

ORIGINAL

Decision No. 91743 MAY 6 1980

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Investigation on the Commission's own motion into the rates, practices, financial condition, construction expenditures, and facilities of the San Diego Gas & Electric Company.

OII No. 4
(Filed November 8, 1977)

Bruce M. Rosenberg and Stephens A. Edwards, Attorneys at Law, for San Diego Gas & Electric Company, respondent.

Irell & Manella, by Milton B. Hyman, Attorney at Law, for Republic Geothermal Inc; Harry W. Falk, Jr., Attorney at Law for Magma Power Company; and C. M.-Lafoon, for Geothermal Generation, Inc.; interested parties.

Vincent MacKenzie, Attorney at Law, for the Commission staff.

SECOND INTERIM OPINION

This proceeding is an investigation into the electric financial and resource planning of San Diego Gas & Electric Company (SDG&E).

Interim Decision No. 88758 issued May 2, 1978 in this proceeding ordered, inter alia:

"1. San Diego Gas and Electric Company shall continue to use its best efforts to negotiate a contract for the purchase of Mexican power subject to the following conditions:

"a) in order to achieve an acceptable capacity factor, the contract should contain:

- "i) provisions for an acceptable maintenance schedule and for auditing the maintenance to establish conformance with the schedule;
 - "ii) provisions for design and operation of the facility in order to achieve accepted reliability.
 - "b) that the cost of Mexican power should be just and reasonable. In this respect SDG&E would have to receive ultimate approval from this Commission for the contract.
 - "c) that every reasonable effort be made to have at least one Mexican unit on-line by the end of 1982.
- "2. SDG&E shall keep the Commission staff regularly informed of the progress of its negotiations.
 - "3. SDG&E shall commence discussions with the members of the California Power Pool to determine the acceptability of capacity purchased from Mexico as 'firm' power.
 - "4. SDG&E shall continue to investigate the need for additional permits required for implementation of the Mexican project.
 - "5. SDG&E shall continue to analyze and pursue the concept of building a transmission line system to the Arizona border and apply to the appropriate agencies for permits.
 - "6. SDG&E shall continue to aggressively pursue its geothermal development plans. In accordance with this, SDG&E shall file semi-annual reports with this Commission commencing June 30, 1978 as to its geothermal development efforts."

Public hearing was held on February 13, 14, 27, 28 and 29, 1980 in San Diego before Administrative Law Judge Mallory to review the progress of SDG&E with respect to a 20-year resource plan with accompanying financial data, purchase of Mexican power, the construction of new transmission lines and the development of geothermal power sources. Further hearings are continued before Administrative Law Judge Patrick with respect to issues other than those covered in this interim order.

Exhibit 29 contains the prepared testimony of Ronald W. Watkins concerning SDG&E's negotiations with the Mexican Comision Federal de Electricidad (CFE) with respect to SDG&E's attempts to enter into a power purchase agreement. The testimony shows that on February 20, 1980, SDG&E, Southern California Edison Company (SCE), and CFE signed a Letter of Intent under which SDG&E and SCE would enter into an agreement with CFE for the purchase and sale of capacity and associated electric energy beginning in 1983. A copy of the Letter of Intent is attached to Exhibit 29.

Witness Watkins testified that CFE intends to install additional electric generating capacity sufficient to produce 220 MW of firm power and to sell that capacity and associated energy to SDG&E and SCE. SDG&E would purchase 150 MW and SCE 70 MW. The energy will be generated by geothermal generating units to be constructed by CFE at its Cerro Prieto site near Mexicali, Baja California.

The capacity and energy initially would be available for a period of ten years. The Letter of Intent states that additional sales may be made by CFE if additional geothermal reserves are proven to be available at Cerro Prieto.

The cost of the energy will be 46.2 mills per kWh, based on July 1979 U. S. dollars. The price is for a contract demand of 220 MW at a 100 percent capacity (load) factor. The 46.2 mills is comprised of a demand charge of \$22.65 per kilowatt month of contract demand (31.02 mills per kWh) and two variable energy charges. The energy charge for operation and maintenance (O&M) is 5.03 mills per kWh, and the charge for the geothermal energy used by the plant is 10.12 mills per kWh.

Each component of the energy payment will be escalated in accordance with specified escalation indices. The basic demand

charge will be adjusted from the July 1979 base until the date of operation of the additional generation unit(s), at which time it will become fixed. The demand charge escalation factor is designed to produce an internal return on investment to CFE of 7-1/2 percent after payment of interest charges of 12-1/2 percent (a combined charge for interest and return on investment of 20 percent). The O&M charge will be escalated in accordance with specified Mexican labor and materials indices. The geothermal energy charge will be based on the cost of Mayan (high sulfur) crude oil. The energy charge will track the official export price of Mexican high sulfur crude oil as published in Diario Oficial de la Federacion Mexicana. The base price of oil is set at \$24.60 per barrel.

Further details concerning specific contract provisions will be presented in the current hearings in OII No. 4 as those data become available.

Witness Watkins testified that SDG&E seeks approval in principle of the agreement to purchase power from CFE as outlined in the Letter of Intent. He stated that a final contract which is contingent upon subsequent approval by this Commission after signing is not acceptable to Mexico. Mexican interests desire that the approval be given the terms and conditions in the Letter of Intent as a condition to the negotiation of a final contract. SDG&E requests that the Commission issue an interim decision by June 30, 1980, as the parties to the proposed contract have agreed to proceed to obtain governmental approval based on the Letter of Intent before that date.

Witness Watkins pointed out that in Application No. 59172, SDG&E has requested approval of the construction of a short transmission line which would connect its power transmission facilities with CFE. The 13-mile line will join SDG&E's Miguel substation with CFE's substation at Tijuana. Processing of that application is

awaiting completion of an environmental impact study in preparation jointly by this Commission and the Federal Bureau of Land Management. Completion of that study and final approval of the project is expected within six months.

Witness Watkins pointed out that approval of the proposed purchased power agreement by this Commission is required because of Ordering Paragraph 1, subparagraphs (a) and (b) of Decision No. 88758 (supra).

Witness Watkins testified that SDG&E attempted to incorporate into the proposed contract with CFE provisions corresponding to Ordering Paragraph 1(a) of Decision No. 88758. Such provisions are not acceptable to CFE. The witness testified that the plants to be built by CFE are of a different type than the coal-fired plant contemplated at the time Decision No. 88758 was issued. At that time SDG&E was negotiating for the purchase of energy from a new coal-fired plant in Tijuana. The Commission was concerned whether the coal-fired plant would have the necessary reliability, as coal had not been used as a fuel for power generation in Baja California. Mr. Watkins testified that the geothermal power generation at Cerro Prieto should be reliable as CFE has four geothermal units operating at Cerro Prieto at the present time. Those units each have a 37.5 MW capacity and have achieved a capacity factor of approximately 90 percent over the past three years. SDG&E believes that CFE has the ability to achieve an acceptable capacity factor with the new geothermal units at Cerro Prieto based on the successful operation of existing units and the fact that sufficient plant in excess of the 100 percent capacity factor will be constructed to cover scheduled outages. The witness also pointed out that the geothermal field has been proven and that there exists sufficient geothermal brine to adequately supply the new plants that would provide power to SDG&E.

The expected purchase price of capacity and energy under the Letter of Intent compares favorably with costs of other purchased power. The record indicates that SDG&E has recently completed purchased power agreements with Public Service Company of New Mexico (PNM) to purchase approximately 236 MW of electric power from PNM's coal-fired San Juan Unit 4 (expected May 1, 1982). The cost of power will include a demand charge and an energy charge. The demand charge schedule is as follows:

<u>From</u>	<u>Through</u>	<u>Rate</u>
5/1/82	4/30/83	\$20.50/kW/Mo.
5/1/83	4/30/84	\$18.50/kW/Mo.
5/1/84	4/30/85	\$17.75/kW/Mo.
5/1/85	4/30/86	\$16.85/kW/Mo.
5/1/86	4/30/87	\$16.10/kW/Mo.
5/1/87	4/30/88	\$15.25/kW/Mo.

The energy charge will be based on costs of fuel and O&M for energy generated by the San Juan Plant. For the basis of comparison, the average (levelized) cost of power under this contract expressed in 1979 dollars is expected to be 42 mills per kWh.

On November 29, 1978, SDG&E and Tucson Electric Power Company (TEP) (formerly Tucson Gas & Electric Company) entered into a ten-year power sale and interconnection agreement. The agreement became effective during 1979 and SDG&E is currently receiving 150 MW of power under this agreement. The average cost of power under the TEP contract expressed in 1979 dollars is 41 mills/kWh.

The PNM and TEP contracts call for delivery of power from coal-fired generation facilities, which is a less costly generation

method than the oil or natural gas generation facilities of SDG&E. In addition, SDG&E has entered into a letter of intent to purchase power from Magma Power Company (Magma) to be produced at a geothermal plant in the Imperial Valley. The cost at the time the Magma plant is expected to begin operations in 1983 is estimated to be 65 mills per kWh. This compares with an estimated cost of CFE power in 1983 of 65 to 70 mills.

At the further hearing on March 17, 1980, additional exhibits were introduced bearing on the purchase of Mexican power. Exhibit 38 contains the agreed principles for a contract for purchase and sale of electric energy between CFE and SDG&E. Exhibit 39 contains year-by-year generation cost estimates for various proposed projects. Exhibit 38 outlines the contract form and defines the terms that will be used therein.

Discussion

We are satisfied that the proposed Cerro Prieto facilities of CFE will be reliable and that CFE will be capable of delivering the capacity specified in the Letter of Intent. As pointed out above, the technology of the proposed geothermal operations at Cerro Prieto has been proven by the successful operation of geothermal plants over an extended period and the geothermal field is sufficient to support the additional plants. Our concern at the time Decision No. 88758 was issued was with a generation facility using a different fuel source. In the circumstances, the provisions of Ordering Paragraph 1(a) of Decision No. 88758 are unnecessary and should be lifted.

While the Letter of Intent attached to Exhibit 29 does not contain the final contract provisions, the document contains sufficient data to show that the proposed purchase of geothermal power from CFE will provide to SDG&E a firm source of additional capacity during a period when SDG&E is not in a financial position to commit additional capital to the construction of new generating facilities and that the cost of the purchased capacity and energy will be reasonable.

We will authorize the negotiation of a final contract between SDG&E and CFE which incorporates the essential elements of the Letter of Intent (Exhibit 29) and the principles for a contract set forth in Exhibit 38. We will monitor the negotiations and will direct SDG&E to file with this Commission a copy of the final contract with CFE.

We commend SDG&E for aggressively pursuing its negotiations with CFE for the purchase of power and for its plans to integrate its electrical system with that of CFE through construction of new transmission lines.

Findings of Fact

1. Decision No. 88758 ordered SDG&E to use its best efforts to negotiate a contract for the purchase of Mexican power.

2. SDG&E, SCE and CFE have executed a Letter of Intent for SDG&E and SCE to purchase 220 MW of capacity and energy from CFE beginning in 1983. New plants will be constructed by CFE in its Cerro Prieto geothermal field to supply that energy.

3. Ordering Paragraph 1(a) of Decision No. 88758 directed that any Mexican purchased power agreement contain the following conditions:

"a) in order to achieve an acceptable capacity factor, the contract should contain:

"i) provisions for an acceptable maintenance schedule and for auditing the maintenance to establish conformance with the schedule;

"ii) provisions for design and operation of the facility in order to achieve acceptable reliability."

4. CFE refuses to incorporate provisions set forth in Ordering Paragraph 1(a) of Decision No. 88758 in the Letter of Intent or final contract.

5. The reliability of CFE's proposed geothermal generation facilities at Cerro Prieto has been demonstrated by the continuous reliable operation of similar facilities at Cerro Prieto over a

period of three years or more. There is ample geothermal brine in the Cerro Prieto field to fuel the proposed new generation facilities.

6. The Commission's concern when it prescribed the conditions in Ordering Paragraph 1(a) of Decision No. 88758 was with a different type of generation facility which may have involved methods of generating electricity which had not heretofore been used in northwestern Mexico and for which no experience was available to the expected builder of the power plant facilities.

7. The conditions set forth in Ordering Paragraph 1(a) of Decision No. 88758 are unnecessary to ensure the reliability and safe operation of the facilities to be constructed by CFE at Cerro Prieto, and Ordering Paragraph 1(a) of Decision No. 88758 is no longer appropriate or necessary.

8. Ordering Paragraph 1(b) of Decision No. 88758 provides as follows:

"b) that the cost of Mexican power should be just and reasonable. In this respect SDG&E would have to receive ultimate approval from this Commission for the contract."

9. The proposed 1979 levelized price contemplated in the purchased power agreement set forth in the Letter of Intent is 46.2 mills per kWh. This price compares favorably with the 1979 levelized price of capacity and energy under agreements with PNM of 42 mills per kWh and TEP of 41 mills per kWh, considering that the energy under the PNM and TEP contracts are to be delivered from coal-fired plants. The Magma 1983 estimated cost of 65 mills is comparable to the CFE 1983 estimated cost of 65 to 70 mills.

10. The cost of energy and capacity under the Letter of Intent will be just and reasonable.

11. No additional permits are required of SDG&E to execute the purchased power agreement in issue.

12. The capacity to be obtained from CFE plants will be considered as "firm" power by the California Power Pool when SDG&E's transmission system is linked with that of CFE pursuant to agreement reached with CFE. Linkage will be completed when the transmission lines involved in Application No. 59172 are constructed. ✓

Conclusions of Law

1. SDG&E has complied with the directives contained in Ordering Paragraphs 1 through 4 of Decision No. 88758.

2. Ordering Paragraph 1(a) of Decision No. 88758 is no longer necessary and should be rescinded.

3. The cost of Mexican power under the agreements reflected in the Letter of Intent attached to Exhibit 29 in this proceeding will be just and reasonable. Authority should be granted to SDG&E to complete the negotiations and to enter into a final contract for the purchase of electric capacity and energy substantially on the terms and conditions set forth in the Letter of Intent.

4. Further hearing should be held in OII No. 4 for the completion of the presentation of data relating to SDG&E's plans for geothermal power, its current financial and resource plans, and its ability to finance and construct needed power generation and transmission facilities.

5. The effective date of this order should be the date hereof in order for the parties to continue their negotiations.

SECOND INTERIM ORDER

IT IS ORDERED that:

1. The directives contained in Ordering Paragraph 1(a) of Decision No. 88758 are rescinded. ✓

(SDG&E)

2. San Diego Gas & Electric Company, is authorized to negotiate a final contract with Comision Federal de Electricidad (CFE) for the purchase and sale of electric capacity and energy substantially on the terms and conditions set forth in the Letter of Intent dated February 20, 1980 submitted as an attachment to Exhibit 29, and the principles for a contract for purchase and sale of electric energy between CFE as seller and SDG&E as purchaser as set forth in Exhibit 38.

3. OII No. 4 is continued.

The effective date of this order is the date hereof.

Dated MAY 6 1980, at San Francisco, California.

John E. Guyon
President

Thomas L. Schryver

Michael W. Howell

Charles J. Delap

Samuel J. Smith
Commissioners