towers through farms south of Blythe; and to (d) construct towers compatible with an adjacent 230 kV transmission line through Coachella Valley farmlands. Freestanding galvanized steel or aluminum towers would be built with varying heights and with an average height of 140 feet and an average tower spacing of 1,600 feet. The transmission line will be designed and constructed in accordance with the Commission's G.O. No. 95, Rules for Overhead Electric Line Construction. In specially designated areas the lines will adhere to the regulations of the controlling governing agency. Each conductor would consist of aluminum conductor, steel reinforced (ACSR) wires with a diameter of 1.762 inches.

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Seismic Design Criteria

The California Energy Commission recommends that the Devers Substation be designed to withstand a ground shaking from a maximum probable earthquake of magnitude 7 on the Richter scale along either the Banning Fault or the Mission Creek Fault.

SCE disagrees with California Energy Commission's seismic impact assessment at Devers and states that the design of the 500 kV portion of the substation is to a seismic loading which is consistent with the seismic hazard and is an acceptable risk for a facility of the type and importance of Devers.

SCE further contends that the electrical apparatus with the highest seismic withstanding capability commercially available is 0.5g and to design beyond such a level would place an unnecessary burden on the ratepayer.

Further information is necessary before we resolve this issue by supplemental order. SCE should provide an estimate of: (a) the magnitude of maximum probable earthquakes along the two faults; (b) the magnitude of g forces which its equipment could withstand if such quakes occur; (c) the frequency of earthquakes which could incapacitate the Devers Substation; (d) the extent of damage to the substation, the cost of repairs or replacement, and the duration of anticipated outages; (e) the maximum impact on its reserve margins from such an outage in 1982, 1986, and 1990; and (f) the availability of replacement components; (g) the estimated additional time to design and construct both 500 kV and 220 kV components to meet the greater seismic loading; (h) the additional cost for these components and the derivation of its cost estimate; and (i) the basis for its contentions that its proposed design would be an acceptable risk and that going beyond that would place an unnecessary burden on the ratepayer.

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Our review of this issue is not intended to preempt the authority or necessity of a design review and plan approval by appropriate building and safety departments. This Commission is not staffed to perform such a review. However, we do require the risk, cost, and time assessment outlined above to determine whether to adopt SCE's assessment or to require SCE to procure and install more earthquake-resistant equipment.

If further expansion of the Devers Substation is needed to accommodate additional lines in the future, the potential impact on SCE's system of a major earthquake incapacitating Devers Substation would be magnified. SCE should incorporate the information necessary to evaluate that possibility in other pending or future certificate proceedings.

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Need for the Project

SCE's 1973, 1976, and 1979 forecasts of 1990 peak demands on its system fell from 28,687 MW to 19,792 MW to 15,320 MW.

The latter estimate includes an increase in demand of 3,323 MW from 1978 to 1986, or a 3.1 percent compound annual growth rate. SCE anticipates a 1978 to 1986 increase in the population within its service area from 7,957,000 to 8,863,000, or a 1.36 percent compound annual growth rate.

The Final EIR shows population growth estimates prepared by the State Department of Finance for San Bernardino, Orange, and Riverside Counties which reflect compound annual growth rates of 2.65 percent between 1975 and 1980, 2.33 percent between 1980 and 1985, and 1.97 percent between 1985 and 1990. SCE provides most of the electric service in these counties.

Mr. Schmus, SCE's chief transmission planning engineer, testified that: (a) the most significant causes of this reduction are conservation and load management; (b) 585 MW from PVS is still required to meet SCE's load growth; (c) SCE's latest estimate reflects recent changes in its generation resource plan due to the cancellation of the San Joaquin Nuclear Project and to delays or deferrals in proceeding with other projects; (d) there will be an average population growth in SCE's service area of approximately 130,000 persons per year, which equates to 68,000 customers per year; (e) his estimate reflects three economic indicators: the California gross state product (GSP), California personal income, and the consumer price index; (f) growth in GSP indicates more industrial jobs and higher commercial levels of activity in retail sales, higher levels of construction, mining, and

agricultural activity, all of which require electric energy; (g) growth in real personal income indicates more buying power will be available to residential customers to improve their standards of living which will create an increase in electric usage; and (h) energy growth has slowed due to the combined effects of SCE-sponsored conservation and load management programs, voluntary conservation undertaken by customers in response to rising energy prices, conservation due to establishment of federal and state appliance efficiency standards, and building insulation standards and programs.

SCE plans to utilize its share of PVS power as a portion of its base load generation, i.e., generation which is utilized at or near full capacity on a continuous basis, except during outages.

Mr. Schmus defines SCE's base load resources as its nuclear, coal, and certain hydroelectric generators which have the lowest unit operating costs. These resources comprise 20 percent of SCE's installed capacity. He testified that: (a) the actual base load requirement, a year-round minimum requirement, on SCE's system is equal to approximately 40 percent of total peak load; (b) SCE's peak load generation would be less than 25 percent of its system capacity with the addition of San Onofre Nuclear Units 2 and 3 and PVS Units 1 to 3; (c) if power from PVS was not delivered to SCE's system, oil-fired generation would have to be substituted for this power by operating the equipment for longer hours and at higher capacity levels; (d) absent PVS power, interruption of power deliveries from distant sources during periods of heavy demand, e.g., during summer months, would probably result in

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rolling blackouts or temporary total loss of power in specific areas; (e) failure to deliver PVS power would require approximately 7 million barrels of oil<sup>7/</sup> per year after 1986, which would increase South Coast Air Basin emissions of nitrogen oxides, sulfur dioxide, and particulates by an average of 15, 12, and two tons per day, respectively; and (f) SCE's standards for reliable transmission capability could not be met due to overloaded transmission components; excessively low voltages in the vicinity of Las Vegas, Nevada; and the hazard of cascading outages of additional lines. SCE customers would be faced with blackouts.

SCE evaluated four alternate 500 kV transmission line routings, the first two which were dependent on transmission lines associated with the abandoned Kaiparowits Coal Plant Project. Absent the Kaiparowits generation and additional transmission lines to deliver power west of the Colorado River, these two alternates did not have sufficient capability to transfer PVS power and other supplies to SCE's southern California load centers. Another alternative would provide adequate system performance but would add approximately 100 miles to the length of line, would cost more, and would have greater environmental impacts associated with right-of-way requirements than the requested Devers to Palo Verde routing.

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<sup>7/</sup> This amount is greater than SCE's estimated monthly total system oil requirement in the mid-1980's.

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The latter line would have superior electrical performance, e.g., lower line losses, compared to the other routes, would improve SCE's bulk power network capabilities, and would provide a needed alternate supply feed to PVS during times the plant was out of service.

SCE also considered use of a two-conductor D.C. system. Such a system would be economically competitive for transmitting large blocks of power over distances greater than 400 to 600 miles. However, for this route D.C. would cost over twice as much as SCE's 500 kV AC system.

SCE considered voltage levels of 345 kV, 500 kV, and 765 kV for its required transmission of 900 to 1,000 MW. A 345 kV system would require at least two lines to carry SCE's 585 MW over the adopted route. These lines would cost more and would require a wider right-of-way than the proposed line.

A 500 kV<sup>B/</sup> line is the lowest standard voltage which could be readily integrated into SCE's transmission grid for the distance required. A 765 kV line would have excess capacity and would require wider rights-of-way and taller towers and would be more costly than the route chosen.

Undergrounding the facility would pose problems for the necessary oil circulation given the extreme desert temperature conditions, would cost approximately 17 times as much as the overhead line, and would have greater environmental impacts due to the need for trenching the entire route and maintaining access as opposed to stringing line between towers located approximately 1,600 feet apart.

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<sup>B/</sup> 500 kV is the nominal rating. The initial and ultimate voltages carried by the line will be 525 kV + 5 percent. The initial and ultimate capacity of the line would be 1,000 MW for normal operation and not less than 2,000 MW for emergency operations.

SCE would normally use its line to transmit 900 to 1,000 MW as follows: its own 585 MW of power, 300 MW of power for its resale customers, and other available spot or contractual purchases. Early construction of the line would enhance SCE's ability to acquire additional quantities of low cost surplus power in the period before PVS Unit 1 goes into operation until Unit 3 goes on line.

Certification of PVS Units 1 to 3 has been grandfathered and the plants are under construction.

At the present time power usually flows into the Palm Springs area from the San Bernardino area on four 230 kV lines. Deliveries of PVS power to Devers will be sufficient both to supply energy needs in the Palm Springs area and to supply power to the San Bernardino area.

The staff has adopted SCE's projections concerning the need for this project, the construction of the power line. We concur with SCE's assessment. None of the other parties has introduced evidence<sup>9/</sup> on this subject. We will therefore accept and adopt SCE's position and find that the project is justified on both a reliability and on a cost-effectiveness basis.

Many of SCE's gas/oil-fired generating plants were designated as base-load plants when certificated. To the extent that SCE still proposes to utilize that base-load capability, they should be so classified in future studies. It would be appropriate to separately identify these resources and the cost of gas/oil-fired generation. Reduction of dependency on oil resources will benefit SCE, its customers, and the United States balance of payments position.

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<sup>9/</sup> A public witness requested a total life cycle economic study of the cost of PVS power including decommissioning costs and questioned SCE's evasion of California regulatory jurisdiction by locating plants out of state.

Exceptions by Anaheim and Riverside

The cities, which sell power within their boundaries, cite limitations in available locations for transmission lines, the difficulty of getting transmission corridors through the California desert, their existing and potential ownership participation in the building of power generation projects, and their requirements for transmission lines to bring power to their service areas as justification for conditioning the certificate granted to SCE as a "common corridor for use by other utilities for future generating resources requiring transmission across the California desert."

SCE contends that the 500 kV line, for which it is seeking certification, is needed for projected future requirements of its own electrical system and objects to the proposal of A&R.

The Final EIR states that it does not appear that there is room in the right-of-way for the proposed project to accommodate another transmission line and effectively connect with the power source.

SCE plans to deliver power for other utilities, in addition to delivering power for its own system, over the proposed transmission line. We are authorizing SCE to construct a transmission line within a limited right-of-way width within a two-mile wide corridor. We are not authorizing additional lines within the corridor at this time.

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We recognize that SCE and other utilities may request certification for future transmission line construction between new generating stations (e.g., for Sundesert, Eastern Desert Project, Western Arizona Coal-fired Generating Plant, and PVS Units 4 and 5) and load centers within the two-mile corridor adopted herein, but such proposals will require further approvals. We will not issue a blanket approval for future construction within the corridor as requested by A&R.

However, SCE should follow the following guidelines in locating its right-of-way within the adopted Brenda corridor:

- a. Rights-of-way should be selected to minimize environmental impact and conflicts with current and future land use;
- b. Protect aesthetic and scenic values within and along the rights-of-way as much as possible, consistent with authorized use of the rights-of-way;
- c. Reduce visual impact by judicious selection of rights-of-way within the corridor by locating the rights-of-way against natural backgrounds as seen from major view areas, if feasible, and wherever valleys, canyons, or draws are involved, ridge lines and other sky panoramas should be avoided to the extent possible;
- d. Wherever possible, the right-of-way should cross roads or highways between high points, at a dip, or on a curve in the road, and long views of the line-crossing highways, down canyons, and valleys or up ridges and hills should be held to a minimum by varying the alignment of crossings or by concealment behind natural terrain; and
- e. The right-of-way should be located wherever possible to avoid all inhabited dwellings.

Exceptions by Agricultural Interests

Several public witnesses associated with farming operations in the Blythe area opposed contemplated line locations which would bisect or cross farms because: (a) the line would disrupt crop procedures and irrigation practices (either as an obstacle to the use of rolling sprinkler lines or by severing furrows); (b) the line and towers are hazardous to the operators of tractors pulling farm equipment and to operators of fixed wing aircraft and helicopters used for seeding, insecticide, and fertilizer applications; (c) the towers would physically restrict the movement of large equipment and would prevent close in cultivation which creates weed problems and/or the need for expensive hand labor; (d) these added costs would depreciate land values; and (e) the line would inhibit future recreational land use in the Blythe area.

The objections contained in Exhibits 9 and 9-1 relate to adverse impacts and the development of a cost estimate of \$198,000 for condemning a right-of-way immediately paralleling an existing transmission line. These impacts affect a farm operation and could eliminate the possibility of building a home on a 20-acre parcel. The landowner offered to provide an alternate right-of-way to SCE without cost which would skirt rather than go through a cultivated area. He also suggested an unspecified alternate to the south of an existing transmission line right-of-way. The protest covered lack of sufficient notice, the visual impact of multiple parallel transmission lines, and SCE's failure to provide requested construction cost data to make a meaningful cost comparison of alternatives.

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The cost estimate in the Final EIR indicates that the alternate shown in Exhibit 9 would cost approximately \$240,000 more than the proposed route for 1,300 feet of additional line, two additional towers, and for two dead-end towers (towers at angle points). Adoption of a southerly route would involve two transmission line intersections, requiring higher towers for the necessary clearance. Either proposed alternate routing may also require additional access road construction and acquisition of additional right-of-way not owned by protestant - if the cultivated areas were avoided.

In other instances adoption of suggestions to move the line to the edge of agricultural parcels might result in greater hazards to aircraft used in agricultural operations due to the presence of distribution lines adjacent to transmission lines. The preferred routing across agricultural lands would be parallel to section lines. However, in the Coachella Valley the angular crossing of farmland adjacent to and paralleling an existing transmission line was preferable to avoid crossing two lines at varying distances of separation in a V configuration. Visual impacts from certain structures might be lessened through adjustments to the alignment within the transmission corridor.

The Final EIR contains a comment on the proposed crossing of another privately owned parcel:

"A minor realignment within the two mile wide study corridor could be effected to remove the line from the parcel or reduce the amount of acquisition required providing, however, that other property owners are not adversely affected. Such 'fine tuning' of alignment could be negotiated between Mr. Baker and the applicant."

Mr. Dudley testified that alternate routings studied in the Blythe area were not chosen for one or more of the following reasons: rights-of-way were not obtainable; passage would impact on urban areas; there were more adverse environmental impacts than for the route chosen; and a longer diagonal routing through agricultural lands would have a greater agricultural impact than the recommended route.

Discussion on Specific Right-of-Way Adoption

BLM plans to stake out the entire line and to undertake the investigation of necessary mitigating measures. The Commission staff expects a specific right-of-way alignment to be developed from that review and requests a copy of the preliminary study and of the specific alignment. The staff proposes to monitor SCE's proposals and to make recommendations for "fine tuning" the alignment where necessary to mitigate the impacts.

The staff monitoring proposal will be adopted. SCE should also furnish a copy of its specific localized right-of-way proposal to affected protestants and for landowners together with their reasons for adopting that right-of-way. SCE should explain its reasons for acquisition of a right-of-way greater than 200 feet in width.

Exceptions by Jaeger Sanctuary

A co-preserve manager for the Edmund C. Jaeger Nature Sanctuary (Sanctuary), located approximately two miles west of the community of Desert Center (EIR, Figure 2-2, Sheet 7), opposed adoption of the Brenda Route and recommended adoption of an alternate route to avoid having the line cross a contemplated expansion of the Sanctuary to include the mouth of a desert wash which had plant, animal, and scenic resources.

The expansion requires approval<sup>10</sup> by BLM of a recreational and public purposes classification sought by the Sanctuary.

Exhibit 11 describes the resources available within the 160-acre Sanctuary. There is an existing desert sand and earth access road between I-10 and the Sanctuary boundary. The Sanctuary parallels I-10 for approximately one-half mile.

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<sup>10/</sup> We take official notice of the initial BLM decision dated May 25, 1979. This decision is subject to a 30-day protest period and to administrative review by the Secretary of Interior. BLM classified the lands unsuitable for recreational and public purposes because they are more suitable for multiple use management for the various resource values of the lands, including: (a) the development of power; (b) the need for the Brenda transmission corridor which would be blocked under the requested classification; (c) a perpetual material site right-of-way encumbrance in the desert wash, which would destroy the ecosystem when materials are removed; (d) scarcity of alternatives; and (e) the transmission line corridor must be considered of the highest value.

The California Energy Commission indicated its desire to avoid the Brenda Route in this area in its Sundersert Notice of Intention hearings. The staff concludes that adoption of the Brenda Route in California is environmentally superior to the Kofa Route with the exception of the segment shown on Sheets 6 and 7 of the Final EIR (see Exhibit 23). The staff recommends adoption of the Kofa Route in that area to avoid the Sanctuary because: (a) the Brenda Route is approximately one-half mile south of I-10 compared to the Kofa Route which is approximately 1-1/2 miles north of I-10, and (b) there would be a lesser visual impact from viewing the Kofa line than the Brenda line from I-10.

An SCE witness testified that:

"Where possible, the line has been placed approximately one-half mile from the Interstate 10 so that the visual impacts could be reduced. Although some motorists may not notice the line, it has been placed to have an acceptable level of impact to these motorists without compromising landscape qualities or recreational experiences. Since the line is located on the south side of I-10 it is often backlit by the sun, which prevents visible reflections. In other areas it is protected from view from the highway because of the backdrop of mountainous terrain which obscures the view of the line."

Mr. Dudley, SCE's environmental coordinator for this project, testified that he believed the Brenda Route was still preferable to the Kofa Route in the vicinity of the Sanctuary because there would be greater visual impacts along I-10 if the Kofa Route rather than the Brenda Route were adopted due to two additional crossings of I-10 along the Kofa Route, to the high visibility of the transmission line along the low area in the vicinity of Hayfield Dry Lake, and to the greater visibility of the line against the mountains to the north of the Kofa Route compared to the mountains to the south of the Brenda Route. He did not perceive any impact of the Brenda Route on the water resources at the mouth of the canyon near the Sanctuary.

The Kofa Route is approximately 1-3/4 miles longer than the Brenda Route in this area.

We conclude that the Brenda Route should be adopted because there will be a lesser environmental impact and a lesser cost associated with that alternate.

Other Governmental Exceptions

The Executive Committee of Coachella Valley Association of Governments (C-VAG) and certain local governments recommend consideration of an alternate transmission line route located north of the Joshua Tree National Monument and through San Bernardino County because of the adverse environmental impacts of the Brenda and Kofa alignments on the Coachella Valley. C-VAG states this routing would increase the length of the line by approximately 100 miles. C-VAG did not propose any definitive alternate route.

The California Energy Commission also recommends grounding objects located outside of the right-of-way and preparation of a mitigation plan for grounding farm equipment and school buses operated in the area of the transmission line and of preparation of a pamphlet for circulation to large vehicle operators who might cross the transmission line area with large vehicles. These proposals do not appear to be necessary based upon SCE's experience with large transmission lines and were not recommended in the Final EIR.

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Exceptions of Agua Caliente Indians

ACB's tribal council expressed vehement opposition to the use of an' land within the boundaries of the reservation for a transmission line because: (a) ACB's land base is limited;<sup>11/</sup> (b) the land is held in trust by the United States and was given to ACB for its use; and (c) the land has a unique status to ACB, which would be affected by the construction. Past federal paternalistic policies, including efforts to integrate the tribe with the mainstream of society, had been abandoned. The ACB would define its own best interests in charting its future, which would be to continue its special status on its reservation.

ACB is concerned that: (a) archaeological resources would be lost; (b) archaeological studies would be improperly made after, not before the route was chosen; (c) archaeological site predictive modeling techniques were inaccurate; and (d) there were health and safety hazards to man, plants, and animals associated with the line, e.g., from electric and electromagnetic fields, and there was an electric shock potential.

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11/ The BLM-NRC ES states:

"The Agua Caliente Band has its tribal headquarters in Palm Springs, in the center of the Palm Springs desert resort area. The reservation has a total land area of 25,898.84 acres (10,489 ha), 24,761 acres (10,028 ha) of which are allotted and owned by individuals and 1,137.84 acres (460.8 ha) of which are tribally owned. The Kofa Route does not cross any part of this reservation, but the Brenda Route could cross approximately 2 miles (3.2 km) of Agua Caliente allotments. Thirty of 171 tribal members live in or near Palm Springs, but none live on or near the allotments that would possibly be crossed by the transmission line. Sections that would be used by the Brenda Route are individually owned by absentee allottees."

ACB members use various plants located in or beyond the transmission corridor for many purposes, including food, medicinal, and basket-weaving uses. ACB asserts its ecological ethic in which people protect plants and animals and are in turn treated well by them.

There would be additional visual impacts from ACB lands and from I-10 due to the paralleling of an adjacent 230 kV electric transmission line. The 500 kV line would also parallel an existing gas transmission line. Existing access roads could be used for construction and operation of the proposed line in this area.

A northerly alternate route<sup>12/</sup> within the Brenda transmission corridor would skirt the reservation lands but would require a crossing approximately 600 feet further up the slope of Edom Hill compared to the proposed line location (see Exhibit 8). This route would require new access roads. The alternate would be one mile longer than the proposed route and would require removal of additional vegetation and habitat areas. This route would have greater visual impacts and a greater erosion potential than the requested route.

ACB members consider Edom Hill as a place of power (see pages 6-9 to 6-18 of Exhibit 18, which has been incorporated in the Final EIR). ACB members oppose the Edom Hill routing. An SCE witness testified that Indians often consider mountain-tops as areas of special religious significance. There is a sacred area on the Edom Hill called Willow Hole.

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<sup>12/</sup> A southerly alternate would intersect other ACB lands, which are in a checkerboard configuration.

ACB argues that the Commission should give recognition to serious legal impediments to SCE's proposed use of allotted reservation lands for transmission purposes and to weigh these obstacles in evaluating the proposed project.

ACB asserts jurisdiction within the entire reservation (see 18 U.S.C. Section 1151). ACB claims the 1957 approval of its Constitution by the Secretary of Interior under 25 U.S.C. Section 1 and 2 amounts to a direct delegation by Congress of part of its plenary powers over ACB Indian affairs.

SCE contends that: (a) condemnation of allotted lands is permissible (see Nicodemus v Washington Water Power Company (1959) 254 F 2d 614); (b) ACB does not have power to regulate public uses of allotted lands; (c) ACB's argument that Santa Rosa Band of Indians v Kings County (1975) 532 F 2d 655 precludes state regulation of reservation land uses is in error; and (d) an ACB ordinance regulating and/or prohibiting a public use on allotted land would be invalid.<sup>13/</sup>

ACB questions SCE's standing to exercise the federal power of eminent domain and asserts that even if allotted lands were condemned, the intended use could be prohibited by its ordinance. ACB admits that electric transmission lines are a public use under California law.

SCE states that: (a) its crossing of ACB lands would pass through the lands of five allottees; (b) it has obtained easements from four allottees; and (c) its differences with the fifth allottees are over the amount of compensation and not because of objections to the line.

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<sup>13/</sup> ACB's ordinance No. 7, regulating land use for public utility purposes within reservation boundaries, was adopted on March 7, 1979. The ordinance draft was attached to ACB's initial brief.

The segment of the Kofa Route which would bypass the ACB reservation would have high short-term and long-term socioeconomic impacts on the residential community located north of the Indio Hills. The Kofa Route would impact several subdivisions, two country clubs, and a mobile home park (see Sheets 1 to 3 of Figure 2-2 in the Final EIR). The Kofa Route would generally parallel an existing 115 kV line with a different smaller tower design compared to the 500 kV tower design.

Discussion of ACB Exceptions

This segment of the Kofa Route is approximately 2.5 miles longer than the Brenda Route segment. The impact summaries contained in Figures 5-1 and 5-2 indicate more medium and high impacts along the Brenda Route than along the Kofa Route. In balance, the construction cost savings and the weight given the above-mentioned community impacts along the Kofa Route (not shown on Figures 5-1 and 5-2), together with implementation of the mitigating procedures contained in the EDS, the Final EIR, and the NRC-BLM ES, including cataloguing and preserving cultural artifacts based upon an in-depth study of actual tower sites, tower spur roads, and resources by expert members of SCE's study team working with BLM, the Commission staff, and local Indian consultants, where the routing might impact Indian resources, lead us to adopt SCE's proposed Brenda Route alignment if the right-of-way can be obtained on a timely basis. Project delays due to extensive litigation would cancel that advantage. We will authorize SCE to follow its proposed Brenda Route alignment providing that it can obtain the necessary right-of-way within one year after the effective date of this order. If SCE notifies the Commission that it cannot obtain the necessary right-of-way within that time span, we will issue an ex parte certificate of public convenience and necessity to construct and operate the northerly alternate route, avoiding the Willow Hole area, within the Brenda transmission corridor.

Arizona Route

No issues were raised in this proceeding concerning the routes adopted by Arizona which are depicted on Figure 1-1 of the Final EIR.

We will issue a certificate of public convenience and necessity for construction and operation of the route approved by the Arizona Corporation Commission in adopting the CEC. If BLM should adopt the alternate route north of the Yuma Proving Ground, SCE should request an ex parte order substituting that alternate route for the route through the Yuma Proving Ground. Construction of the entire transmission line is needed to convey power from PVS to Devers.

Findings of Fact

1. Customer and load growth within SCE's electrical service area, over and above energy savings resulting from conservation and load management, establish the need for additional reliable sources of power to supply that need.

2. SCE has a 15.8 percent ownership interest expected to supply approximately 585 MW of power to be generated by PVS Units 1, 2, and 3.

3. PVS Unit 1 is expected to be operational in May 1982, Unit 2 in May 1984, and Unit 3 in May 1986.

4. Peak demand on SCE's system will increase by approximately 3,323 MW between 1978 and 1986.

5. SCE requires additional reliable transmission capability to deliver its entitlement to PVS power to its load centers. It also requires a reliable transmission system to deliver available surplus lower cost power from east of California utilities and to deliver an additional 300 MW of power to its resale customers.

6. The addition of a 500 kV PVS-to-Devers transmission line to SCE's system, with a 900 to 1,000 MW capability will meet the requirements outlined in Finding 5.

7. A 200-foot right-of-way within the two-mile wide Brenda Route is sufficient to construct the 500 kV transmission line, except where the presence of other facilities requires a wider right-of-way. This right-of-way is not wide enough to accommodate another major transmission line. It is necessary for SCE to follow the guidelines set forth on pages 17 and 20 herein for locating the right-of-way within the corridor.

8. Any future transmission line located within this corridor will require further environmental review prior to certification.

9. The Kofa Route is approximately 1-3/4 miles longer than the Brenda Route in the vicinity of the Sanctuary.

10. If the Kofa Route were adopted, there would be a higher visual impact noted by more people driving along I-10 as compared to the visual impact of adopting the Brenda Route paralleling the Sanctuary. There is an existing access road to the Sanctuary from I-10. The Brenda Route parallels a desert wash area containing plant, animal, and scenic resources. Removal of wash materials pursuant to an existing perpetual material site right-of-way encumbrance would destroy this ecosystem when materials are removed.

11. An initial BLM decision did not authorize expansion of the Sanctuary.

12. On balance, the Brenda Route has lesser environmental impacts than the Kofa Route in the vicinity of the Sanctuary.

13. Further information is necessary before we resolve the seismic design criteria issue for the Devers Substation expansion.

14. An expanded electrical grounding program beyond that proposed by SCE is not required.

15. The proposed Brenda Route would include rights-of-way through allotted ACB reservation lands.

16. ACB opposed construction of the Brenda Route through the allotted lands because of impacts on ACB's rights of self-determination, loss of land resources, and interference with its cultural and spiritual needs. ACB believes it can block SCE's acquisition of this right-of-way. An alternate location, within the Brenda corridor, would skirt ACB's reservation but would be situated part way up the slopes of a hill, would be more costly, and environmentally inferior to the proposed routing. ACB members have identified the Hill as a place of power which contains a sacred area called Willow Hole.

17. There would be high visual and socioeconomic impacts on the residential community along the Kofa Route segment bypassing ACL land.

18. Construction and operation of SCE's proposed Brenda Route alignment with the mitigating measures discussed on page 28 herein is preferable to the construction and operation of the northerly alternate route within the Brenda Route transmission corridor providing that the right-of-way can be obtained on a timely basis, within one year after the effective date of this order.

19. Construction of the 500 kV transmission line would cost approximately \$324,000 per mile, exclusive of costs of expanding Devers Substation, additional telecommunications facilities, and series compensation facilities. The total cost of this project is \$110,235,000.

20. The best of the several viable alternatives considered in this proceeding and reflected in the Final EIR is to install a 500 kV line between Devers and the Colorado River crossing south of Blythe following the Brenda Route in California and to continue that line through Arizona following the route approved of by the Arizona Corporation Commission. This route is depicted on Figure 1-2 of the Final EIR.

21. SCE would be unable to transmit its share of PVS power to its transmission and distribution network without the proposed transmission line.

22. The consequences of not building the transmission line would be to reduce the reliability of SCE's transmission system to an unacceptable level. Lack of the requested transmission line would require increased combustion of fossil fuels in the Los Angeles Air Basin which in turn would increase air pollution in that basin.

23. It is necessary for SCE to take mitigating measures, including those described in Chapter 6 of the Final Environmental Report, to avoid unnecessary adverse environmental impacts from construction activities. It is necessary for SCE to cooperate with BLM and the Commission staff in decisions concerning the final location of: (a) the centerline within the two-mile wide corridor, (b) each individual tower site, and (c) all other areas where the ground surface will be disturbed, including access roads, construction and equipment yards, pulling stations, and other ancillary facilities. The following is a brief summary of those measures:

- (a) Air Quality - Watering should be required on roads and disturbed areas within one mile of residences or other populated areas during construction periods.

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- (b) Noise - Construction yards should be located at least one-half mile from the nearest residence or business.
- (c) Geology - Tower sites should not be located on existing fault scarps or known faults. The transmission line should avoid open-pit mining operations. Towers should be located to avoid stretching the transmission line during earthquakes.
- (d) Vegetation - In sand dune areas, towers should be placed at the periphery of dunes to span maximum area of dune habitat. Existing roads should be used to avoid additional exposure of rare threatened protected endangered species habitats.
- (e) State Protected Species - BLM will conduct a field search for three types of California State rare and endangered plant species listed on page 6-4 of the Final EIR. BLM will conduct a further field search for three federal-endangered or threatened plant species listed on page 4-27 of the Final EIR. Towers and equipment and roads should be located to minimize impact to those plants.
- (f) Wildlife - Construction should cease during January, February, and March within mountainous areas, adjacent to big horn sheep lambing grounds. Species of desert tortoise or Gila monsters, if seen on access roads, should be immediately moved or ushered at least 100 yards away into a safe area. For each one acre of known habitat of the Coachella Valley fringe-toed lizard that is permanently occupied at least one acre of suitable habitat should be purchased in fee title by SCE and transferred to the appropriate agency.

- (g) Land Use - SCE should develop plans acceptable to the FAA for marking the transmission line in agricultural areas and aircraft traffic areas. All new or existing fences, gates, or other objects within right-of-way should be grounded. SCE should be required to develop and implement plans acceptable to BLM and to the Commission and operators of existing utilities to detect and mitigate adverse impacts to existing utilities, i.e., pipelines, powerlines, and telecommunications.
- (h) Wilderness - Wilderness study areas identified under the Federal Land Policy Act and Management Act are restricted from use for construction of roads, transmission lines, etc., until those areas are surveyed for wilderness values. The centerline of the transmission line should not be located in areas designated as high impacts.
- (i) Visual - BLM and the Commission will approve final construction locations and specifications.
- (j) Recreation - Construction should be curtailed during heavy use periods (major holidays) in the following areas: Colorado River, Wiley Well Road, Corn Spring Road, Red Cloud Wash, and Mecca Hills.
- (k) Cultural Resources - Measures committed by SCE in the EDS are adequate to minimize adverse impacts. However, additional measures may be imposed by BLM or by the Commission.

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- (1) Native American Values - SCE should engage an ethnologist to conduct a thorough inventory to identify trails, shrines, burial areas, and intaglios within the transmission line corridor in California. Upon receipt of an inventory report, SCE should prepare impact mitigation plans. Final mitigation plans should be implemented in consultation with BLM and the Commission. The Commission staff will coordinate mitigating requests made by State Historic Preservation Office.

24. It is necessary to implement the measures described above to mitigate or avoid significant effects on the environment as identified in the Final EIR and/or in Findings 18, 23, and 28 herein.

25. The cost of undergrounding the transmission line would be approximately 17 times that of the overhead design proposed.

26. There would be substantial operating problems associated with operation of an underground transmission line through the mountains, deserts, and farmland along the adopted route.

27. There would be greater environmental impacts resulting from construction of an underground line which would require a continuous trench and access road for installation.

28. It is necessary to have an agreement as to satisfactory specific mitigation measures, including location of facilities, between SCE, BLM, and the Commission staff on the basis discussed on page 20 herein.

29. The proposed project is essential to meet the future public convenience and necessity.

30. The project will provide a desirable inexpensive source of power which will decrease our dependence on fossil fuel requirements, primarily oil imports.

31. Alternatives would be more expensive and would deplete fossil fuel resources.

32. The proposed project could have a significant effect upon the environment.

33. The construction of the proposed project will not produce an unreasonable burden on natural resources, aesthetics of the area in which the proposed facilities are to be located, public health and safety, air and water quality in the vicinity, parks, recreational and scenic areas, historic sites and buildings, or archaeological sites.

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Conclusions of Law

1. Present and future public convenience and necessity require the construction and operation of this transmission project.

2. SCE is placed on notice that operative rights, as such, do not constitute a class of property which may be capitalized or used as an element of value in rate fixing for any amount of money in excess of that originally paid to the State as the consideration for the grant of such rights. Aside from their purely permissive aspect, such rights extend to the holder a full or partial monopoly of a class of business. This monopoly feature may be modified or canceled at any time by the State, which is not in any respect limited as to the number of rights which may be given.

3. The action taken herein is not to be considered as indicative of amounts to be included in future proceedings for the purpose of determining just and reasonable rates.

4. SCE should be required to follow the construction constraints, route selection, and mitigating measures proposed in its EDS and supplemental EDS, with recommendations of the Commission staff in the Final EIR and in accordance with Findings 18, 23, and 28 herein.

5. A certificate of public convenience and necessity, issued pursuant to Section 2001 of the Public Utilities Code, is not necessary to authorize existing construction of PVS Units 1, 2, and 3.

6. SCE should file the information required to evaluate seismic requirements for the Devers Substation expansion discussed on page 10 herein.

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7. The Notice of Determination for the project is attached as Appendix A to this decision. The Commission certifies that the Final EIR has been completed and adopted by it in compliance with CEQA and the guidelines and that it has reviewed and considered the information contained in the Final EIR in arriving at this decision.

8. The costs and detailed environmental assessments of major ancillary facilities needed to operate such facilities should be made pursuant to General Order No. 131-A.

9. Based on the foregoing, the 500 kV Devers-to-FVS Brenda Route in California and the route transmission line adopted by the Arizona Corporation Commission should be authorized in the manner set forth in the following order.

10. Any future transmission line located within this corridor will require further environmental review prior to certification.

11. A certificate of public convenience and necessity for a transmission corridor for future use of additional transmission lines would require comprehensive review in a new application.

12. Commission action to modify SCE's proposal must be taken on or before July 20, 1979.

INTERIM ORDER

IT IS ORDERED that:

1. A certificate of public convenience and necessity is granted to Southern California Edison Company (SCE) to construct and operate a 500 kV transmission line and ancillary facilities between its Devers California Substation and the Palo Verde Nuclear Generating Station in Arizona, as described in Finding 20 herein. The seismic design criteria for the Devers Substation will be determined in the final order in this proceeding.

2. SCE shall file the information required to evaluate seismic requirements for the Devers Substation expansion discussed on page 10 herein.

3. SCE shall notify the Commission within one year of the effective date of this order the posture of its acquisition of a right-of-way through allotted lands on the Agua Caliente Band of Cahuilla Indians Reservation.

The Executive Director of the Commission is directed to file a Notice of Determination for the project, with contents as set forth in Appendix A to this decision, with the Secretary for Resources.

The effective date of this order is the date hereof.

Dated July 17, 1979, at San Francisco, California.

JOHN E. BRYSON  
President  
VERNON L. STURGEON  
RICHARD D. GRAVELLE  
CLAIRE T. DEDRICK  
LEONARD M. GRIMES, JR.  
Commissioners

