

ORIGINALDecision No. 62861

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 unit, to be known as)
 Unit No. 4, at its ETIWANDA STEAM)
 STATION, together with other)
 appurtenances to be used in connec-)
 tion with said station.)

Application No. 43665
 (Filed August 4, 1961)

Rollin E. Woodbury, H. W. Sturges, Jr., and
 William E. Marx, by William E. Marx, for
 applicant.
 William E. Warne, by K. J. Hedstrom, for
 California Department of Water Resources,
 interested party.
L. S. Patterson, for the Commission staff.

C O P I N I O NApplicant's Request

Southern California Edison Company (Edison) requests a certificate of public convenience and necessity to construct and operate an additional steam electric generating unit at its Etiwanda Steam Station, together with auxiliaries, transmission lines and appurtenant facilities. The new unit, to be known as Unit No. 4, will be located with Units Nos. 1, 2 and 3 on Edison's 207-acre site in San Bernardino County, near Fontana. Unit No. 4 will have a turbine-generator rating of 310,000 kilowatts.

Prior Certificates

The Commission, by Decision No. 45307, dated February 27, 1951, in Application No. 32063, granted a certificate of public

convenience and necessity authorizing Edison to construct and operate two 125,000 kilowatt units at the Etiwanda site, together with appurtenances therefor. Unit No. 1 was placed in operation in July 1953, and Unit No. 2 was placed in operation in November 1953.

By Decision No. 61985, dated May 16, 1961, in Application No. 43177, the Commission granted Edison further authorization to construct and operate Unit No. 3 at the Etiwanda Steam Station. Unit No. 3 is now under construction and is scheduled to be placed in operation in May 1963. It, too, will have a turbine-generator rating of 310,000 kilowatts.

Proposed Plant Additions

Unit No. 4 will increase the total capacity of Etiwanda Steam Station to 370,000 kilowatts, based on turbine-generator ratings. It will be an outdoor type unit with centralized, computer-automated control facilities. Water for the circulating water cooling system will be supplied from the Colorado River Aqueduct, a branch of which flows through the station site. Natural gas will be burned as fuel, with provision for the alternate burning of fuel oil.

In addition to the installation of the steam turbine-electric generator and related structures and equipment for Unit No. 4, Edison proposes to construct an additional 220,000 volt transmission circuit between Etiwanda Steam Station and Walnut Substation.

Edison represents that, based upon projections into the future of recently experienced system peak demand and energy requirements, it will require Unit No. 4 by October 1963. To

meet such an operating date, construction of Unit No. 4 should commence during 1961. Edison states that certain economies of construction can be achieved if the work on Unit No. 4 is performed in conjunction with similar work on Unit No. 3.

Plant Costs

Exhibit 3 shows that the estimated cost of constructing Unit No. 4, including general overheads, is \$36,645,000, or approximately \$118 per kilowatt based on set rating. This compares favorably with the cost per kilowatt of other recent steam units installed in the Edison system. Other capital costs attributed to the addition of Unit No. 4, such as transmission facilities and proration of joint facilities common to all units, are estimated at \$4,919,000.

The total cost and cost per kilowatt of capacity, by units of the Etiwanda Steam Station, are as follows:

<u>Plant</u>	<u>Capacity-Kw</u>	<u>Capital Cost</u>	<u>Cost per Kw</u>
Units Nos. 1 & 2	250,000	\$ 43,295,000	\$173
Unit No. 3	310,000	43,155,000	139
Unit No. 4	<u>310,000</u>	<u>36,645,000</u>	<u>118</u>
Total	370,000	\$123,095,000	\$141

Operating Costs

The total annual costs of Unit No. 4, including return at a rate of 6.25 percent, are estimated to be \$9,426,000, based upon operation of the unit at 62.8 percent capacity factor using natural gas half of the time and fuel oil the other half. On the foregoing cost basis, which assumes fuel at present prices, the estimated average total cost per kilowatt hour produced by Unit No. 4 would be 5.56 mills.

Load Growth

Edison's net system peak demand has increased from 2,284,900 kilowatts in 1955 to 3,432,000 kilowatts in 1960, and

Edison estimates that such demand will increase to 4,410,000 kilowatts in 1963 and to 4,730,000 kilowatts in 1964. Net system energy requirements have increased from 12.35 billion kilowatt hours in 1955 to 19.14 billion kilowatt hours in 1960. Edison estimates that such energy requirements will increase to 24.35 billion kilowatt hours in 1963 and to 26.15 billion kilowatt hours in 1964. Edison's net system peak demands and energy requirements as recorded for the years 1955 through 1960 and as estimated through 1964, are as follows:

Year	Peak Demand Kilowatts (Thousands)	Increase Over Prior Year		Energy Requirement KWH (Millions)	Increase Over Prior Year	
		Kilowatts (Thousands)	Per- cent		KWH (Millions)	Per- cent
1955	2,284.9	287.8	14.4	12,348.2	1,428.4	13.1
1956	2,504.0	219.1	9.6	13,763.1	1,414.9	11.5
1957	2,632.2	128.3	5.1	14,943.0	1,179.9	8.6
1958	2,962.0	329.2	12.5	15,804.1	861.1	5.8
1959	3,131.0	219.0	7.4	17,575.5	1,771.4	11.2
1960	3,432.0	251.0	7.9	19,143.2	1,567.7	8.9
1961	3,780.0	348.0	10.1	20,780.4	1,637.2	8.6
1962	4,090.0	310.0	8.2	22,550.0	1,769.6	8.5
1963	4,410.0	320.0	7.8	24,350.0	1,800.0	8.0
1964	4,730.0	320.0	7.3	26,150.0	1,800.0	7.4

The tabulation below, taken from Exhibits 1 and 7, shows Edison's estimates of minimum system net margins of available generating capacity over system peak demands for the next three years on the basis of adverse hydroelectric generating conditions:

<u>Year</u>	<u>Adverse Hydro Conditions</u>	
	<u>Net Margin Megawatts</u>	<u>Percent Net Margin</u>
1962	435	11.2
1963	473	11.1
1964	395	8.5

The above estimates reflect operating dates for the addition of new generating capacity to the system according to the following construction schedule for authorized and proposed steam electric generating units:

<u>Operating Date</u>	<u>Unit</u>	<u>Capacity-Kw</u>
December, 1961	Alamitos No. 3	310,000
June, 1962	Alamitos No. 4	310,000
May, 1963	Etiwanda No. 3	310,000
October, 1963	Etiwanda No. 4	310,000

The load and resource data presented in Exhibit 7 show that, if construction of Etiwanda Unit No. 4 is delayed so that it will not become operational until October of 1964, the system's net margin under adverse hydro conditions will be reduced to 7.2 percent or 326 megawatts in September 1964.

Findings and Conclusions

The evidence shows that, in view of the continuing growth in demand and energy requirements that applicant is experiencing, the generating capacity addition proposed herein will be needed to provide adequate and reasonable electric service to the public within the area it serves.

We find and conclude, therefore, that the public convenience and necessity require the construction, operation, maintenance

and use of Etiwanda Steam Station Unit No. 4, together with auxiliaries, transmission lines and appurtenant facilities, as set forth in the application.

The certificate hereinafter granted shall be 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, public hearing having been held, the matter having been submitted and now being ready for decision,

IT IS ORDERED that:

1. A certificate of public convenience and necessity is granted to Southern California Edison Company to construct, operate, maintain and use Etiwanda Steam Station Unit No. 4, together with auxiliaries, transmission lines and appurtenant facilities, all as described in the application.

2. Applicant shall file with this Commission a detailed statement of the capital costs of Etiwanda Steam Station Units Nos. 3 and 4 and the auxiliaries, transmission lines and appurtenances related thereto within one year following the date on which the second of the said two units is placed in commercial operation.

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

4. If the authorization herein granted is exercised, compliance with paragraph 2 of this order will satisfy the requirements of paragraph 2 of the order in Decision No. 61985.

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

Dated at San Francisco, California, this 29th day of NOVEMBER, 1961.

[Signature]
President

[Signature]

[Signature]

[Signature]

Commissioners

Commissioner Peter E. Mitchell, being necessarily absent, did not participate in the disposition of this proceeding.