

ORIGINAL

Decision No. 82761

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 220 kv transmission  
lines from Hinson Substation to  
Lighthipe Substation.

Application No. 53796  
(Filed January 18, 1973)

OPINION AND ORDER

Southern California Edison Company (Edison) seeks an order of the Commission granting it a certificate that the present and future public convenience and necessity will require the construction and operation of approximately five miles of double circuit 220 kv transmission line from its Hinson Substation to its Lighthipe Substation.

Negative Declaration

Pursuant to Rule 17.1, Paragraph (e)(2)(E) of the Commission's Rules of Practice and Procedure, Edison moved that a Negative Declaration rather than an Environmental Impact Report be issued in this proceeding. On July 24, 1973 Examiner Johnson ruled that this Commission is the lead agency for the electric transmission line under consideration; that a grant of the requested authorization would not have a significant effect on the environment due to circumstances peculiar to this specific project; and that he would prepare a Negative Declaration in conformance with the California Environmental Quality Act of 1970 and the applicable guidelines.

His Negative Declaration found that: (1) The proposed project would ordinarily be expected to have a significant effect on the environment; (2) this Commission is the lead agency for the project; and (3) the proposed project will have no significant effect on the environment due to circumstances peculiar to this project. It was filed with the State Clearinghouse, Office of Intergovernmental Management, Office of the Governor, on July 30, 1973 (SCH No. 73073052). The Air Resources Board of The Resources Agency challenged the Negative Declaration on the ground that the additional transmission facilities may have significant growth-inducing impact in an area where ambient air quality standards are already frequently exceeded. The basis for this challenge, as set forth in a letter dated December 24, 1973 from the Air Resources Board to this Commission, was the apparent increase in the Hinson Substation capacity from 850 MW to 1870 MW rather than an increase from 850 MW to 1000 MW set forth on page 1 of the environmental data statement. The Air Resources Board contended that should this capacity be used, a large increase in electric energy demand must be foreseen which would necessarily entail considerable growth in the number of users in addition to the expected increase in the usage per customer. The Hinson Substation capacity of 1870 MW was computed from the current carrying capacity of the proposed lines and did not take into consideration the limitations imposed by reliability criteria. Edison has reviewed the capacity calculations set forth in the EDS and admits they are incorrect. Based on assumed voltage of 225-kv, each line will have a capacity of 900 MW. By constructing a new section of double circuit tower line on existing right-of-way it will be possible to loop the La Fresa-Lighthipe line into Hinson Substation. The higher capacity is required to permit

the new sections to be connected to an existing high capacity line. Such capacity will facilitate transmission of through power from Edison's El Segundo and Redondo Generating Stations to the Edison main system and minimizes transmission line losses.

Normal design criteria for high capacity transmission lines are based on two-line-out contingencies. Under the planned rearrangement, Hinson will be served by four 220-kv lines, two having a capacity of 425 MW each and two having a capacity of 900 MW each, a total installed capacity of 2,650 MW. Under assumed emergency conditions with a two-line-out contingency, the capacity of the two remaining lines would be 935 MW assuming the two 900 MW lines are out and the two 425 MW lines are at 110 percent thermal rating. With two-line-out conditions limiting the reliable Hinson Substation capacity to 935 MW there is no basis for concluding that the project will have substantial growth inducing impact.

Copies of the Air Resources Board's challenge of the Negative Declaration and related correspondence between the Air Resources Board, the Southern California Edison Company, and the Commission staff are received as Exhibit 1.

#### Description of Proposed Construction

The proposed lines, to be built on existing right-of-way within the city of Long Beach, will parallel an existing 220-kv double-circuit tower line, an existing 66-kv multi-circuit (six to eight circuits) tower line, and for a portion of the distance an existing 66-kv double-circuit tower line. In addition, for four of the five miles the proposed lines will be parallel to and between the Long Beach Freeway and the Los Angeles River Flood Control Channel.

The lines will be constructed with self-supporting aesthetically-designed contemporary, double-circuit steel

structures fabricated from flat steel plates formed into multi-faced or round tapered tubular poles. Generally, the poles will be topped with three steel crossarms set symmetrical to the pole.

The average structure height will be approximately 130 feet and the average span length will be approximately 900 feet for compatibility and coincidence with existing structures. The structures are to be painted so as to blend with the surroundings through which the line traverses.

The conductors will consist of a two-conductor bundle per phase of 1033.5 MCM Aluminum Conductor Steel Reinforced (ACSR) with a thermal capacity of 2,320 amperes per circuit.

The access roads presently located in the existing right-of-way will be utilized for the construction and maintenance of the proposed lines obviating the necessity of extensive road building. The new structures will be assembled in the right-of-way with a minimum, easily correctible, disturbance to adjacent areas.

The right-of-way property below the existing and proposed transmission lines, varying in width from 275 feet to 309 feet, is mainly employed for agricultural usage consisting of storage areas for nurseries, small horse stables and riding areas, and truck farms producing mostly green vegetables. No unique biological species exist in the right-of-way. Also man-made alterations to the area preclude the existence of any archaeologically or historically significant sites.

The line is designed to minimize radio and television interference and the audible noise level of the corona discharges, although varying with the humidity of the atmosphere, will remain

below the ambient noise level. The proposed lines will not cause any additional visual impact on the parks and recreational area within one mile of the line because of the screening effect of existing transmission lines and structures.

Necessity for Proposed Transmission Facility

The Edison 220-kv transmission network is designed to maintain transmission line loadings within normal thermal ratings during one-line-out contingencies or within 10 percent above normal ratings during two-line-out contingencies for major loads above 400 MW. The existing facilities are inadequate to meet the anticipated 1975 load of 500 MW even under one-line-out contingencies. It is thus beyond question that such existing facilities are completely inadequate to meet the normally accepted two-line-out design criteria. The proposed construction, providing a reliable two-line-out capacity of 935 MW is a practical and economical means to provide the required reinforcement necessary to maintain service to Hinson Substation should either or both of the existing Hinson-Lighthipe 220-kv transmission lines be out of service.

Schedule for Construction of Lines

The estimated schedule for construction of the lines is as follows:

<u>Item</u>	<u>Start</u>	<u>Complete</u>
Cleaning Land	November, 1974	December, 1974
Footings	December, 1974	February, 1975
Tower Erector	February, 1975	April, 1975
Conductor Stringing	March, 1975	June, 1975
Inspect & Release	June, 1975	July, 1975
Operating Date	July 1, 1975	

Cost of Project

The estimated cost of the proposed project is as follows:

<u>CPUC Account No.</u>	<u>Item</u>	<u>Estimated Cost</u>
354	Footings	\$ 383,800
	Tower Steel	883,600
	Labor	336,500
	Sub-Total (354)	<u>\$1,603,900</u>
356	Conductor	\$ 169,300
	Insul. and Hardware	100,500
	Labor	143,100
	Sub-Total (356)	<u>\$ 412,900</u>
359	Roads and Trails	\$ -0-
	Sub-Total (359)	<u>\$ -0-</u>
	Removal	\$ 5,200
	Contingency	153,800
	Engineering	64,500
	Total Estimated Construction Cost	<u>\$2,240,300</u>

Alternatives

Edison's route study indicated that there was sufficient room on the existing right-of-way for the proposed construction. Inasmuch as this right-of-way was the most direct and economical route and would obviously have a lesser impact on the environment than a

new right-of-way, Edison concluded that further route study of alternate routes was unnecessary.

An "order-of-magnitude" cost estimate of undergrounding the proposed lines indicated that such underground construction would cost approximately \$5 million more than the overhead lines. Inasmuch as the right-of-way has several overhead transmission facilities, it was concluded that environmental benefits were insufficient to justify the three-fold increase in construction costs.

A cost comparison indicated that conventional lattice tower construction would cost slightly less than two-thirds the cost of the proposed aesthetically designed transmission line. Edison concluded, however, that the additional expenditure was well justified by the improvement in appearance of the lines.

#### Governmental Agency Review

As previously stated, the Negative Declaration was forwarded to the State Clearinghouse and comments were generated only by the Air Resources Board. In addition, on July 24, 1973 copies of the Negative Declaration, Examiner's Ruling, and Notice of Intent were mailed to the Metropolitan Clearinghouse, the State Highway Engineer, the Los Angeles County Board of Supervisors, the Long Beach City Planning Department, the State of California Department of Public Works, the Long Beach Bureau of Franchises and Public Utilities, the Long Beach City Council, and the Los Angeles City Planning Department. No comments were received from any of these, although the California Department of Public Works had by letter dated April 9, 1973 previously stated it had no objection to the proposed crossing of the existing highway, provided the construction was coordinated with the California Division of Highways.

The effect of the proposed route on community values had previously been reviewed with the city of Long Beach. The Long

Beach Bureau of Franchises and Public Utilities passed a motion that it had no objection to the proposed transmission lines to be located entirely within the city limits of Long Beach.

Notice of the proposed construction of these lines will be filed with the Federal Aviation Administration by Edison. Based on the applicable criteria of Part 77, Federal Aviation Regulations, Edison is informed that the proposed structures will not have a substantial adverse effect upon the safe and efficient use of navigable airspace and will not be a hazard to air navigation.

No request for a public hearing has been received by the Commission.

Findings

1. The construction, operation, and maintenance of the 220 kv transmission facility described in this application is reasonably required to provide sufficient capacity to meet applicant's design criteria of maintaining normal thermal ratings during one-line-out contingencies and within 10 percent above normal thermal ratings during two-line-out contingencies for loads above 400 mw.

2. The construction and operation of these lines 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, or parks, recreational and scenic areas, or historic sites and buildings or archaeological sites, or community values, nor will it otherwise have any undue influence on the environment.

3. The proposed project would ordinarily be expected to have a significant effect on the environment.

4. The California Public Utilities Commission is the lead agency for the proposed project.

5. The proposed project will have no significant effect on



the environment due to circumstances peculiar to this project as follows:

- (a) It is to be built on aesthetically pleasing structures parallel to existing 220-kv and 69-kv transmission lines located in an existing right-of-way and will not have any effect on rare biological specimens or archaeological or historically significant sites.
- (b) It will utilize existing access roads.
- (c) It will have no significant effect on radio or television reception nor on the ambient noise level.
- (d) It is not objected to by the local public agency within which it is located.

6. The total installed capacity of the Hinson Substation, including the proposed transmission lines will be 2,650 MW as compared to the present capacity of 850 MW. The normal design criteria or providing capacity under two-line-out emergency conditions limits the reliable capacity of the proposed project to 935 MW with no significant growth inducing impact in the area.

7. The Negative Declaration, having been sent for all required governmental review and adopted by the Commission as below described, constitutes full compliance with EIR requirements.

8. The Negative Declaration issued by Examiner Johnson on July 24, 1973 is adopted by the Commission and its contents have been considered in making a decision on the project.

9. Applicant's proposal is in the public interest; public convenience and necessity now require and will require the construction of the 220-kv transmission facility as described in this application; a public hearing is not necessary.

The certificate granted herein shall be subject to the following provision of law:

The Commission shall have no power to authorize the capitalization of this certificate of public convenience and necessity or the right to own, operate, or enjoy such certificate of public convenience and necessity in excess of the amount (exclusive of any tax or annual charge) actually paid to the State as the consideration for the issuance of such certificate of public convenience and necessity or right.

The authorization granted by this decision is for the purpose of this proceeding only, and is not to be construed as indicative of amounts to be included in proceedings for the determination of just and reasonable rates.

IT IS ORDERED that:

1. The Secretary of the Commission shall file a Notice of Determination with the Secretary for Resources and the planning agencies of any city or county which will be affected by the project authorized by this decision.

2. A certificate of public convenience and necessity is granted to Southern California Edison Company to construct and operate approximately five miles of double-circuit, 220-kv transmission line from Hinson Substation to Lighthipe Substation, together with related appurtenances, as described in the application.

3. The authorization granted by this decision shall expire if not exercised within three years from the date hereof.

The effective date of this order shall be twenty days after the date hereof.

Dated at San Francisco, California, this 23rd day of APRIL, 1974.

Vernon L. Sturgeon  
President  
William J. Squire  
William J. Squire  
William J. Squire  
William J. Squire  
Commissioners