

Decision No. 52218**ORIGINAL**

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 present and )  
 future public convenience and neces- )  
 sity require or will require the )  
 construction and operation by )  
 applicant of a new steam electric )  
 generating plant to be known as )  
 Redondo Plant No. 2, together with )  
 the transmission lines and other )  
 appurtenances to be used in connection )  
 with said plant. )

Application No. 35132  
 (First Supplemental)

Bruce Renwick, Rollin E. Woodbury, Harry W.  
 Sturges, Jr., and John Bury by Rollin E. Woodbury  
 and John Bury, for applicant.  
 California Farm Bureau Federation by J. J. Deuel,  
 interested party.  
L. S. Patterson, for the Commission staff.

O P I N I O NApplicant's Request

Southern California Edison Company, a California corporation, engaged in the business of generating, transmitting and distributing electricity in the central and southern portions of the State of California as a public utility, filed this first supplemental application on August 31, 1955, requesting a certificate of public convenience and necessity to construct and thereafter operate a new second unit, to be known as Unit No. 6, and related structures, equipment and facilities at its existing Redondo Steam Station No. 2 in the City of Redondo Beach, California. Redondo Plant No. 2 and the first unit therein, Unit No. 5, were authorized by Decision No. 50133 on June 7, 1954. Space in the plant was provided for this second unit along with certain facilities to be used jointly by both units.

The proposed generating unit will have a nameplate rating of 156,250 kw and will be directly connected to a tandem compound steam turbine operating at 3,600 rpm. Steam will be produced in a single boiler having an operating capacity of 1,140,000 pounds of steam per hour for delivery to the turbine at a steam pressure of 1,800 psi, and 1,000° F. temperature. The turbine condenser will have approximately 90,000 square feet of cooling surface and will use sea water for cooling purposes. Energy will be generated at 18,000 volts and stepped up to 220,000 volts by three, single-phase, 56,000-kva transformers. The energy will be transmitted 4-1/2 miles to the La Fresa Substation over the double circuit, 220-kv transmission line authorized for construction at the time the first unit was authorized. A plot plan of the proposed unit is shown on Exhibit C attached to the application.

#### Public Hearing

After due notice public hearing was held on this first supplemental application before Examiner M. W. Edwards, on September 28, 1955, at Los Angeles. At the hearing applicant presented testimony by three witnesses. Prior to the hearing the Commission staff had investigated the applicant's proposal and at the hearing placed pertinent information into the record. No one entered any objection to the granting of applicant's request. The representative of the California Farm Bureau Federation urged the Commission to give favorable consideration to this first supplemental application.

#### Additional System Capacity Requirements

Applicant anticipates future load growth at the rate of approximately 7 per cent per year or roughly 160,000 kw per year. During the past 10 years the experienced rate of growth has been in excess of 7 per cent per year on the average. Applicant estimates that the second unit in Redondo No. 2 plant can be completed by September, 1957.

The present program of applicant is to bring in new plants in the following sequence:

<u>Name and Type of Plant</u>	<u>Available Capacity</u>	<u>Date Available</u>
El Segundo Steam (Unit No. 2)	160,000 kw	Fall 1956
Alamitos Steam (Unit No. 1)	160,000	Fall 1956
Portal Hydro Plant	10,000	Fall 1956
Alamitos Steam (Unit No. 2)	160,000	Fall 1957
Redondo No. 2 Steam (Unit No. 6)	160,000	Fall 1957
Steam (Unnamed)	160,000	Summer 1958
	<u>810,000</u>	

During this three-year period applicant has programmed some 330,000 kw more than the expected load growth. This additional amount is in part justified by the loss, at the time the El Segundo No. 2 Unit is completed, of 125,000 kw of firm capacity now being purchased from Pacific Gas and Electric Company.

The indicated system capacity is 2,980,420 kw at the end of 1957 and with an expected load of 2,520,000 kw leaves a margin of 460,420 kw or about 18.3 per cent. Such assumption is based on a year of favorable water conditions. In a dry year the available capacity would be reduced by some 160,000 kw, leaving a margin of 300,420 kw or approximately 11.9 per cent.

The above conclusions are based on the Edison system operating as an isolated system. It does in fact operate in parallel with other systems located in Southern California, Arizona and Nevada and probably could obtain up to 100,000 kw in an emergency. Under this condition it is questionable if the applicant needs the full amount of 320,000 kw of proposed new capacity in 1957.

At the time of the hearing applicant did not have a program for 1958 but late filed an exhibit indicating the need for another 160,000 kw of capacity in 1958. On that basis the available capacity would be 3,140,420 kw and with a load of 2,680,000 kw leaves a margin of 460,420 or about 17.2 per cent.

On a dry year basis this margin would drop to about 11.2 per cent. Also, applicant would like to retire Generator Units Nos. 4, 5, 6 and 7 R at the Long Beach Steam Plant after first placing them on cold standby, effective January 1, 1957, which would reduce the system capacity by some 64,500 kw.

By the end of 1958 the margins should drop to a more reasonable relationship. The size of the units is such that it is difficult to keep in step and to fit the capacity to the load in the most economic manner. However, applicant should realize important fuel and operative economies from these larger units compared to a larger number of smaller units.

#### Estimated Plant Cost

The increase in production capital which will result from the proposed second unit is estimated at \$19,659,000. The total estimated cost of Redondo Plant No. 2 when completed, exclusive of the cost of any transmission facilities, is \$46,347,000. A segregation of this sum to the principal categories of equipment follows:

	<u>Unit No.5</u>	<u>Unit No.6</u>	<u>Total Station</u>
<u>Redondo Plant No. 2</u>			
Land and Land Rights	\$ 136,000	\$ -	\$ 136,000
Structures and Improvements	2,106,000	997,000	3,103,000
Boiler Plant Equipment	9,879,000	9,316,000	19,195,000
Turbo-Generators	10,901,000	6,231,000	17,132,000
Other Equipment	3,666,000	3,115,000	6,781,000
Total Cost	\$26,688,000	\$19,659,000	\$46,347,000
Cost per kw of Nameplate Capacity	\$170.80	\$125.81	\$148.31

Applicant proposes to finance the construction of this second unit from available funds or funds to be obtained through the sale of bonds or stocks as the Commission shall hereafter, upon proper application, authorize for that purpose.

Annual Operating Cost

Applicant's estimated annual cost of operation was prepared on the basis of the completed Redondo Plant No. 2 with two units and may be summarized as follows:

<u>Annual Expense Item</u>	<u>Amount</u>
Fuel	\$3,930,000
Other Operation and Maintenance	633,000
Depreciation (Straight Line)	1,155,000
Income Taxes	1,296,000
Ad Valorem Taxes	1,670,000
Interest or Return on Capital	1,426,000
Total	<u>\$10,110,000</u>

The above fuel cost is predicated on an average composite price for oil and gas of \$1.55 per barrel. On the basis of 1,640,000,000 kwhr annual output the unit cost of energy produced is estimated at 6.16 mills per kwhr.

Licenses, Franchises and Rights

Applicant represents that the necessary permits have been, or will be, obtained for the construction, operation and maintenance of the plant from the City of Redondo Beach, Corps of Engineers, U. S. Army, the Regional Water Pollution Control Board and the Air Pollution Control Board of Los Angeles County. Applicant proposes to obtain any additional franchises and permits from public authorities which may be necessary to complete the project and put it into operation.

Conclusions

In view of the past trend in growth of demand for electric energy on applicant's system it appears reasonable to project a growth trend into the future of approximately 7 per cent and conclude that the proposed new capacity will be needed when scheduled to help supply the future public demands for electric energy. The estimated cost of energy from this proposed project appears favorable and should not unreasonably increase the over-all system unit cost of energy production. While the margin steps up and

appears a little high in 1957 due to the size of the units, this condition should not persist for more than a few months.

It is our opinion that the applicant has the financial means to construct the project and place it into successful operation. After considering the record in this proceeding and the statement by the Farm Bureau representative it is our conclusion that the proposed construction is in the public interest and that an order should be issued in general granting the authority requested by applicant.

The certificate of public convenience and necessity issued herein is subject to the following provision of law:

That 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.

O R D E R

The above-entitled application having been considered, a public hearing having been held, the matter having been submitted and now being ready for decision,

IT IS HEREBY FOUND AS A FACT that public convenience and necessity require the construction, operation and maintenance of the 160,000 kw steam electric unit as shown on Exhibit C attached to the application, known as Unit No. 6 in Redondo Plant No. 2 and as described in the application; therefore,

IT IS HEREBY ORDERED that Southern California Edison Company be and it is hereby granted a certificate that public convenience and necessity require the construction, operation, maintenance and use of the steam electric generating plant described in this application, the procurement of the requisite lands or land rights, permission or such franchises as may be necessary for the construction or operation of the project, the production, transmission, distribution, delivery and sale of such electric energy as may be generated by the plant to its present and prospective customers in accordance with its certificates of public convenience and necessity and with its rates, rules and regulations duly filed with the Commission.

IT IS HEREBY FURTHER ORDERED that Southern California Edison Company shall file with this Commission a detailed statement of capital costs of the generation project within six months following the date of completion.

The authorization herein granted shall expire if not exercised within three years from the date hereof.

Dated at Los Angeles, California, this 14<sup>th</sup> day of November, 1955.

John E. Mitchell  
President  
Justice J. C. ...  
Paul ...  
...  
...  
Commissioners