

ORIGINALDecision No. 52187

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)
 necessity require or will require)
 the construction and operation by)
 applicant of a new steam electric)
 generating station to be known as)
 HUNTINGTON BEACH STEAM STATION)
 (formerly referred to as South Coast)
 Steam Station), together with the)
 transmission lines and other appur-)
 tenances to be used in connection)
 with said Station.)

Application No. 37862
 (Amended)

Bruce Renwick, Harry W. Sturges, Rollin E. Woodbury
 and John Bury by Rollin E. Woodbury and John Bury,
 for applicant.
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 the original application herein on March 23, 1956, and amended the title on April 16, 1956, requesting a certificate of public convenience and necessity to construct and thereafter operate a new steam-electric generating plant, with the first and second units therein of 200,000-kw capacity each, including transmission lines and other appurtenances. The proposed steam-electric plant is to be known as the Huntington Beach Steam Station and will be located in the southern portion of the City of Huntington Beach, upon a coastal site consisting of approximately 60 acres as shown by a map designated as Exhibit B attached to the application.

The Proposed Plant

The plans for the new generating station provide for the initial installation of two steam turbine electric generator units and related structures, equipment and facilities for a total initial station nameplate generating capacity of 400,000 kw. The type of turbine generator proposed for each unit is comprised of a high pressure turbine, a reheat turbine and a low pressure turbine arranged on two shafts rotating at speeds of 3,600 and 1,800 rpm for the high and low pressure elements respectively, with a separate 128,000-kva generator coupled to each shaft in a cross-compound arrangement and with no separate auxiliary generator. Station auxiliary power normally would be obtained from a transformer attached to the generator main leads with appropriate station service reserve transformer. Energy will be generated at 13,800 volts and stepped up to 220 kv by three single phase 82,000-kva transformers for each unit.

For each of the initial two units applicant plans a single boiler having an operating capacity of 1,560,000 pounds of steam per hour for delivery of steam to the turbine throttle at 2,400 pounds per square inch pressure and 1,050 degrees Fahrenheit temperature with 1,000 degrees Fahrenheit as a reheat cycle temperature. Sea water will be used for cooling water purposes. Applicant plans to use fuel oil and natural gas as may be available to produce steam to operate the prime movers.

The proposed in-service date for the first unit is June 1958 and for the second unit, December 1958.

Public Hearing

After due notice a public hearing was held upon this application before Commissioner Rex Hardy and Examiner M. W. Edwards on May 1, 1956 at Los Angeles. At the hearing applicant presented

three exhibits and testimony by three witnesses in support of its application. The Commission staff, represented by an electrical engineer, cross-examined the witnesses for the purpose of developing in the record for the Commission to consider the pertinent facts as to the present load, expected load growth, the availability of fuel, the economics involved in such large units and the probable effect on the system's earnings. No one offered any objection to the granting of the request.

Additional System Capacity Requirements

One of applicant's witnesses testified that in 1954 the sales of energy increased by 6.9 per cent over 1953 but in 1955 this figure jumped to 13.9 per cent over 1954. The peak demand increased even more than the energy sales and showed a growth of 7.8 per cent in 1954 and 14.4 per cent in 1955. For the next four years applicant forecasts the following trend in growth of peak demand:

<u>Year</u>	<u>Estimated Peak Kw</u>	<u>Estimated Increase in Peak Kw</u>	<u>Ratio</u>
1956	2,500,000	215,000	9.4%
1957	2,730,000	230,000	9.2
1958	2,955,000	225,000	8.2
1959	3,195,000	<u>240,000</u>	8.1
	Four-Year Total	910,000	

The present program of applicant is to install the following major new plants during this four-year period:

<u>Date</u>	<u>Unit</u>	<u>Capacity - Kw</u>
August 1956	El Segundo #2	165,000
September 1956	Alamitos #1	165,000
July 1957	Redondo #6	165,000
September 1957	Alamitos #2	165,000
June 1958	Huntington Beach #1	200,000
December 1958	Huntington Beach #2	200,000
May 1959	Mammoth Pool	126,000
		<u>1,186,000</u>

While the above new capacity program is some 276,000 kw greater than the estimated system peak-load growth, applicant plans in January 1958 to retire 65,000 kw of capacity comprised of Long Beach Plant No. 1 and Unit No. 7R, and the Vernon Diesel plant, and will gradually relinquish 200,000 kw of firm capacity being purchased from the Pacific Gas and Electric Company over this period. In reality, therefore, the net new capacity is only slightly greater than the anticipated load growth. Applicant expressed doubt that it will be able to obtain the necessary Federal Power Commission approval on the Mammoth Pool project in time to complete the plant in 1959, and if the load growth exceeds the present estimates, applicant indicated that it may need to program two additional 200,000 kw steam units in 1959.

In Exhibit No. 1 applicant shows that after allowing for 200,000 kw of spinning reserve its system capacity deficit will be 293,000 kw just prior to bringing in Huntington Beach No. 2 unit in November 1958, if a year of adverse hydro conditions prevails. Applicant expects to be able to provide for this deficit by non-firm energy purchase and mutual standby from other utilities in the Pacific Southwest Power Area. Included in Exhibit No. 1 is a summary of the power resources for the entire Pacific Southwest Power Area which indicates that in December 1958 the estimated margin after scheduled maintenance will be 14.3 per cent in an adverse hydro year. Applicant expressed concern that the total area margin would be undesirably low if it were not permitted to install the two 200,000 kw units at Huntington Beach as programmed.

Estimated Plant Cost

The increase in production capital which will result from the proposed Huntington Beach plant for the first two units is estimated as follows:

<u>Item</u>	<u>Unit No. 1</u>	<u>Unit No. 2</u>	<u>Total</u>
Land and Land Rights	\$ 317,000	\$ -	\$ 317,000
Clearing and Grading	957,000	-	957,000
Structures and Improvements	1,716,000	798,000	2,514,000
Boiler Plant Equipment	13,270,000	12,672,000	25,942,000
Turbine Generator Units	14,962,000	10,416,000	25,378,000
Accessory Electrical Equip.	2,272,000	1,582,000	3,854,000
Other Equipment	2,506,000	1,532,000	4,038,000
Total	<u>\$36,000,000</u>	<u>\$27,000,000</u>	<u>\$63,000,000</u>
Cost per Kw of Nameplate Capacity	\$180.00	\$135.00	\$157.50

Applicant proposes to finance the construction of this steam electric generating station from available funds or funds to be obtained through the sale of securities as the Commission shall hereafter, upon proper application, authorize for that purpose.

The above cost is exclusive of an estimated cost of \$586,000 for a comparatively short transmission line between the proposed plant site and the Ellis Substation where the plant output will be fed into applicant's 220-kv transmission network.

Annual Operating Cost

Applicant's estimated annual cost of operation for the first two units of the Huntington Beach Steam Station is:

<u>Annual Expense Item</u>	<u>Amount</u>
Fuel (at 60% capacity factor)	\$ 5,872,000
Other operation and maintenance	640,000
Depreciation (straight line - 40 yr. life)	1,543,000
Income taxes (54% composite rate - Fed. and State)	1,762,000
Ad valorem taxes (\$5.4247 per \$100 assessed value)	1,367,000
Return (6% on average depreciated capital)	1,937,000
Total	<u>\$13,121,000</u>

The above fuel cost is predicated on an average composite price for oil and gas of about \$1.91 per barrel and an operating efficiency of 9,132 Btu per kwhr. On the basis of 2,140,000,000 kwhr annual output the unit cost of energy to be produced is estimated at 6.14 mills per kwhr. Currently, the posted price of fuel oil is above \$2.00 per barrel in the Los Angeles Basin and if the the cost of fuel rises to \$2.50 per composite barrel applicant estimates the unit cost would increase to 6.99 mills per kwhr. While applicant had not contracted for a supply of fuel, it indicated that plans for this unit are now in a formative stage and it will be a year or so before definite contracts need be made. It anticipates that ample supplies of fuel will be available and, if necessary, oil could be imported from Venezuela at about \$3.00 per barrel, coal could be imported from Utah for about \$12.00 per ton (\$3.00 per equivalent barrel) or gas may be imported from Canada at lesser cost.

In view of the size of this plant and the large increase in rate base the year it becomes operative, the depressing effect it may have on applicant's earning position was discussed. For 1958 applicant estimates its rate base will be about \$900,000,000 which will be increased by about 7 per cent because of this new plant. For 1956 the present outlook is that applicant will earn a return of about 5.5 per cent which will decrease to about 5.3 per cent in 1958, depending in part on the cost of fuel. An excessively large unit may require a sharp increase in system reserve simply to protect against any outage of the large unit. The most economic size of a new unit must be determined by weighing its cost, its fuel and operating efficiency as well as its effect on system reserve requirements. Applicant showed that its load is of such magnitude and is growing so fast that in 1958 each

200,000-kw unit would represent a capacity increment of about 7 per cent. Such generating additions for a utility of the size of applicant appear to be within a reasonable economic range.

Permits, Franchises and Competition

Applicant proposes to obtain all necessary permits from public authorities, including the City of Huntington Beach, the United States Department of Army, Corps of Engineers, the Regional Water Pollution Control Board, the Orange County Air Pollution Control District and any additional franchises and permits from public authorities which may be necessary for the construction of the new generating station, transmission lines and other appurtenances. Applicant states that the proposed new construction is not likely to compete with any other public utility, corporation, person or entity, public or private, but will provide a necessary additional supply of capacity and energy to its electric system.

Conclusions and Findings

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 8 to 9 per cent and conclude that the proposed new capacity will be needed when scheduled to help supply the future public demands for electric energy. While the estimated unit cost of electric energy from the proposed plant appears favorable, the sizeable increase in rate base might adversely affect system earnings; however, any reduced rate of return for the system should be temporary and continue only during the load-building period.

It is our opinion that applicant has the financial means to construct the plant and place it into successful operation. After considering the record in this proceeding and the showing with regard to the probable need for this additional capacity in

the entire Pacific Southwest Power Area, it is our conclusion that the construction of the proposed Huntington Beach Steam Station with two 200,000-kw units is in the public interest.

The Commission finds that public convenience and necessity require the construction, operation and maintenance of the proposed steam-electric plant together with the necessary appurtenances and transmission lines, and that an order should be issued granting the certificate as requested.

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; 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 proposed Huntington Beach Steam Station consisting of two 200,000-kw units generally as described in the 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 of the first two units in the plant.

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

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

Dated at San Francisco, California, this 4th day of June, 1956.

John E. Mitchell President
Justin F. Curren
Ray L. Intereven
H. Hardy

 Commissioners

Commissioner Matthew J. Dooley, being necessarily absent, did not participate in the disposition of this proceeding.