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Decision No. 61251

ORIGINAL

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

In the matter of the application of PACIFIC GAS AND ELECTRIC COMPANY, a corporation, for a certificate of public convenience and necessity to construct, install, operate, maintain and use its proposed new Stanislaus hydroelectric power plant, together with related facilities. (Electric)	)	Application No. 42506

OPINION AND ORDER

Applicant's Request

Pacific Gas and Electric Company filed the above-entitled application on July 26, 1960 requesting a certificate of public convenience and necessity to construct, install, operate, maintain and use its proposed new Stanislaus hydroelectric plant, together with related facilities.

The Existing Stanislaus Power Plant

Applicant presently owns and operates a hydroelectric power plant known as Stanislaus Power Plant, located on the Stanislaus River about 11 miles north of Sonora, California. The plant first generated power in 1908. The plant utilizes water from the Middle Fork of the Stanislaus River which is augmented by water from the South Fork of the Stanislaus River diverted through Spring Gap Powerhouse. Upstream storage is provided in Main Strawberry Reservoir on the South Fork, in Relief Reservoir on Relief Creek, a tributary of the Middle Fork, and in Oakdale and South San Joaquin Irrigation Districts' Donnells and Beardsley Reservoirs on the Middle Fork. Water is diverted at Sand Bar Diversion Dam on the Middle Fork through a tunnel approximately 11 miles long to Stanislaus Forebay.

Two 66-inch diameter penstocks, each consisting of 299 feet of riveted steel pipe and 1,259 feet of wood stave pipe, carry the water from the forebay to a manifold located at the crest of the hill. From this point three riveted steel penstocks, varying from 48 inches to 38 inches in diameter, carry the water to the powerhouse.

The powerhouse building is a steel frame structure. The major powerhouse equipment consists of four double overhung impulse wheels, each rated at 14,000 hp and four 8,500 kva generators. The power generated and not used in local distribution is transmitted by two 110 kv circuits on steel tower lines to Melones Junction where it is then available in applicant's general system.

As a result of its 52-year age, applicant claims that the existing plant including powerhouse building, equipment and penstocks is obsolete, inefficient and of doubtful dependability, and applicant proposes to replace this plant.

Supplemental Information

To provide supplemental information necessary for a thorough evaluation of this application and in response to a staff request, the Pacific Gas and Electric Company forwarded five verified exhibits as follows: Area Peak Loads, Exhibit No. 1; Load and Resource, Exhibit No. 2; Gross Normal Operating Capacity of Generating Plants in Operation as of September 30, 1960, Exhibit No. 3; Estimated Cost of Stanislaus Powerhouse and Transmission Outlet to P.G.& E. System, Exhibit No. 4; Economic Justification for Abandoning Existing Plant and Constructing New Plant, Exhibit No. 5. This supplementary information is hereby made part of the record and received as exhibits herein.

Resource Margins

Applicant's estimates of margins of available generating capacity over maximum demands through 1963, based on average and adverse year hydro conditions, are summarized from Exhibit No. 2 in

the following tabulation:

Year	Average Hydro Conditions: Gross Margin (1,000 Kw.)	Average Hydro Conditions: Per Cent Margin	Adverse Hydro Conditions: Gross Margin (1,000 Kw.)	Adverse Hydro Conditions: Per Cent Margin
1959 (Aug.)*	1,036	21.1%	900	18.3%
1960 (Aug.)*	854	15.6	717	13.1
1961 (Aug.)	961	16.6	723	12.3
1962 (Aug.)	937	15.0	739	11.7
1963 (Aug.)	1,091	16.4	882	13.1

* Actual.

Similar estimates of margins of available energy over annual load requirements are:

Year	Average Hydro Conditions: Gross Margin (Million Kwhr.)	Average Hydro Conditions: Per Cent Margin	Adverse Hydro Conditions: Gross Margin (Million Kwhr.)	Adverse Hydro Conditions: Per Cent Margin
1959*	9,092	32.6%	5,909	21.2%
1960	7,688	25.0	4,437	14.4
1961	9,439	29.0	5,120	15.4
1962	9,063	26.0	4,763	13.3
1963	10,891	29.1	5,823	15.2

* Actual.

The Proposed New Stanislaus Power Plant

Applicant proposes to construct the new Stanislaus Power Plant and related facilities in order to continue the generation of power at this site, to utilize more efficiently the water supply now available to the plant and to meet load requirements in its service area. The new construction is described more particularly as follows:

1. General Description of New Facilities

   a. Diversion Dam, Intake and Conduit

      Minor improvements will be made to the diversion dam and intake to the tunnel, and to the canal at the outlet end of the tunnel.

   b. Forebay and Penstock

      Part of the intake structure within the forebay will be replaced and a single new penstock about

4,350 feet long, will be constructed from the end of the existing 66-inch diameter riveted steel pipes to the new powerhouse.

c. Powerhouse and Switchyard

A new powerhouse will be constructed downstream from the existing site. It will be an outdoor installation which will include a 113,000 horsepower vertical impulse turbine connected to a 91,000 kva generator and switching and transforming equipment to connect the plant to the 110 kv system.

d. Afterbay Dam

To re-regulate flows in the river below the new powerhouse, an afterbay dam will be constructed approximately one-half mile downstream from the new plant.

Transmission Line

In order to make the output of new Stanislaus available to applicant's interconnected system, applicant proposes to install a third 110 kv circuit from the new plant to Melones Junction. The circuit will be placed on an existing steel tower line.

Static Head, Flow and Water Rights

The static head of the new plant will be 1,526.5 feet and the peak flow will be approximately 750 cubic feet per second. Applicant states that it owns and has utilized for many years the water rights necessary for operation of the Stanislaus development and that these rights are sufficient for operation of the new powerhouse. Applicant also anticipates that construction of the new plant will be completed late in 1962.

Additional Capacity Requirement and Program

Applicant states that there will be a demand within the territory in which it operates for the additional power to be generated at the new Stanislaus Power Plant by means of the facilities to be installed as aforesaid and that such power will be used and distributed by applicant for beneficial uses.

In connection with the demand for power, applicant states that the average annual growth of peak load within applicant's gross service area has exceeded 250,000 kilowatts for the six-year period from 1953 through 1959 and was nearly 300,000 kilowatts for the four-year period 1955 through 1959. Applicant further states that in order to meet future load growth of such magnitude and to maintain reasonable reserve capacity, it will be necessary in the winter of 1962-63 to provide additional capacity to that presently installed and available, or to become available. Applicant's Exhibit No. 1 indicates that the load growth for the seven-year period, 1953 through 1960, was a constant 8 per cent.

Estimated Plant Cost

The cost to install the new plant and related facilities together with new transmission facilities is estimated to be $12,500,000. Applicant proposes to finance the cost of construction by using available funds or the proceeds obtained through the sale of securities, applications for the issuance of which will be filed with the Commission.

Economic Justification

Applicant's Exhibit No. 5 sets forth the economic justification for abandoning the existing plant and constructing a new plant. The new plant proposed by applicant in this application would have a dependable capacity of 80,000 kilowatts and would produce an average of 390 million kilowatt hours annually. The alternative plan of rehabilitating the existing plant and constructing a new 40,000

kilowatt plant would have a combined dependable capacity of 74,000 kilowatts and would produce an average of 376 million kilowatt hours annually. The total capital cost for the two plants of this alternative plan together with new transmission facilities is estimated to be $12,805,000.

Exhibits Nos. 4 and 5 show details of annual costs for the proposed new plant, for the existing plant if it were rehabilitated, and for a new 40,000 kilowatt plant. The cost of power as shown in Exhibit No. 5 is 4.4 mills per kilowatt-hour for the proposed plant and 4.8 mills per kilowatt-hour for the power produced by the alternative plan.

Applicant states that since the proposed plan will produce more power at a lower capital cost than the alternative plan, it is proposed to abandon the existing plant and construct an entirely new plant. The annual cost per kilowatt of plant capacity of the proposed new plant is approximately $21 per kilowatt as compared with an annual cost of approximately $24 per kilowatt of plant capacity for the alternative plan.

Conclusions

In view of the steady rate of growth of about 8 per cent in energy load in northern and central California during the seven-year period ended 1960, it appears reasonable to conclude that the proposed new capacity will be needed to help supply the future public demands for electric energy. Applicant's load curve is such that it should be able to fully utilize the proposed capacity and integrate it with the steam power energy without any increase in its over-all cost of energy production.

A certificate of public convenience and necessity issued herein is 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 (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 Commission having considered the above-entitled application and the supplemental information furnished by the aforementioned exhibits, 1 through 5, and being of the opinion that the application should be granted and that a public hearing thereon is not necessary; therefore,

IT IS HEREBY FOUND AS A FACT that public convenience and necessity require the construction, operation and maintenance of the new Stanislaus Power Plant as described in the application; therefore,

IT IS HEREBY ORDERED that a certificate of public convenience and necessity be and it is hereby granted Pacific Gas and Electric Company to construct, install, operate, maintain and use the hydroelectric generating plant and transmission project described in this Application No. 42506.

IT IS HEREBY FURTHER ORDERED that Pacific Gas and Electric Company shall file with this Commission a detailed statement of capital cost of the generation and transmission project within one year following the date of completion.

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

Dated at San Francisco, California, this 28th day of December, 1960.

President

Commissioners