

14 F.P.C. 518, 1955 WL 2920

Pacific Gas and Electric Co.

Projects Nos. 616, 1352, **2105** and 2108

Order issuing license (major)

January 24, 1955

**\*\*1 \*518** Pacific Gas and Electric Company, of San Francisco, California (the Company), filed on April 28, 1952, application for license for the proposed Butt Valley-Caribou No. 2 Project, designated as Project No. **2105**, on **North Fork Feather River** and on Butt Creek, one of its tributaries, in Plumas County, California, affecting lands of the United States within Plumas and Lassen National Forests; and filed on May 12, 1952, application for license for the proposed Belden Project, designated as Project No. 2108, on **North Fork Feather River** and on Yellow Creek, one of its tributaries, in Plumas County, California, affecting lands of the United States within Plumas National Forest.

By letter dated July 2, 1953, and filed July 7, 1953, the Company advised that it proposed that Project No. **2105** use jointly with its licensed constructed Project No. 1352 diversion facilities from Lake Almanor Reservoir of its licensed constructed Project No. 616 to Butt Valley (Project No. **2105**) Reservoir; also storage in and withdrawals from those reservoirs. Complications associated with this joint usage could be avoided, the Company advised, by inclusion of all facilities under one license, and the Company requested that its two pending applications for licenses for proposed Projects Nos. **2105** and 2108 be consolidated under Project No. **2105** and considered as one application, and that any license for Project No. **2105** include the constructed works licensed as Project No. 1352 and the constructed works licensed as Project No. 616. Upon issuance of a license for the redeveloped Project No. **2105**, the Company proposes to apply for surrender of its licenses for Projects Nos. 616 and 1352, concurrently with its acceptance of license for the redeveloped Project No. **2105**.

The license for Project No. 1352 'Caribou (Butt Valley Dam and Reservoir)' was issued for a period effective as of January 1, 1936, and the license for minor-part Project No. 616 'Lake Almanor (Dam and Reservoir)' was issued for a period effective as of November 18, 1925. Both licenses expire December 31, 1968.

As described in the pending applications for licenses and in the outstanding licenses, the redeveloped project would consist of:

(a) All lands constituting the project area and enclosed within the boundary or the limits of which are otherwise defined, and/or interest in such lands necessary or appropriate for the purposes of the project, whether such lands or interest therein are owned or held by the applicant or by the United States; such project area and project boundary being more specifically shown and described by certain exhibits which formed a part of the applications for licenses and of the outstanding licenses as amended, and which are designated and described as follows:

#### EXHIBIT J DRAWINGS

**FPC** No. Dwg. No. Title, or showing

**2105** 1 409754 General Map.

2108 1 402515 General Map.

J 1B 1352 21 401581 General Map.

4 616 19 Project Boundary and Profile

of Projects.

**\*519 EXHIBIT K DRAWINGS**

K 1 **2105** 2 409755 Plan showing project works at Lake

Almanor and Butt Valley Reservoir.

2 **2105** 3 409758 Transmission Line.

3 **2105** 4 409757 Profiles of Tunnels.

4 **2105** 5 409756 Plan of Project Works.

1 2108 2 402517 Map of Reservoir.

2 2108 3 402516 Plan of Project Works.

3 2108 4 402518 Profiles.

1B 1352 22 401982 Lake Almanor to Butt Valley.

2B 1352 23 402240 Butt Valley Reservoir.

3B 1352 24 402241 Butt Valley Reservoir.

4B 1352 25 402242 Butt Valley Dam to Caribou P. H.

5B 1352 26 401582 Transmission Line.

6B 1352 27 401583 Transmission Line.

7B 1352 28 401584 Transmission Line.

1d 616 20 Encroachments on National Forest

Reserve.

1e 616 21 Encroachments on National Forest

Reserve.

2 616 3 Calif Enlargement of Lake Almanor Dam,

Map and Cross Section of Dam.

**\*\*2** NOTE.-Sheets Nos. 2B, 3B, 4B, 5B, and 6B revised Apr. 25, 1952.

(b) Principal structures consisting of:

(i) *Proposed Butt Valley-Caribou No. 2 Project (No. 2105)*.-An intake structure each at Lake Almanor Reservoir (Intake No. 1A) and at Butt Valley Reservoir (Intake No. 2A); a pressure tunnel (Tunnel No. 1A) about 11,000 feet long from Lake Almanor Intake No. 1A to the Butt Valley Powerhouse; penstock; a pressure tunnel (Tunnel No. 2A) about 9,200 feet long from Butt Valley Reservoir Intake No. 2A to Caribou No. 2 Powerhouse penstock; a penstock leading into each powerhouse; a surge tank for each conduit system; Butt Valley Powerhouse, at head of Butt Valley Reservoir, to house one vertical turbine-generator unit of 48,000-Kva (0.9 P.F.) (55,000 h.p.) capacity; Caribou No. 2 Powerhouse, on right bank of **North Fork of Feather River**, to house two vertical turbine-generator units each of 63,000-Kva (0.9 P.F.) (75,000 h.p.) capacity; a substation and switchyard at each powerhouse; one 220-Kv transmission line about 8 miles long to extend from Butt Valley plant to the Caribou No. 2 plant; a short tap line to extend from Caribou No. 2 Powerhouse to a switch and bus structure nearby; miscellaneous hydraulic, mechanical, and electrical appurtenances and project works including a cross-connection near Lake Almanor intakes, between existing pressure Tunnel No. 1 and proposed pressure Tunnel No. 1A, and a by-pass pipe at pressure Tunnel No. 1A outlet portal to divert water to Butt Creek.

(ii) *Proposed Belden Project (formerly No. 2108)*.-A gated diversion dam, across **North Fork of Feather River**, about 150 feet in height above stream bed with spillway crest at Elev. 2958; a reservoir to extend upstream to applicant's existing Caribou Powerhouse and having an effective reservoir capacity of about 900 acre-feet between normal operating water surface (Elev. 2975) and minimum operating water level (Elev. 2950) and a gross capacity of about 2,500 acre-feet at Elev. 2975 (all elevations are based on applicant's datum); a wheel-gate equipped intake structure; two pressure tunnels aggregating 33,700 feet in length, one on each side of the **North Fork of Feather River** siphon and forming therewith a uni-linear conduit from the intake to the beginning of penstock, and a siphon about 1,750 feet long crossing **North Fork of Feather River**; a penstock wye-branching into two pipes, to the powerhouse; a differential surge chamber 65 feet inside diameter; Belden Powerhouse, on left bank of Yellow Creek, to house two vertical turbine-generator units each of 65,000-Kva (0.9 P.F.) (78,000 h.p.) capacity; a substation and switchyard; one short tap line from Belden Powerhouse to **\*520** a switch and bus structure nearby; and miscellaneous hydraulic, mechanical and electrical appurtenances.

(iii) *Existing Caribou (Butt Valley Dam and Reservoir) Development (No. 1352)*.-Caribou Tunnel No. 1 extending from Lake Almanor Reservoir to the Butt Creek watershed; Butt Valley Dam and Reservoir; Caribou Powerhouse having an installed capacity of approximately 90,000 horsepower; a conduit extending from the Butt Valley Reservoir to the Caribou Powerhouse; a 165,000-volt transmission line extending from the Caribou Powerhouse to the Big Bend Powerhouse; roads extending from the Caribou Powerhouse toward Howells and to Butt Valley; and miscellaneous appurtenances.

**\*\*3** (iv) *Existing Lake Almanor Dam and Reservoir Development (No. 616)*.-A hydraulic fill dam, across **North Fork of Feather River**, having a crest elevation 4,500 and known as the Lake Almanor Dam, and a reservoir of 1,310,000 acre-feet capacity created by said dam and known as the Lake Almanor Reservoir.

-the location, nature, and character of which structures of (i) through (iv) are more specifically shown and described by the exhibits hereinbefore cited and by certain other exhibits which formed part of the applications for licenses for proposed Projects Nos. **2105** and 2108 and of the outstanding licenses, as amended, for the existing Projects Nos. 1352 and 616, and are described as follows:

#### EXHIBIT L DRAWINGS

L 1 **2105** 6 409759 Intake Structures.

2 **2105** 7 409760 Penstocks and Surge Chambers.

3 **2105** 8 409761 Butt Valley Powerhouse.

4 **2105** 9 409762 Caribou No. 2 Powerhouse.

1 2108 5 402519 Dam, Intake and Tunnel.

2 2108 6 402520 Siphon, Penstock and Surge Chamber.

3 2108 7 402521 Belden Powerhouse.

1 1352 4 47325 Intake Tower and Channel-Tunnel

No. 1.

2<sup>1</sup> 1352 5 47326 Intake Tower-Tunnel No. 2.

3 1352 6 47327 Misc. Details.

4 1352 7 47328 General Arrangement-Caribou P.H.

5 1352 17 47536 Tunnel Details.

NOTE.-The license for Project No. 616 identifies the following structural drawings as Exhibits K. They are L drawings in purpose:

Exhibit **FPC** No. Dwg. No. Title, or showing

K 3 616 15 Elevation of Intake Tunnel No. 1.

4 616 16 Plan of Intake Tunnel No. 1.

5a 616 23 General Plan of Spillway.

6 616 7 Spillway Walls.

7 616 8 Spillway Crest.

8a 616 22 Details of the Lower End of the Spillway

Sta., 2 07.70 Big Meadows

Dam.

9 616 10 Conduit Details.

10 616 11 Intake Tower for Conduit.

11 616 12 Gates in Intake Tower.

#### EXHIBIT M

(Filed as Project No. **2105**) (In 2 sheets). 'General Descriptions and General Specifications of Mechanical, Electrical and Transmission Equipment, Butt Valley-Caribou No. 2 Project.'

(Filed as Project No. 2108) (In 2 sheets). 'General Descriptions and General Specifications of Mechanical, Electrical and Transmission Equipment, Belden Project.'

(c) All other structures, fixtures, equipment or facilities used or useful in the maintenance and operation of the project and located on the project area, including such portable property as may be used or useful in connection with **\*521** the project or any part thereof, whether located on or off the project area, if and to the extent that the inclusion of such property as part of the project is approved or acquiesced in by the Commission; also, all riparian or other rights, the use or possession of which is necessary or appropriate in the maintenance or operation of the project.

**\*\*4** (d) The proposed and existing installed capacities are as follows:

Proposed installed

capacity (h.p.)

Project:

**2105** (Butt Valley-Caribou No. 2) 205,000

2108 (Belden) 156,000

1352 (Caribou No. 1) 90,000

616 (Almanor)

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451,000

The Company proposes to continue to distribute and sell the energy to the public in the central and northern parts of California.

The application for license respecting Project No. **2105** describes a proposed 220-Kv transmission line, about 8 miles long, from the Butt Valley plant to the Caribou No. 2 plant; a short 220-Kv transmission tap line from Caribou No. 2 powerhouse switch and bus structure to the Company's transmission system; and a short tap line from the plant to the switch and bus structure

nearby. The application for license respecting Project No. 2108 describes three proposed 'short 220-Kv tap lines from the high tension switch and bus structure at the plant to the Company's interconnected transmission system,' and a short tap line from the plant to the switch and bus structure nearby. The applications just referred to lack information regarding transmission lines connecting switch and bus structures of Caribou No. 2 and Belden plants to lines of the Company's system to provide an outlet for the power produced by these plants.

The Office of the Chief of Engineers, Department of the Army, has reported that the proposed projects would have no significant effect on any existing, authorized, or presently contemplated flood-control or navigation project of the Corps of Engineers; that the operation of the existing licensed Projects Nos. 616 and 1352 as a unit with the proposed projects would not affect the interest of the Corps; and that terms and conditions in the interest of navigation for insertion in any license issued are not considered necessary.

The Secretary of the Interior, in reporting favorably on the redeveloped project, has recommended for inclusion in any license therefor, special terms and conditions hereinafter substantially provided for.

The Chief, Forest Service, acting for the Secretary of Agriculture, who has supervision over the Plumas and Lassen National Forests, has reported favorably on the redeveloped project, and has recommended for inclusion in any license therefor special terms and conditions hereinafter substantially provided for.

The Governor of the State of California and the California Department of Fish and Game have reported favorably on the redeveloped project, and have recommended for inclusion in any license therefor special conditions hereinafter substantially provided for.

The Company states that it desires to begin construction of the Butt Valley-Caribou No. 2 unit as soon as possible after issuance of a license, and estimates that the proposed unit will be completed 3 1/2 years after construction is commenced. The Company states that it desires to begin construction \*522 of the Belden unit at such time as it is necessary to complete same 18 months after completion of the Butt Valley-Caribou No. 2 unit.

The Commission *finds*:

\*\*5 (1) The proposed Butt Valley-Caribou No. 2 and Belden hydroelectric facilities hereinbefore more fully described in paragraph (b)(i) and (ii) involving, among other betterments, an increase in the authorized installed capacity from 90,000 horsepower to 451,000 horsepower, constitute an enlargement and redevelopment of the existing Caribou Project and Lake Almanor Dam and Reservoir hydroelectric facilities hereinbefore more fully described in paragraph (b)(iii) and (iv).

(2) The Company is a corporation organized under the laws of the State of California and has submitted satisfactory evidence of compliance with the requirements of all applicable State laws insofar as necessary to effect the purposes of a license.

(3) No conflicting application is before the Commission. Public notice has been given as required by the Act.

(4) The redeveloped project does not affect any Government dam, nor will the issuance of a license therefor as hereinafter provided affect the development of any water resources for public purposes which should be undertaken by the United States itself

(5) The issuance of a license for the redeveloped project as hereinafter provided will not interfere or be inconsistent with the purposes for which the Plumas and Lassen National Forests were created or acquired.

(6) The redeveloped project will occupy 1465.61 acres of lands of the United States, exclusive of transmission line rights-of-way.

(7) Under present circumstances and conditions and upon the terms and conditions hereinafter imposed, the redeveloped complete project is best adapted to a comprehensive plan the improvement and utilization of water-power development, and for other beneficial public uses, including recreational purposes.

(8) The installed horsepower capacity of the redeveloped project hereinafter authorized for the purpose of computing the capacity component of the administrative annual charges is 451,000 horsepower.

(9) The amount of annual charges to be paid under the license for the purpose of reimbursing the United States for the costs of administration of Part I of the Federal Power Act, and for recompensing it for the use, occupancy, and enjoyment of its lands, is reasonable as hereinafter fixed and specified.

(10) It is desirable to reserve for future determination the question of what transmission lines and appurtenant facilities, if any, for the transmission of power from the Caribou and Belden developments shall be included in this license.

(11) The maps, plans, and statements described as exhibits in paragraphs (a) and (b) above conform to the Commission's rules and regulations and should be approved as part of the license for the redeveloped project.

The Commission *orders*:

(A) This license is issued to Pacific Gas and Electric Company under the provisions of the Federal Power Act for a period of 50 years, effective as of November 1, 1954, for the construction and operation upon lands of the United States of Project No. **2105**, subject to the terms and conditions of the Act which is incorporated by reference as a part of this license, and subject to such rules and regulations as the Commission has issued or prescribed under the provisions of the Act.

**\*\*6 \*523** (B) This license is also subject to the terms and conditions set forth in Form L-2, **17 F. P. C. 62**, December 15, 1953, entitled 'Terms and Conditions of License for Unconstructed Major Project Affecting Lands of the United States,' except for Article 20 thereof, which terms and conditions are attached hereto and made a part hereof; and subject to the following special conditions set forth herein as additional articles:

*Article 25.* The Licensee shall commence construction of the Butt Valley-Caribou No. 2 project works within one year from the effective date of license and with due diligence shall complete those project works within four years from said effective date, and shall commence construction of the Belden project works within three years from the effective date of license and with due diligence shall complete those project works within six years from said effective date.

*Article 26.* The Licensee shall conduct, together with interested Federal and State of California agencies, an investigation leading to the determination of the amounts and rates of flow necessary to be bypassed at all points of diversion for the support of fish life and for recreation purposes. In the determination of such amounts and rates of flow, full consideration shall be given to the use of available water supply for power purposes: *Provided however*, That pending the conclusion of this investigation, Licensee shall provide in all but dry years a flow in the stream immediately below the Belden Diversion Dam of not less than 100 cfs during the period from May 1 to October 31 and 50 cfs during the remainder of the year. These flows shall be supplemented by additional releases at Belden Diversion Dam when and if necessary to make up a total flow of not less than 200 cfs at the Gansner Bar Gaging Station from May 1 to October 31, and 100 cfs during the remainder of the year: *Provided further*, That the releases at Belden Diversion Dam may be reduced to flows necessary to produce a minimum flow at Gansner Bar Gaging Station of 100 cfs (1) during the months of May and June when the total annual precipitation at Canyon Dam from July 1 to April 30 is less than 24.4 inches, and/or (2) during the remainder of the year when the total annual precipitation from July 1 to June 30 is less than 27.2 inches: and *Provided further*, That the Licensee shall make such reasonable modifications in releases from Almanor Dam, stipulated in Amendment No. 2 of the license for Project No. 1962, as may hereafter be prescribed by

the Commission upon the recommendation of the Secretary of the Interior and the State of California after completion of the investigation provided in Article 26.

*Article 27.* The Licensee shall not release directly into **North Fork of Feather River** or into any of its tributaries, debris and silt-laden water from any gravel-washing activities connected with project construction.

*Article 28.* The Licensee shall install at diversion structures such fish screens as may be prescribed by the Commission upon the recommendation of the Secretary of the Interior and the California Department of Fish and Game. Licensee shall also construct, maintain, and operate such other protective devices and comply with such reasonable modifications of the project structure and operation in the interest of fish and wildlife conservation as may be hereafter prescribed by the Commission upon the recommendations of the Secretary of the Interior, the Department of Agriculture, and the State of California.

**\*\*7** *Article 29.* The Licensee shall conduct the normal operation of its power plants so as to avoid the sudden release of large flows into channels (other than those used as forebays and afterbays) normally carrying reduced flows **\*524** where the control of such large flows by Licensee is reasonably possible. In the event emergency releases are required, Licensee shall endeavor to avoid changes in stream stages which will endanger life, health and property, and which will be detrimental to the fish life in the stream.

*Article 30.* The Licensee shall construct the Butt Valley-Caribou transmission line along the east side of Butt Valley reservoir on a location mutually agreeable to the Regional Forester or his representative and the Licensee.

*Article 31.* The Licensee shall file Supplemental Exhibit F, detail statement of project lands; and shall file for approval in accordance with the Commission's rules and regulations revised Exhibit K, detail maps of project area and project boundary, to reflect the consolidated land status of the project, such exhibits to be filed within three years of the effective date of this license.

*Article 32.* The Commission expressly reserves the right to determine at a later date the question of what transmission lines and appurtenant facilities, if any, for the transmission of power from the Caribou and Belden developments shall be covered in this license and included as part of the project works and to insert in the license any reasonable conditions relating thereto.

*Article 33.* The actual legitimate original cost, estimated where not known, and the accrued depreciation of the parts of the project completed prior to the effective date of license shall be determined by the Commission as of such effective date, in accordance with the Act, and the rules and regulations of the Commission, and such cost less such accrued depreciation, so determined, shall be the net investment in the project as of such effective date.

*Article 34.* The actual legitimate original cost of the parts of the project to be completed after the effective date of the license, and of any addition to or betterment of the project, shall be determined by the Commission in accordance with the Act and rules and regulations of the Commission thereunder.

*Article 35.* The Licensee shall pay to the United States the following annual charges:

(i) For the purpose of reimbursing the United States for the costs of administration of Part I of the Act, one (1) cent per horsepower on the authorized installed capacity (451,000 horsepower) plus two and one-half (2 1/2) cents per 1,000 kilowatt-hours of gross energy generated by the project during each calendar year for which the charge is made;

(ii) For the purpose of recompensing the United States for the use, occupancy, and enjoyment of its lands, exclusive of those used for transmission line rights-of-way, \$2,931.22;

(iii) For the purpose of recompensing the United States for the use, occupancy, and enjoyment of its lands for transmission line rights-of-way only, \$259.04;



**\*\*8** *Provided*, That revisions, if any, in annual charges specified in (ii) and (iii) above, resulting from compliance with Article 31 hereof, shall be retroactive to the effective date of this license.

(C) The exhibits designated and described in paragraphs (a) and (b) above are approved as part of this license.

(D) The Licensee shall, within thirty (30) days from the date of notification of receipt by the Commission of three certified copies of this license, properly accepted, file with this Commission applications for surrender of licenses for Projects Nos. 616 and 1352.

(E) This order shall become final thirty (30) days from the date of its issuance unless application for rehearing shall be filed as provided in Section 313(a) of the Act, and failure to file such an application shall constitute **\*525** acceptance of this license. In acknowledgment of the acceptance of this license, it shall be signed for the Licensee and returned to the Commission within sixth (60) days from the date of issuance of this order.

Commissioner Smith not participating.

FEDERAL POWER COMMISSION

Footnotes

1 Superseded in part by L-5 (FPC 1352-17).

14 F.P.C. 518, 1955 WL 2920