

ORIGINAL

Decision No. 66473

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 unit, to be known as)
 Unit No. 5, at its ALAMITOS STEAM)
 STATION, together with other appur-)
 tenances to be used in connection)
 with said station.)

Application No. 45620
Filed July 25, 1963

Amendment Filed
November 12, 1963

OPINION AND ORDER

By this application, as amended, Southern California Edison Company requests a certificate of public convenience and necessity to construct and operate at its Alamitos Steam Station a steam electric generating unit to be known as Unit No. 5, rated at 450,000 kw together with related structures, equipment and facilities and other appurtenances.

Pursuant to authority granted by Decision No. 51798 in Application No. 36873, applicant constructed and placed in commercial operation at Alamitos Steam Station Units Nos. 1 and 2, each rated at 156,250 kw in September 1956 and February 1957, respectively. Subsequently, pursuant to authority granted by Decision No. 59724 in Application No. 41620 and Decision No. 60644 in Application No. 42164, applicant constructed and placed in commercial operation Units Nos. 3 and 4, each rated at 310,000 kw in December 1961 and June 1962, respectively.

Unit No. 5, as proposed, will have a turbine-generator set rating of 450,000 kw which will result in a total set rating for the five units of 1,382,500 kw. Applicant expects the actual maximum net capability of Unit No. 5 to be 488,500 kw.

The turbine-generator for the new unit will be a cross compound type with steam being supplied by a single boiler having a capacity of 3,316,000 pounds of steam per hour for delivery to the turbine throttle at 3,500 pounds per square inch gage pressure and 1000° F. temperature with reheat to 1000° F. The estimated heat rate for Unit No. 5 at the expected maximum net output is 8889 BTU/KWHR for gas fuel and 8472 BTU/KWHR for oil fuel. There will be no separate auxiliary generator as auxiliary power for the unit will be obtained from the main generator bus through a transformer.

Sea water obtained from Alamitos Bay and the Los Cerritos Drainage Channel will be used for cooling purposes.

Applicant states that natural gas will be burned for fuel with provision for alternate burning of fuel oils including high viscosity fuel oil.

The new unit will be designed as an outdoor-type station with centralized control facilities and with provision for future addition of digital computer equipment. It is proposed that the power output of the new unit will be transmitted to applicant's interconnected system through existing transmission lines, some of which have been reinforced by bundling conductors and some of which are scheduled to be so reinforced.

Applicant's records and studies, submitted with the original application, indicate that its net system peak demand has

increased from 2,632,800 kilowatts in 1957 to 4,157,000 kilowatts in 1962, and is estimated to increase to 5,740,000 kilowatts in 1966. During the same period the net system energy requirement has increased from 14.94 billion kilowatt-hours in 1957 to 22.62 billion kilowatt-hours in 1962, and is estimated to increase to 31.41 billion kilowatt-hours in 1966.

The tabulation below, taken from Exhibit I, shows applicant's estimates of the system's net margins of available generating capacity over system peak demands at the time of annual peak demand in December for each of the next four years based on adverse hydro-electric generating conditions, except for the year 1963, which reflects the current hydro outlook.

<u>Year</u>	<u>Net Margin Megawatts</u>	<u>Per Cent Net Margin</u>
1963	939	20.6
1964	790	16.0
1965	705	13.2
1966	740	12.8

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

<u>Operating Date</u>	<u>Unit</u>	<u>Capacity - KW</u>
October, 1963	Etiwanda No. 4	310,000
August, 1964	El Segundo No. 3	325,000
April, 1965	El Segundo No. 4	325,000
April, 1966	Alamitos No. 5	475,000

If Alamitos Unit No. 5 is not installed in 1966, the system net margin in December 1966, under adverse hydro conditions and with no units out for scheduled maintenance, would be 265 Megawatts or 4.6 per cent.

The estimated operating date of April 1966 for Alamitos Unit No. 5, as reflected in the above tabulations, has been revised to February 1966, by the amendment to the application. Applicant alleges that this acceleration in expected operating date is occasioned primarily by recent revised forecasts of future system demands and energy requirements. The revised forecasts as presented in Exhibit E attached to the amendment reflect an annual growth rate of approximately 9.0 per cent rather than the 8.3 per cent reflected in the original filing. Both of these estimates are conservative, compared with the recorded increase in peak demand, experienced from 1946 to 1962, of 9.5 per cent compounded annually.

The effect of the revised estimate would be to decrease the system net margin for December 1966 by 90 Megawatts.

To meet an operating date of February 1966, applicant estimates that construction must be commenced by February 1964.

Exhibit III (Revised) shows the estimated cost of constructing Unit No. 5, including general overheads, to be \$39,413,850

or approximately \$88 per kilowatt. This compares favorably with the cost per kilowatt of the first four units constructed at the Alamitos Steam Station as well as with the cost of other steam units installed in recent years on the Edison system. The total cost of the entire Alamitos Steam Station, after the completion of Unit No. 5, is estimated to be \$144,865,000.

In addition to the above costs the estimated cost of reinforcing transmission lines is stated to be \$2,061,000, and transmission terminal facilities at the Lighthipe and Laguna Bell Substations to be \$112,000.

Applicant's estimated annual cost of operation for Unit No. 5 may be summarized as follows:

<u>Annual Expenses</u>	
Fuel (present price levels)*	\$ 6,978,000
Other operation and maintenance	788,000
Depreciation (straight line)	1,116,000
Income taxes (current rates)	990,000
Ad Valorem taxes (current rates)	1,091,000
Return (average)	<u>1,267,000</u>
Total	\$ 12,230,000

* Assumes operation at 62% capacity factor, using gas fuel 75% of the time and oil fuel 25% of the time.

Based on the foregoing assumptions, the estimated average cost per Kwhr at the steam station for energy from Unit No. 5, assuming fuel at present price levels of 33.2 cents per million Btu for gas and 30.4 cents per million Btu for oil, is 5.00 mills per Kwhr

Assuming a prorated fuel cost of 50 cents per million Btu, the estimated average total cost per Kwhr is 6.54 mills per Kwhr.

Applicant proposes to finance the construction of this unit from available funds or funds to be obtained through the sale of securities, applications for the issuance of which will be filed with the Commission.

Applicant proposes to obtain all necessary permits and/or authorizations which are required from public authorities and which may be needed for the construction and operation of the new generating unit and related facilities. These would include miscellaneous building and right of way permits required by authorities having jurisdiction in the premises as well as an authorization to construct, from the air pollution control authorities of Los Angeles County. It is alleged that the latter authorization will be applied for when boiler plans and specifications are sufficiently finalized, with the necessary approvals anticipated by late February or early March, 1964. Applicant states that no additional franchises are required for the construction and operation of the new generating unit and appurtenant facilities.

Based upon the evidence, the Commission finds that with the continuing growth in demand and energy requirements that applicant is experiencing, the generating capacity proposed herein will be needed to provide adequate and reasonable electric service

to the public within the area it serves. The Commission further finds that public convenience and necessity require the construction and operation of Unit No. 5 at the Alamitos Steam Station as described in this application as amended.

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

That the Commission shall have no power to authorize the capitalization of the 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 a consideration for the issuance of such certificate of public convenience and necessity or right.

The action taken herein is for the issuance of a certificate of public convenience and necessity only and is not to be considered as indicative of amounts to be included in a future rate base for the purpose of determining just and reasonable rates.

The Commission having considered the above-entitled application and having concluded that the application should be granted, and that a public hearing thereon is not necessary; therefore,

IT IS HEREBY ORDERED that:

1. A certificate of public convenience and necessity is granted to Southern California Edison Company to construct and operate Unit No. 5 at its Alamitos Steam Station together with

related equipment, facilities, and appurtenances.

2. Within one year following the date of completion, Southern California Edison Company shall file with this Commission a detailed statement of the capital cost of Unit No. 5 and related equipment and facilities.

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

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

Dated at San Francisco, California, this 17th day of DECEMBER, 1963.

Hallam G. Bennett
President
George G. Grover
Frederick B. Holhoff
Commissioners