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ORIGINAL

Decision No. 78810

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 ENCINA POWER PLANT, together with substations, transmission lines, and other appurtenances.	Application No. 51967 (Filed June 15, 1970)

Chickering & Gregory by Sherman Chickering, C. Hayden Ames and Edward P. Nelsen, and Gordon Pearce, Attorneys at Law, for San Diego Gas & Electric Co., applicant.
Michael J. Stecher, Attorney at Law, 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 287,000 kilowatts, at its Encina Power Plant in the City of Carlsbad, together with related substations, transmission lines and other appurtenances.

Public hearing in the matter was held before Examiner Main on March 17 and 18 in Carlsbad. Applicant's evidence in support of the application was presented through two witnesses. Testimony in opposition to the application was presented by representatives of a citizen's organization called Clean Air Council of San Diego and by one other individual. For the San Diego County Air Pollution

Control District (APCD) in neither support nor opposition to the application, the chief of air pollution control service testified concerning newly adopted APCD Rule 68. The Commission staff did not present direct evidence but participated extensively in the proceeding through the cross-examination of witnesses.

At present the Encina Power Plant has an operating total net capacity of 345,000 kilowatts including a 20,000 kilowatt gas turbine generating unit. The existing Encina steam electric generating units, Units 1 through 3, were designed as base load units and installed pursuant to the power plant authorization contained in Decision No. 46924. Proposed Encina Unit No. 4 will be specifically designed to be capable of frequent start-ups and shutdowns without detriment to the unit to minimize the present and increasing problem of cyclic operation of applicant's existing units. It is similar in this respect to South Bay Unit No. 4 now under construction.

The evidence in this proceeding shows that applicant's net system peak demand has increased from 801,000 kilowatts in 1964 to 1,215,000 kilowatts in 1969. 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 generating capacity. To meet the major portion of the capacity resources addition requirement for the 1973 and 1974 period, applicant selected the proposed Encina 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 maintenance costs.

The existing 138 kv transmission circuits extending 1.6 miles east from the Encina Power Plant will be adequate to meet the increased plant generating capacity. From the point 1.6 miles east of the Encina Power Plant a new line extending south to Penasquitos Substation will be installed. This new line will consist of 17.4 miles of 138 kv circuit designed for ultimate operation at 230 kv.[1/] This new circuit will be built on unused portions of existing right-of-way and will consist of twin circuit steel towers with an initial installation of one circuit with one conductor per phase. The increase in Power Plant capacity will also require the addition of a 12-mile 138 kv circuit from Penasquitos Substation to Old Town Substation on existing steel towers.

Applicant estimates the total installed cost of Encina Unit No. 4 including transmission facility additions to be $41,900,000 and further estimates the total annual operating cost of Encina Unit No. 4 to be $12,354,000, an average cost of 8.19 mills per kilowatt-hour, based on an annual capacity factor of 60 percent of the maximum expected capability.

1/ Construction of this 17.4 miles of transmission capacity addition commences in about April 1971 as part of an essential 230 kv transmission expansion program which is to serve not only as high capacity energy transportation links between important load and generation centers in applicant's system but also to provide needed reinforcement to applicant's interconnections with Southern California Edison Company and the California Power Pool.

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.

Environmental Protection

The proposed construction and operation of Encina Unit No. 4 would be conducted in a manner to minimize its impact on the environment. Toward this end an environmental protection agreement (Exhibit G) applicable to Encina Unit No. 4 has been reached by the State of California, acting through its Resources Agency, and the applicant herein and was signed on March 11, 1971.

Site conditions and preparation, aesthetic and recreational conditions, thermal effects and air quality effects are all considered in Unit 4's design. An investigation discloses that no historical sites or buildings or archaeological sites would be affected by its construction.

The new unit is to be rated at 300,000 kilowatts and will be located immediately south of and adjacent to existing Encina Unit No. 3. It will be enclosed within an extension of the existing power plant building. The three existing steam electric generating units were placed in service in 1954, 1956 and 1958 with ratings of 109,000 kilowatts, 111,000 and 118,000, respectively, and a 20,000 kilowatt gas turbine unit was installed in 1968. The existing cooling water intake from the Aqua Hedionda Lagoon and discharge return system across the beach to the ocean at the Encina Power Plant will be utilized by Unit No. 4. This lagoon, which was developed for the power plant by dredging, has been made available to the public for extensive recreational purposes.

Significant potentials for interaction with the environment exist through the Encina Plant's use of Pacific Ocean water from the Aqua Hedionda Lagoon for condenser cooling and through its stack emissions into the atmosphere of the San Diego Basin.

The discharge of heated condenser cooling water into the Pacific Ocean is to be kept within limits to be prescribed by the California Regional Water Quality Control Board, San Diego Region. In establishing such requirements for thermal wastes, the Regional Board must take cognizance of the State Water Resources Control Board's 'Policy Regarding the Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California' adopted January 7, 1971. Indications are that this matter will probably be brought before the Regional Board in June 1971 and the waste discharge requirements established.

The discharge of air contaminants from Encina Unit No. 4 is to be kept within limits set by the Air Pollution Control District of San Diego County. In this regard the County Board of Supervisors, acting as the APCD Board, is modifying the rules and regulations of the Air Pollution Control District by means of a Resolution, which was passed and adopted unanimously on March 10, 1971. The Board's action therein amended existing Rules 11, 50, 53 and 62, and added Rule 68, effective as of July 1, 1971. New Rule 68 provides for the control of nitrogen oxides (NO_x) emissions and reads as follows:

"RULE 68: FUEL BURNING EQUIPMENT--OXIDES OF NITROGEN. A person shall not discharge into the atmosphere from any non-mobile fuel-burning article, machine, equipment or other contrivance, having a maximum heat input rating of 50 million British Thermal units (BTU) per hour (gross) or more fuel gas having a concentration of nitrogen oxides, calculated as nitrogen dioxide (NO_2) at three (3) percent oxygen, in excess of that shown in the following table:

Equipment Status and Type of Fuel	Nitrogen Oxides, Parts Per Million Effective Dates 12/31/71	12/31/73
1. Existing		
a. Gas	225	125
b. Liquid or Solid	325	225
2. New		
a. Gas	125	---
b. Liquid or Solid	225	---

For the purpose of this rule new equipment is described as any equipment the construction of which is initiated after July 1, 1971."

Applicant has instituted a program for reduction of NO_x emissions with the objective of meeting the new APCD requirements. A successful program would be expected to achieve a reduction in the range of approximately 65 to 75 percent in NO_x emissions, on an average tons per day basis, from applicant's fossil fuel-fired steam electric generating plants.

According to applicant, Encina Unit No. 4 can more readily be adapted to meet the limits being placed on oxides of nitrogen emissions by late 1973 than the existing units. This conclusion is based on the incorporation into the design of Unit No. 4 newly developed features to minimize the formation of oxides of nitrogen with such features being suseptible to further improvement. Applicant also concludes that there should be a net reduction in NO_x emissions from its plants in the San Diego Basin with the addition of Encina Unit No. 4 vis-a-vis without such addition. Such a result is attributable to the lower emission characteristics of Encina Unit No. 4 and to the fact that the electrical energy requirements on applicant's system are to be met. The additional generating capacity represented by Encina Unit No. 4 can be viewed in this context as being necessary to reliably meet the demands placed on the system including peaks in the event of unscheduled equipment outages.

Specifically concerning NO_x emissions from Encina Unit No. 4, the Resources Agency agreement (Exhibit G supra) provides as follows:

"8. San Diego agrees to conform to all legally valid air pollution control regulations of the San Diego County Air Pollution Control District and the State.

"9. San Diego agrees that the hourly average emissions of oxides of nitrogen will not exceed 150 parts per million on a dry basis while burning natural gas or 200 parts per million on a dry basis while burning low sulfur oil. Following start up of the unit, San Diego agrees to perform test work and to make all reasonable efforts to further reduce oxides of nitrogen emissions consistent with full utilization of the unit."

A representative of a 400-member citizens group called "Clean Air Council of San Diego" requested that the Commission defer its decision in this matter until the San Diego County Board of Supervisors acts on a set of rules proposed by this citizens group to govern the siting of power plants and, among other things, air contaminant emission from them. Based on this record in which the need for this plant has been shown, and in which the Resources Agency agreement, with particular reference to paragraph 8 which was quoted above, is an important part of the evidence as are the new and more stringent requirements of the San Diego Air Pollution Control District, we do not consider such deferral to be warranted.

Findings

The Commission finds that:

1. With the continuing growth in electrical demand and energy requirements in its service territory, applicant will need about 370 megawatts of additional net generating capacity in the 1973-1974 time frame to provide adequate, reliable electric service to the public.

2. The proposed Encina Unit No. 4 is an economic, efficient and appropriate means of providing the major portion of the required additional generating capacity for the 1973-1974 time frame.

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

4. An environmental protection agreement applicable to Encina Unit No. 4 has been formulated and was executed on March 11, 1971 by and between State Resources Agency and applicant.

5. The requirements for thermal wastes from the Encina Power Plant to be prescribed by the California Regional Water Quality Control Board, San Diego Region, will reflect the State Water Resources Control Board's "Policy Regarding the Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California" adopted January 7, 1971.

6. a. Upon becoming operational Encina Unit No. 4 is expected to meet the more stringent requirements of the San Diego County Air Pollution Control District's modified rules which become effective July 1, 1971.

b. Substantial reductions in emissions of oxides of nitrogen into the San Diego Basin from applicant's power plants are to be forthcoming from its program to meet the new requirements of the San Diego County Air Pollution Control District.

c. Because of the probable lower emission characteristic of Encina Unit No. 4 in comparison with applicant's existing units after their modification to achieve reduced emissions and the potential for load shifting among units, it appears that a net reduction in NO_x emissions from applicant's power plants in the San Diego Basin will result from the addition of Encina Unit No. 4 vis-a-vis without such addition.

7. There appear to be no conflicts at this point with the various state and local regulatory agencies concerning Encina Unit No. 4.

8. The certification of the Encina Unit No. 4 project will not produce an unreasonable burden on natural resources, aesthetics of the area in which the proposed facilities are to be located, public health and safety, air and water quality in the vicinity, or parks, recreational and scenic areas, or historic sites and buildings or archaelogical sites. Collaterally, from the standpoint of reliable and economic electric service in the areas served by applicant, such certification is necessary to promote the safety, health, comfort and convenience of the public.

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

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 Encina Power Plant Unit No. 4 together with substations, transmission lines and other appurtenances substantially as described in the application.

2. Within one year after Encina 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 Encina Power Plant Unit No. 4 including transmission and other related facilities.

3. Within 120 days after the effective date of this order, and quarterly thereafter until 1974, San Diego Gas & Electric Company shall file with the Commission reports on its program for reduction of oxides of nitrogen to meet the requirements of Rule 68 of the San Diego County Air Pollution Control District.

4. The certification hereinabove granted should be expressly construed as requiring Encina Unit No. 4 to comply with the waste discharge requirements to be established by the California Regional Water Quality Board, San Diego Region, and the rules and regulations of the Air Pollution Control District of San Diego County effective as amended July 1, 1971.

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 22nd day of JUNE, 1971.

Chairman

Commissioners