

17 F.P.C. 262, 1957 WL 4171

DEPARTMENT OF WATER RESOURCES OF THE STATE OF CALIFORNIA,

PROJECT NO. **2100**

ORDER ISSUING LICENSE (MAJOR)

February 11, 1957

****1 *262** Before Commissioners: Jerome K. Kuykendall, Chairman; Seaborn L. Digby, Frederick Stueck and William R. Connole.

Pursuant to application for a license under Section 4(e) of the Federal Power Act (hereinafter referred to as the Act) filed February 19, 1952, and later revised and amended, the Commission on December 14, 1956, **16 F. P. C. 1340**, issued a license **order** to Water Project Authority of the State of California (Authority) for proposed major Project No. **2100**, to be known as the Feather River Project and located on the Feather River and its tributaries in Butte County, California. However, by a filing received on January 14, 1957, the Department of Water Resources of the State of California informed the Commission that by Act of the California Legislature (Cal. Stats. 1956, Ch. 52), effective July 5, 1956, the Authority was abolished and the Department of Water Resources of the State of California, with principal offices at Sacramento, California, has succeeded to and is vested with all of the powers and duties of the former Authority, including authorization to construct and operate the Feather River Project.

It also informed the Commission that the same statute also abolished the former Division of Water Resources of the Department of Public Works, State of California, and that the Department of Water Resources succeeded to and is vested with some of the power, duties, purposes, responsibilities and jurisdiction formerly vested in the Division of Water Resources.

Under the circumstances just recited, we have by **order** of even issuance date rescinded our December 14, 1956, **order** issuing a license to Authority and have construed the filing received January 14, 1957, from the Department of Water Resources of the State of California (Applicant) as a supplement to the application for license so as to provide for issuance of license to Applicant under Section 4(e) of the Act.

The project will affect navigable waters of the United States, and will occupy 9,181.79 acres of lands of the United States, some of which are within the Plumas and Lassen National Forests, and certain lands held in trust by the United States for Indians.

In addition to the generation of power, the proposed project is to be operated to provide for downstream prior water rights and additional irrigation requirements of the Feather River Service Area, for flood control, and for firming of excess flows in the Sacramento-San Joaquin Delta to make possible a supply for exportation therefrom.

The Secretary of the Army and the Chief of Engineers have reported favorably on the application subject to the inclusion in the license of certain conditions in the interest of navigation and flood control substantially as hereinafter provided.

The Secretary of Agriculture, who has supervision over the Plumas and Lassen National Forests, has reported favorably on the application subject to the inclusion in the license of certain conditions for the adequate protection and utilization of the lands and resources of the national forests substantially as hereinafter provided.

****2** The Acting Secretary of the Interior has reported favorably on the application subject to the inclusion in the license of certain conditions for the protection of ***263** fish and wildlife resources, for the adequate compensation to Indians whose lands would be inundated by the project, and for archeological surveys substantially as hereinafter provided.

The Department of Fish and Game of the State of California recommended that any license issued make provision for fish protective devices and flow releases and development of the recreational potential of the **Oroville** Reservoir and later suggested

insertion in the license of a provision regarding flow releases in the Feather River below Sutter-Butte Dam agreed to by it, the California Division of Water Resources, and the United States Fish and Wildlife Service substantially as hereinafter provided.

Oroville-Wyandotte Irrigation District, licensee for major Project No. 2088, protested the issuance of a license for the project, stating that its Palermo Canal and diversion works are located in the proposed **Oroville** Reservoir site and would be flooded by the project; that the last nine miles of its 'Miners Ranch' diversion ditch, to be constructed, will be flooded at high-water stage of the proposed **Oroville** Reservoir as revised and now planned; and that, although it believes that satisfactory arrangements and construction can be agreed upon, until the details for preventing conflict in the operation of both projects are worked out, it feels it necessary to protest against the project. It is assumed that the Applicant will reach an agreement with the Irrigation District in this matter, but in any event the provisions of Section 10(c) of the Act make each licensee liable for all damages occasioned to the property of others by the construction, maintenance, or operation of the project works or of the works appurtenant or accessory thereto, constructed under a license.

The Commission finds:

(1) The project will occupy lands of the United States and its construction and operation will affect the navigable capacity of the Feather River and thus affect the interests of interstate or foreign commerce.

(2) The project consists of:

(a) All lands constituting the project area and enclosed by the project 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 part of the application for license and which are designated and described as follows:

Exhibit **FPC** No. Title

J **2100** 20 Vicinity and location map.

K 1 **2100** 21 Ownership of lands, **Oroville** Reservoir site.

K 2 **2100** 22 Do.

K 3 **2100** 23 Do.

****3** (b) Principal structures comprising:

(1) **Oroville** Dam, of concrete gravity section, about 730 feet high above streambed, across Feather River immediately upstream from State Highway No. 24 crossing of Feather River, about 5.5 miles upstream from **Oroville**; two auxiliary dams, at low points in the periphery of the reservoir, described as Bid-well Canyon Dam with a maximum height of about 35 feet above natural ground, and Parish Camp Dam with a maximum height of about 15 feet above natural ground; **Oroville** Reservoir, formed by the above three dams, with a storage capacity of 3,500,000 acre-feet at normal water surface elevation 900.0 (U. S. G. S. datum);

***264** (2) **Oroville** Afterbay Dam No. 1, of gravity overflow section, across Feather River about one-quarter mile above the highway bridge at **Oroville**, forming a reservoir with a storage capacity of about 5,200 acre-feet at normal water surface elevation 194.0 (U. S. G. S. datum);

- (3) **Oroville** Afterbay Dam No. 2, of fill type, about five miles downstream below **Oroville** and forming a reservoir with a usable storage of about 17,700 acre-feet between maximum operating water surface elevation 137.5 (U. S. G. S. datum) and a minimum water surface elevation 127.0 (U. S. G. S. datum);
- (4) Five steel penstocks extending through the **Oroville** Dam;
- (5) **Oroville** Powerhouse, across the existing channel of Feather River and directly below **Oroville** Dam, to house five vertical-shaft Francis type hydraulic turbines rated at 118,000 horsepower each (total 590,000 hp) at a design net head of 558 feet, direct-connected to five generators rated at 88,000 kilowatts each (total 440,000 kw, 0.90 P. F.);
- (6) Transformer, substation, transmission, and switchyard **facilities** as described in finding (3) below; and
- (7) Miscellaneous hydraulic, mechanical, and electrical appurtenances and project works;

the location, nature, and character of which structures are more specifically shown and described by the exhibits hereinbefore cited and by certain other exhibits which formed part of the application for license and which are designated and described as follows:

Exhibit **FPC** No. Title

- L 1 **2100** 35 **Oroville** Dam and powerplant, general plan and profiles.
- L 1A **2100** 36 **Oroville** Dam and powerplant, general plan, profile, and sections.
- L 1B **2100** 37 **Oroville** Dam and powerplant, sections.
- L 2 **2100** 25 **Oroville** powerplant, plan, elevation, and sections.
- L 3 **2100** 26 **Oroville** powerplant, floor plans, and section.
- L 5 **2100** 28 Spillway plan, profile and sections-**Oroville** Dam.
- L 6 **2100** 29 Afterbay Dam No. 1-General plan, profile, and sections.
- L 7 **2100** 30 Afterbay Dam No. 2-General plan, detail, and sections.
- L 8 **2100** 38 Auxiliary earth dams-General plans, profiles, and sections.

Exhibit M: Amended October 31, 1955, 'General description and Specifications for equipment' in 14 sheets, filed November 10, 1955.

****4** (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 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.

(3) The five 100,000-k. v. a., three-phase, 13.2/230-k. v. step-up transformers located at powerhouse; the five high-tension leads, varying from about 600 to 1,300 feet in length, from step-up substation to switchyard; and the switchyard to which leads from step-up substation and three 230-k. v. customers' transmission lines are connected are parts of the project herein authorized within the meaning of Section 3(11) of the Act.

(4) The Applicant is an agency of the State of California organized and existing pursuant to the laws of the State of California; it is a municipality within the meaning of Section 3(7) of the Act; and it has submitted satisfactory evidence of compliance with the requirements of all applicable State laws insofar as necessary to effect the purposes of a license for the project.

***265** (5) No conflicting application is before the Commission. Public notice has been given of the filing of the application for a license.

(6) The Applicant is authorized under California law, Water Code Section 11700, to finance the project by the issuance of revenue bonds, but the precise method of financing remains to be determined.

(7) The issuance of a license as hereinafter provided will not affect the development of any water resources for public purposes which should be undertaken by the United States.

(8) The issuance of a license for the project as hereinafter provided will not interfere or be inconsistent with the purposes of any reservation or withdrawal of public lands, or with the purposes for which the Plumas and Lassen National Forests were created or acquired.

(9) The project is best adapted to a comprehensive plan for improving and developing a waterway or waterways for the use or benefit of interstate or foreign commerce, for the improvement and utilization of water-power development, and for other beneficial public uses, including recreational purposes.

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

(11) The installed horsepower capacity of the project hereinafter authorized for the purpose of computing the capacity component of the administrative annual charge is 587,000 horsepower and the Applicant proposes to dispose of the energy to be generated thereby in the northern California power market to public agencies or to the Pacific Gas and Electric Company.

****5** (12) The exhibits designated and described in finding (2) above conform to the Commission's rules and regulations and should be approved as part of the license for the project subject to the filing of revised or supplemental Exhibit L drawings as hereinafter provided to show the final design of the **Oroville** Dam.

(13) It is desirable to reserve for future Commission determination the question of what additional transmission lines and appurtenant **facilities**, of any, should be included in this license.

The Commission orders:

(A) This license is issued to Department of Water Resources of the State of California under Section 4(e) of the Act for a period of 50 years, effective as of February 1, 1957, for the construction, operation, and maintenance of Project No. **2100**, affecting navigable waters of the United States and lands of the United States partly within the Plumas and Lassen National Forests,

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.

(B) The license is also subject to the terms and conditions set forth in Form L-6,* December 15, 1953, entitled 'Terms and Conditions of License for Unconstructed Major Project Affecting Navigable Waters and Lands of the United States', except for Articles 23 and 24 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 28. The License shall commence construction of the Feather River Project within two years from the effective date of this license; shall thereafter in good faith and with due diligence prosecute such construction; and shall complete the project and place it in operation within seven years from the date of *266 commencement of construction: *Provided, however,* That the Licensee shall not begin construction of the Oroville Dam until the Commission approves revised or supplemental Exhibit L drawings to be filed as provided hereinafter.

Article 29. The Licensee shall operate the project works in such a manner so as to maintain in the main Feather River downstream from the existing Sutter-Bette Diversion Dam such flows as are determined by study and experimentation with the project in operation and as are mutually agreed upon by and as are acceptable to Licensee, the California Department of Fish and Game, and the Secretary of the Interior: *Provided,* That the flow in this reach shall not be less than 400 cfs pending such determination and excepting any mutually agreeable modification for purposes of study and experimentation: *Provided,* further, that such releases as are required to satisfy agreed upon flow conditions shall be made from the lowest outlet of the Oroville Reservoir. In the event the parties named herein fail to reach an agreement as contemplated herein, the Commission reserves the right, after notice and opportunity for hearing, to make the determinations required under this article.

****6** *Article 30.* The Licensee shall maintain a constant rate of flow in the reach of the Feather River downstream from the existing Sutter-Butte Diversion Dam during the salmon-spawning period to the extent that such is possible in the operation of the project works: *Provided, however,* that if such constant rate of flow is not practicable the Licensee shall provide for gradually increasing rather than decreasing the flow in this reach during such period insofar as this is possible in the operation of the project works; *Provided, further,* That the Licensee shall undertake such feasible means and measures to increase the spawning and summer-holding capacity of the remaining stream areas available to salmon as may be cooperatively determined necessary by the Licensee, the California Department of Fish and Game, and the Secretary of the Interior prior to initiation of project construction. In the event the parties named herein fail to reach an agreement as contemplated herein, the Commission reserves the right, after notice and opportunity for hearing, to make the determinations required under this article.

Article 31. The Licensee shall operate the project in such manner that changes in rates of releases from the Oroville Reservoir and after-bay dams will be gradual and minimal at all times insofar as this is consistent with operation requirements: *Provided,* That during flood periods such releases will not increase flood flows above those prior to project existence: *Provided, further,* That the Commission reserves the right, after notice and opportunity for hearing, to prescribe the changes in rates of releases upon the recommendation of the Federal agencies concerned.

Article 32. The Licensee shall collaborate with the Department of the Army in formulating a program of operation for the project in the interest of flood control.

Article 33. The Licensee shall install, maintain, and operate adequate fish screens at all irrigation canals or conduits used or to be used for diversion of water directly from the Feather River if such screens are found to be necessary and if suitable and practical screens can be developed, as may be prescribed by the Commission upon the recommendation of the Secretary of the Interior and the California Department of Fish and Game.

Article 34. The Licensee shall construct, operate, and maintain at all diversion dams of the project on the main Feather River below the existing Sutter-Butte Diversion Dam fish-passage **facilities**, as may be prescribed by the Commission upon the the recommendation of the Secretary of the Interior and the California Department of Fish and Game.

***267** *Article 35.* The Licensee shall compensate the affected Indians for damage to Indian properties caused by the construction of the project: *Provided*, That if an agreement between the Indians, the State of California, and the Secretary of the Interior cannot be reached as to the amount of damage, the Licensee agrees to pay the fair market value of said damage as determined by a board of disinterested appraisers selected for that purpose.

****7** *Article 36.* The Licensee shall provide for such additional equipment and **facilities**, or shall make such replacements of existing **facilities**, as may be determined by the Regional Forester to be necessary for the prevention and suppression of fires near the **Oroville** Reservoir upon national forest lands or within the Forest Service Protection Zone, and for the restoration or replacement of disrupted transportation and communication **facilities** required for the administration of forest lands: *Provided*, That the total cost to the Licensee shall not exceed \$300,000 based on the December, 1954, Engineering News Record Construction Cost Index.

Article 37. The Licensee shall relocate or replace all of the existing Forest Service, County, California State Division of Forestry, and/or other local roads and bridges and communication **facilities** which in their present locations will be inundated and which are now used by the Forest Service for the prevention and suppression of fires upon national forest lands: *Provided*, That such relocations and replacements are mutually agreed upon between the Licensee and the U. S. Forest Service. In the event the parties named herein fail to reach an agreement as contemplated herein, the Commission reserves the right, after notice and opportunity for hearing, to make the determinations required under this article.

Article 38. The Licensee shall, prior to impounding water, clear all lands in the bottoms and margins of the reservoirs of Afterbay Dams Nos. 1 and 2 and also clear all lands in the bottom and margin of the reservoir of the **Oroville** Dam between maximum high-water elevation 902.0 (U. S. G. S. datum), and a plane at elevation 549.0 (U. S. G. S. datum), and shall cut all trees and brush within the elevation 549.0 contour area so that no part thereof will protrude above said elevation; shall clear and keep clear to an adequate width lands of the United States along open conduits; and shall dispose of all temporary structures, unused timber, slash, refuse, or inflammable material resulting from the clearing of the lands or from the construction and maintenance of the project works. In addition, all trees along the high-water line of the reservoirs which die during the operation of the project shall be removed. The clearing of the lands and the disposal of the material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission.

Article 39. The Licensee shall notify the University of California of the proposed construction of the project and of the extent of its reservoir area so that that University may negotiate with the Licensee for the purpose of undertaking archeological surveys and excavations, if considered desirable, prior to flooding of the reservoir area.

Article 40. The Commission reserves the right to determine at a later date what additional transmission lines and appurtenant **facilities**, if any, shall be included in this license as part of the project works.

****8** *Article 41.* The Licensee shall submit revised or supplemental Exhibit L drawings showing the final design of the **Oroville** Dam in accordance with the Commission's rules and regulations and shall receive Commission approval thereof before commencement of construction of that dam.

***268** *Article 42.* 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 installed capacity (587,000 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 right-of-way, \$18,363.58; and

(iii) For the purpose of recompensing the United States for the use, occupancy, and enjoyment of its lands used for transmission-line right-of-way, an amount as may be determined hereafter by the Commission.

(C) The exhibits designated and described in finding (2) above are approved as part of this license.

(D) This **order** shall become final 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 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 60 days from the date of issuance of this **order**.

FEDERAL POWER COMMISSION

Footnotes

* For the contents of this form, see **16 F. P. C. 1121**.

17 F.P.C. 262, 1957 WL 4171

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