

ORIGINAL

Decision No. 75471

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of PACIFIC GAS AND ELECTRIC COMPANY, for a certificate of public convenience and necessity to construct, install, own, operate, maintain and use a second nuclear-fueled power plant in the County of San Luis Obispo, together with transmission lines and related facilities. (Electric)

Application No. 50028
Filed February 16, 1968;
Amended September 10, 1968
and December 10, 1968.

F. T. Searls, John C. Morrissey, Philip A. Crane, Jr., and Ross Workman, by John C. Morrissey, Philip A. Crane, Jr., and Ross Workman, for applicant.

Ian I. McMillan, for Scenic Shoreline Preservation Conference; Ernest C. Porter, for Abalone Industry; A. E. Andreoli and B. P. Fasig, protestants.

William L. Knecht and Ralph O. Hubbard, for California Farm Bureau Federation; F. W. Boone, for Office of Atomic Energy Development, State of California; James W. Powell, District Attorney, Robert J. Schum and Scovil F. Hubbard, for the County of San Luis Obispo; M. A. Walters, for Local 1245, International Brotherhood of Electrical Workers; Stanley Jewell, Sherman Chickering, C. Hayden Ames, Donald J. Richardson, Jr., and Leslie P. Jay, by Leslie P. Jay, for San Diego Gas and Electric Company; Paul McKeehan, for California Wildlife Federation; Hal Stroube, for Marre Land and Cattle Company and San Luis Obispo Bay Properties, Inc., and John S. Whelen, interested parties.

Vincent MacKenzie, Counsel, and Melvin E. Mezek, for the Commission staff.

INTERIM OPINION

Pacific Gas and Electric Company requests a certificate of public convenience and necessity under Section 1001 of the Public Utilities Code to construct, operate and maintain a second nuclear

fueled power plant in Diablo Canyon, San Luis Obispo County, together with transmission lines and related facilities.

Unit No. 1

The Commission, by Decision No. 73278, dated November 7, 1967, in Application No. 49051, granted applicant an interim certificate of public convenience and necessity to construct the first nuclear fueled power plant at Diablo Canyon subject to the condition that the certificate may be made final by further order of the Commission on the establishment in the record that final authority has been obtained from the Atomic Energy Commission to construct and operate the nuclear power plant. During the hearings relative to Unit No. 1, applicant presented evidence in support of the project through 17 witnesses and 41 exhibits. Four other witnesses testified in favor of the proposal; 18 supporting exhibits were received; and supporting statements by approximately 60 individuals most of whom represented governmental, civic or other organizations.

Those in opposition to a part or the whole of the project presented 32 exhibits; the testimony of 12 witnesses and statements by three individuals. Among those individuals or groups which presented evidence were the Scenic Shoreline Preservation Conference and Fred Eissler.

The Record in the Present Application

After notice to interested parties, a prehearing conference was held before Examiner Rogers in San Francisco on September 10, 1968. The parties agreed that the staff counsel would present interrogatories to applicant and applicant would file written answers thereto. The staff counsel served 31

interrogatories on applicant. Answers to these interrogatories (Exhibits Nos. 12, 13 and 14) were submitted by applicant and served on all appearing parties.

After due notice, public hearing was held before Examiner Rogers in San Luis Obispo, on December 10, 11 and 12, 1968. The matter was submitted subject to the receipt of concurrent briefs which have been received. The matter is ready for decision.

Motion for Continuance

The Scenic Shoreline Preservation Conference, which appeared at the hearing relative to Unit No. 1 as a protestant (Decision No. 73278, supra), appeared as a protestant in this matter and moved for a continuance to enable it to present studies relative to the dangers to the marine environment from the heated water discharge of nuclear power plants and studies relative to the geology and hydrology of the Diablo Canyon area. The motion was directed to earthquake danger, sea cliff retreat, mud flows, radiation and tides. Each of these matters was considered by this Commission in its decision relative to Unit No. 1. Notice of the hearing was mailed to all known interested parties, including Fred Eissler, President of Scenic Shoreline Preservation Conference, on October 14, 1968. Also notice of a prehearing conference held September 10, 1968 was sent to all interested parties and no appearance was made by petitioner at that time. The motion was denied by the examiner. We concur in this ruling.^{1/}

Proposed Power Plant Site

The locations of the plant site and switchyard, and a description of the area are set forth in Decision No. 73278, in Application No. 49051, supra. At the hearing thereon, results

^{1/} The Scenic Shoreline Preservation Conference raised the same points in its petition to set aside the submission. This petition was denied (Dec. No. 75283, dated Feb. 4, 1969, in Application No. 50028).

of investigations of several possible sites for the plant showing comparisons on the basis of circulating water, topography, land availability, transmission right-of-way, physical features, community acceptance and transportation were presented for consideration. Results of an intensive investigation to establish the suitability of the site from all aspects of safety and acceptability from the standpoint of minimal effects on the environment were considered. This investigation included detailed studies and reports from consulting experts in the fields of geology, seismology, marine biology, oceanography and general engineering.^{2/}

In selecting the general location for the Diablo Canyon power plant, the relationship which will exist between the loads and generating resources of the various geographical regions of the service were weighed. The record in the first application shows that the applicant was looking ahead to future expansion of Diablo Canyon with a possible total of six units.

Unit No. 2

Applicant proposes to construct Unit No. 2 to be located adjacent to Unit No. 1, to be virtually a duplicate of Unit No. 1 with respect to capacity and operation. It is expected to have a net electrical output of 1,060,000 kilowatts. The unit will include a nuclear fueled steam generating system, a turbine-generator and the necessary reactor and turbine auxiliaries, together with related steam plant equipment, high voltage step-up transformers, and switching equipment.

^{2/} The suitability of the site from geological (Exhibit No. 18) and seismological (Exhibit No. 19) standpoints was affirmed at the hearing herein. The same earthquake resistant design recommended for Unit No. 1 was recommended for Unit No. 2 (Exhibit No. 20).

The estimated cost to install Unit No. 2, together with the related transmission facilities, based on current labor and material prices, is shown on Exhibit No. 9. This cost is summarized as follows:

<u>Unit No. 2</u>	
Production Plant	\$166,170,000
Substation	
Diablo Canyon	6,930,000
Midway	690,000
Total Substation	<u>7,620,000</u>
Transmission	9,407,000
Total Project ..	<u>183,197,000</u>

Applicant proposes to finance the cost of constructing these additions by using to the extent available, its working capital, moneys in reserve, funds not required for immediate use, and the proceeds of the issue and sale of such stocks, bonds, notes or other evidence of indebtedness as the Commission shall hereafter upon application, authorize.

The development of annual fuel costs and the costs of power for Unit No. 2 are shown in Exhibits Nos. 10 and 11. The total annual fuel cost is estimated to be \$16,730,000 and \$18,280,000 for operation at 80 and 90 percent capacity factors, respectively.

Applicant estimates the average delivered cost of power for operation at various capacity factors as follows:

<u>Capacity Factor</u>	<u>Average Delivered Cost</u> Mills/Kwhr
90%	4.42
80%	4.78

Exhibit No. 4 shows the historical average annual growth of peak load within applicant's gross service area to be 550 plus megawatts for the period 1963 through 1967. Applicant predicts the rate of growth in peak load of 800, 876 and 932 megawatts in 1972, 1973 and 1974, respectively. The historical and estimated area peak loads set forth in said exhibit are summarized as follows:

<u>Year</u>	<u>Actual</u>	<u>AREA PEAK LOADS</u> (Megawatts)		<u>Annual Growth</u>
		<u>Average Year</u>	<u>Adverse Year</u>	
1958	4,154			
1959	4,769			615
1960	5,310			541
1961	5,698			388
1962	5,830			132
1963	6,300			470
1964	6,769			469
1965	7,357			588
1966	7,994			637
1967	8,514			520
1968		8,999	9,079	485
1969		9,597	9,667	598
1970		10,361	10,431	764
1971		11,020	11,080	659
1972		11,820	11,880	800
1973		12,696	12,756	876
1974		13,628	13,678	932

In order to meet future load growth and to maintain reasonable reserve capacity, applicant has planned the following additions to its generating capacity (Exhibit No. 5):

Moss Landing Unit 7	735 mw	Summer 1968
Geysler Unit 4	27 mw	Winter 1968
Belden Hydro Plant	117 mw	Winter 1969
Geysler Unit 5	53 mw	Summer 1971
Diablo Canyon Unit 1	1060 mw	Spring 1972
Pittsburg Unit 7	735 mw	Fall 1972
Geysler Unit 6	53 mw	Fall 1972
Geysler Unit 7	53 mw	Fall 1973
Diablo Canyon Unit 2	1060 mw	Summer 1974
Geysler Unit 8	53 mw	Fall 1974

These additions, plus firm power available from others, will result in 1974 in a dry year firm power capacity of 16,242 megawatts to meet an estimated 1974 total peak demand of 13,508 megawatts (Exhibit No. 6) leaving a margin of 2,734 megawatts or 20.2 percent after allowance for over haul. Without the proposed Diablo Canyon Unit No. 2, the margin would drop to 12.4 percent. These figures compare with recorded margins of 17.7, 19.7, 25.7, 15.3 and 13.3 percent for each of the years 1963 through 1967, respectively.

The Transmission Line

The transmission route will run southeasterly from the Diablo Canyon plant along the south slopes of the Irish Hills crossing U.S. Highway 101 north of Squire Canyon and about five miles south of San Luis Obispo; thence southeasterly to the south of Indian Knob and crossing Price Canyon approximately 2.3 miles southwest of Edna; thence easterly and northeasterly crossing the Arroyo Grande Valley at the junction of the upper

Arroyo Grande Road and the Biddle Ranch Road; thence southwesterly and easterly crossing Tar Spring Ridge approximately 1.5 miles south of the proposed Lopez Reservoir; thence easterly and northeasterly passing approximately one-half mile south of Aqua Escondida Spring; thence northeasterly through the Los Padres National Forest and crossing the easterly forest boundary southeast of the Scott Ranch; thence northeasterly to approximately 1-1/2 miles northwest of the Goodwin Ranch; thence easterly across the north edge of Soda Lake adjacent to the south boundary of the California Valley Subdivision; thence northeasterly across the Temblor Hills to east of Highway Route 58 (also known as State Highway 178). From Diablo Canyon to this point, a distance of 65.6 miles, the line is proposed to be parallel and adjacent to and on the north side of the transmission line to be built for Unit No. 1.

From a point in the vicinity of Highway Route 58, the proposed route will deviate to the north of the Unit No. 1 line route and run northeasterly to a junction with the existing Morro Bay-Midway 230 kv line approximately 1/2 mile west of Highway 33 and 1/4 mile south of Lokern Road; thence east parallel to and immediately north of the Midway substation at Buttonwillow. The latter section is 19.1 miles in length.

The proposed 500 kv transmission line will be of the same design as the line for Unit No. 1. It will be supported on single circuit steel towers. The average span will be approximately 1300 feet. The line will meet the requirements of the Commission's General Order No. 95.

Rights-of-way for 6.8 miles of the 84.7 miles have been acquired. All of the property owners have been contacted and negotiations have started for the remainder of the rights-of-way.

The proposed route deviates from the Unit No. 1 route as the applicant could not find a single corridor wide enough to contain the lines for four proposed units at Diablo Canyon through oil fields north of McKittrick, there not being sufficient space between the oil wells.

Applicant's reasons for a separate route for lines from Unit No. 1 and Unit No. 2 are:

1. With the lines on separate rights-of-way there is less chance of simultaneous outage of both lines due to aircraft, landslides, fire, sabotage, etc.
2. The rights-of-way for both routes in the 19.1 mile sections east of Highway Route 58 are being secured in order to provide for the ultimate transmission lines from Diablo Canyon to the Midway substation. With a line constructed on the right-of-way, it is less likely that impediments or interfering land use will be placed within the right-of-way and later have to be removed.

The transmission lines were the subject of discussion by the public witnesses.

One protestant has 80 acres located approximately 10 miles from Morro Bay and seven miles from Atascadero. His property is now crossed by an existing 230 kv line from applicant's Morro Bay power plant, and applicant's proposed northern 500 kv line from Diablo Canyon Unit No. 1 is to cross his property parallel to the 230 kv line. This man wants the property owners notified of the definite plans for the transmission lines.

The second protestant owns 12 acres approximately 10 miles east of Diablo Canyon and along the proposed southern transmission line from Unit No. 1 and the proposed parallel line from Unit No. 2. This witness objected to what he called the indiscriminate routing of power lines all over the County of San Luis Obispo.

The third protestant resides in Atascadero but has unimproved land in See Canyon slightly north of the proposed route of the southern transmission line from Unit No. 1 and the proposed line from Unit No. 2. He stated that the transmission lines will ruin the aesthetics of the area and it will no longer be a pretty place to live.

The approximate locations of the properties of the protestants are marked respectively 1, 2 and 3, on the map attached to Interrogatory No. 15 on Exhibit No. 12.

No proposals for a general revision of the route were made.

A question was asked regarding the possibility of placing the transmission lines underground. The applicant stated

that if the lines could be installed underground, an 84-mile, 500-kv transmission line installed underground and having the same capacity as the proposed overhead line would cost in the order of 400 to 500 million dollars.

Licenses and Permits

The status of licenses and permits which applicant must secure in order to construct and operate the proposed plant and related facilities is set forth in Exhibit No. 23. Planning Commission approval has been received from both Kern and San Luis Obispo Counties. Applicant has executed agreements with the Resources Agency of the State of California relative to the conservation resources (Exhibits Nos. 15 and 16).

Findings

The Commission finds that:

1. Applicant has need for a second 1,060,000 kw generating unit in the southern portion of its system by the year 1974.
2. The economics of the project as supported by the estimates presented are not unreasonable.
3. Applicant has the ability to finance and construct the project.
4. Present and future public convenience and necessity will require the construction and operation by applicant of a second nuclear power unit rated at approximately 1,060,000 kw at the Diablo Canyon site, together with the transmission and other appurtenances generally as described by applicant in this proceeding, but subject to the conditions that the certificate is

interim in form and may be made final by further order of the Commission upon issuance by the United States Atomic Energy Commission of final authorization to construct and operate the nuclear energy plant.

5. Applicant plans to design and construct its plant, switchyards, transmission lines, and attendant facilities with full consideration given to aesthetic values and conservation of as much of the natural resources of the region as possible.

The certificate herein granted shall be subject to the following provision of law:

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 or to a political subdivision thereof as the 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 only, and is not to be considered as indicative of amounts to be included in future proceedings for the purpose of determining just and reasonable rates.

We conclude that the application should be granted to the extent set forth in the order which follows.

INTERIM ORDER

IT IS ORDERED that:

1. A certificate of public convenience and necessity is granted to Pacific Gas and Electric Company to construct, operate and maintain a nuclear fueled power generating unit of approximately 1,060,000 kilowatts capacity, together with appurtenant facilities and transmission lines generally as described by applicant in this proceeding, but subject to the condition that the certificate is interim in form and may be made final by further order of the Commission on the establishment by evidence in the record that final authority has been obtained from the Atomic Energy Commission to construct and operate the nuclear energy plant.

2. Applicant shall file with this Commission a detailed statement of the capital costs of the project, including transmission lines and other appurtenances, within one year following the date on which the unit is placed in commercial operation.

3. Within one month after the effective date hereof applicant shall advise all affected parties of the exact route of the transmission line for Units Nos. 1 and 2, and shall file a statement with the Commission that all parties have been advised.

4. In designing its plant, switchyards, and attendant facilities, applicant shall give full consideration to aesthetic values and conservation of the natural resources of the area. Applicant shall submit to the Commission artists' renditions of the major aspect of the project, based on the architect's design, within six months from the date hereof.

5. The authorization herein granted will expire if not exercised within five 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 25th day of MARCH, 1969.

William Amos J.
President
Margaret
[Signature]
[Signature]
[Signature]
Commissioners

Commissioner Fred P. Morrissey, being necessarily absent, did not participate in the disposition of this proceeding.