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Decision No. 77533

ORIGINAL

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

In the Matter of the Application of SAN DIEGO GAS & ELECTRIC COMPANY for a Certificate that Present and Future Public Convenience and Necessity require or will require the construction and operation by Applicant of steam electric generating Unit No. 4 at SOUTH BAY POWER PLANT, together with sub-stations, transmission lines, and other appurtenances.	Application No. 51527 (Filed December 4, 1969)

Chickering & Gregory, by Sherman Chickering, C. Hayden Ames and Edward P. Nelsen, and T. M. Sagar, for San Diego Gas & Electric Co., applicant.
Leonard L. Snaider, Counsel, and N. R. Johnson, for the Commission staff.

O P I N I O N

By this application San Diego Gas & Electric Company seeks a certificate of public convenience and necessity for the construction of steam electric generating Unit No. 4, a "cycling" type unit having a net peak capability of at least 215,000 kw, at its South Bay Power Plant in the City of Chula Vista, together with related substations, transmission lines and other appurtenances.

Public hearing in the matter was held before Examiner Main on May 14, 1970 in San Diego. No protests were entered. One individual, however, expressed concern over expansion of the South Bay Power Plant.

At present the South Bay Power Plant has a rated operating total capacity of 532,100 kilowatts including a 22,100 kilowatt gas turbine generating unit. The existing South Bay steam electric generating units, Units 1 through 3, were designed as base load units and installed in 1960, 1962 and 1964 pursuant to authorizations contained in Decisions Nos. 57205, 61227 and 64951. To minimize the present and increasing problem of cyclic operation of applicant's existing units at the South Bay and Silver Gate Power Plants, proposed South Bay Unit No. 4 will be specifically designed to be capable of frequent start-ups and shutdowns without detriment to the unit.

The evidence in this proceeding shows that applicant's net system peak demand has increased from 801,000 kilowatts in 1964 to 1,168,000 kilowatts in 1968. The evidence further shows that, in order for applicant to meet future load growth and maintain reasonable reserve capacity, it will be necessary to make timely additions to its generating capacity. To meet the capacity resources addition requirement for the 1971 through 1972 period, applicant selected the proposed South Bay Unit No. 4 because of the need for a "cycling" type of steam unit which minimizes the time, cost and thermal stress of start-up and shutdown. Thus, it appears that proposed Unit No. 4 will not only fill a need for additional generating capacity and for reduced cyclic operation of existing units but also provide attendant savings in operation and maintenance costs.

In conjunction with proposed Unit No. 4 applicant will add a 15.4 mile 138 kv circuit from the South Bay Power Plant to its Mission substation via the Main Street substation and also plans to bundle 8.5 miles of the 138 kv transmission lines on the South Bay-Los Coches circuit.

Applicant estimates the total cost of the South Bay Unit No. 4 including transmission facility additions to be $24,533,000 and estimates the total annual operating cost of South Bay Unit No. 4 to be $6,514,000, an average cost of 8.28 mills per kilowatt hour, based on an annual capacity factor of 40 percent of the maximum expected capability.

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

In the way of authorizations obtained relating to the construction and operation of proposed South Bay Unit No. 4, the record shows that Resolution No. 69-R3, applicable to the entire South Bay Power Plant, has been issued by the San Diego Regional Water Quality Control Board and the permit for boiler stack construction has been issued by the Federal Aviation Administration. A construction and operating permit is not required from the San Diego Air Pollution Control District. The San Diego Regional Water Quality Control Board has requested that certification of proposed South Bay Unit No. 4, if rendered, contain as a condition that applicant comply with the waste-discharge requirements for cooling water discharged into San Diego Bay as set forth in Resolution No. 69-R3.

Based on "Emission Inventories" dated November 1969 by California Air Resources Board, the Commission staff prepared Exhibit No. 4 which shows that the State Air Quality Standards for oxidant and nitrogen dioxide were exceeded on 95 days and 4 days, respectively, in 1968 in the San Diego Air Basin. From his analysis

of said inventories, the staff witness determined that steam plants produce approximately 18 percent of the nitrogen oxides (NO_x) emissions, approximately 77 percent of the sulfur dioxide emissions and approximately 8 percent of the particulate matter involved in the San Diego Air Basin.

Currently applicant is in the process of attempting to obtain an assured supply of low sulfur-low ash oil. Its objective is to begin the use of low sulfur oil during the coming 1970-1971 winter season and to have an assured supply for all of its power plants for the 1971-1972 season. Natural gas will, of course, be the primary fuel and fuel oil will be used as the alternative fuel when natural gas is not available.

The use of low sulfur oil instead of California residual fuel oil will reduce the sulfur dioxide emissions to approximately one third and the ash emission significantly.

In Exhibit No. 3 applicant sets forth the following comparisons of estimated NO_x emissions from its power plants with and without proposed South Bay Unit No. 4.

SAN DIEGO GAS & ELECTRIC COMPANY
ESTIMATED POWER PLANT EMISSIONS
OXIDES OF NITROGEN, AS NO_2
TONS PER DAY

ALL POWER PLANTS

1972			1973		
Without South Bay 4	With South Bay 4	Decrease With South Bay 4	Without South Bay 4	With South Bay 4	Decrease With South Bay 4
46.70	44.29	2.41	55.02	51.96	3.06

SOUTH BAY POWER PLANT

1972			1973		
Without South Bay 4	With South Bay 4	Increase With South Bay 4	Without South Bay 4	With South Bay 4	Increase With South Bay 4
26.72	28.84	2.12	28.10	32.33	4.23

It is thus seen that operation of proposed South Bay Unit No. 4 would decrease the total amount of oxides of nitrogen emitted into the atmosphere by applicant's power plants.

The staff witness concurs with applicant in that 215 megawatts of additional capacity will be needed by September 1971 and in that proposed South Bay Unit No. 4 is the most appropriate resource addition available within this time frame. He recommends its certification subject to applicant's carrying out adequate programs to achieve further reductions in NO_x emissions at its power plants. Toward this end, applicant is studying the possibility of boiler modifications, evaluating the efforts of other utilities to

reduce NO_x emissions, and taking steps toward establishing periodic monitoring of NO_x emissions from the stacks of its power plants.

Findings

The Commission finds that:

1. With the continuing growth in electrical demand and energy requirements in its service territory, applicant will need 215 megawatts of additional generating capacity in the 1971-1972 time frame to provide adequate, reliable electric service to the public.

2. The proposed South Bay Unit No. 4 is an economic, efficient and appropriate means of providing the required additional generating capacity for the 1971-1972 time frame.

3. Applicant has the ability to finance the construction of proposed South Bay Unit No. 4 and related transmission facilities.

4. The operation of proposed South Bay Unit No. 4 would decrease the total amount of oxides of nitrogen emitted into the atmosphere by applicant's power plants.

5. Upon applicant's obtaining an assured supply of low sulfur-low ash fuel oil, emissions of sulfur dioxide and particulates from its power plants will be substantially reduced.

6. The certification of South Bay Unit No. 4 will not produce an unreasonable burden on public health and safety or air and water quality.

7. Present and future public convenience and necessity will require the construction by applicant of South Bay Unit No. 4 together with related substations, transmission lines and other appurtenances.

8. It is in the public interest that all reasonable measures be taken by applicant to achieve operations at its power plants resulting in the least adverse impact on air quality.

9. Compliance by applicant with the waste-discharge requirements for cooling water discharged into San Diego Bay as quantified at this time in Resolution No. 69-R3 of the San Diego Regional Water Quality Control Board is compatible with the record developed in this proceeding and will be required.

The certificate hereinafter granted 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 action taken herein is not to be considered as indicative of amounts to be included in a future proceeding for the purpose of determining just and reasonable rates.

The Commission concludes that the application should be granted and that other actions, as prescribed in the following order, should be taken.

O R D E R

IT IS ORDERED that:

1. A certificate of public convenience and necessity is granted to San Diego Gas & Electric Company to construct and operate South Bay Power Plant Unit No. 4 together with substations, transmission lines and other appurtenances substantially as described in the application.

2. Upon completion but prior to commercial operation of South Bay Unit No. 4, San Diego Gas & Electric Company shall file by affidavit with this Commission the following data and summary statements:

a. Actual and then currently projected NO_x emissions in terms of concentration (ppm) at full load and in terms of annual average tons per day by units of its power plants in the San Diego Air Basin by years for the 1968-1980 period.

b. A summary statement of the specific measures taken with pertinent dates to reduce NO_x emissions from such plants.

c. A summary statement of further measures to be taken including the scheduling thereof to achieve reductions of NO_x emissions.

d. A summary statement of the program established for periodic monitoring of nitrogen oxides in the stacks of its conventional steam electric generating plants.

3. San Diego Gas & Electric Company shall comply with the waste-discharge requirements for cooling water discharged into San Diego Bay as specifically quantified at this time in Resolution No. 69-R3 of the San Diego Regional Water Quality Control Board.

4. Within one year after South Bay Unit No. 4 is placed in commercial operation San Diego Gas & Electric Company shall file with this Commission a detailed statement of the capital costs of South Bay Power Plant Unit No. 4 including transmission and other related facilities.

The authorization herein granted 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 28th day of JULY, 1970.

Chairman

Commissioners