

UNITED STATES OF AMERICA
FEDERAL POWER COMMISSION

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Before Commissioners: Joseph C. Swidler, Chairman; Howard Morgan,
L. J. O'Connor, Jr., and Charles R. Ross.

Placer County Water Agency

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Project No. 2079

ORDER ISSUING LICENSE (MAJOR)

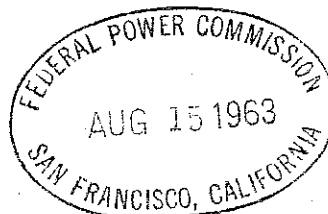
(Issued March 13, 1963)

Application was filed April 11, 1962 and amended September 10, 1962, by Placer County Water Agency (Applicant) of Auburn, California, for license for a proposed project to be known as the Middle Fork American River Project, and designated as Project No. 2079, to be constructed on the Middle Fork of American River and Rubicon River and their respective tributaries, in the counties of Placer and El Dorado, California, and affecting lands of the United States within the Tahoe and Eldorado National Forests.

The Secretary of the Army and the Chief of Engineers, in reporting on the application, have advised that the proposed project will not have any measurable effect on any flood control, debris control and navigation projects of the Corps, or on flood conditions on the lower American and Sacramento Rivers, and terms and conditions in the interest of flood control or navigation are not deemed necessary for inclusion in any license for the proposed project.

The Department of the Interior, in reporting on the application, has advised it has no objection to the issuance of a license for the proposed project provided such license be conditioned upon certain consummated formal agreement and addendum thereto between Applicant and the Bureau of Reclamation, and contain certain special conditions in the interest of fish and wildlife resources and provide for possible archeological survey and salvage work in the area involved.

The Department of Agriculture, in reporting on the application, offered no objection to issuance of a license for the proposed project provided the terms and conditions of Form L-2 (17 FPC 62), with the exception of Article 13 therein, be included in any such license, together with the inclusion therein of a special condition for the suppression of fires on the lands to be occupied under the license. A Memorandum of Understanding with respect to the proposed project was signed September 18, 1962 by Applicant and on September 25, 1962 by the U.S. Forest Service, and amended and signed by Applicant on October 30, 1962 and by the U.S. Forest Service on November 2, 1962.



The Department of Fish and Game, State of California, in reporting on the application, has advised that extensive biological investigations by the Department to determine provisions to protect the fish and wildlife resources to be affected by the project resulted in the execution of an agreement between the Department and Applicant on July 30, 1962. The Department requested the inclusion in any license issued for the proposed project of a special condition in the interest of fish and wildlife resources.

The Department of Water Resources, State of California, in reporting on the application, has advised that according to the application for license, the proposed project would be desirable, would lead toward full basin development, would be in keeping with the concepts of the California Water Plan, and that the Department is in full accord with the plan of development.

The Commission finds:

- (1) The proposed project will affect lands of the United States.
- (2) Applicant is a "municipality" as defined in the Federal Power Act, 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 for the project.
- (3) Public notice of the filing of the application was given as required by the Act. There are no pending protests or petitions to intervene before the Commission. There are no conflicting applications pending.
- (4) The issuance of a license as hereinafter provided will not affect a Government dam or the development of any water resources for public purposes which should be undertaken by the United States.
- (5) The issuance of a license as hereinafter provided will not interfere or be inconsistent with the purposes for which the Tahoe and Eldorado National Forests were created or acquired.
- (6) 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, under the terms and conditions hereinafter imposed.
- (7) The installed horsepower capacity of the proposed project hereinafter authorized for the purpose of computing the capacity component of the administrative annual charge is 280,000 horsepower.
- (8) 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 Act is reasonable as hereinafter fixed and specified, and the amount of annual charges to be paid under the license for the use, occupancy and enjoyment of its lands should be determined later as hereinafter provided.

(9) The power to be generated by the project will be sold by Applicant at step-up substations to Pacific Gas and Electric Company for public utility purposes.

(10) The exhibits designated and described in paragraph (B) below conform to the Commission's rules and regulations and should be approved as part of the license for the project.

The Commission orders:

(A) This license is hereby issued to Placer County Water Agency of Auburn, California, (Licensee) under Section 4 (e) of the Federal Power Act (Act) for a period of 50 years, effective as of March 1, 1963, for the construction, operation and maintenance of Project No. 2079 upon Middle Fork of American River and Rubicon River and their respective tributaries, and affecting lands of the United States within the Tahoe and Eldorado National Forests, and 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) Project No. 2079 consists of:

(i) 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 purpose of the project, whether such lands or interests 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:

<u>Exhibit</u>	<u>Sheet</u>	<u>FPC No.</u>	<u>Title</u>
J	1 (Rev. 8/1/62)	2079-111	General Project Map
	2 (Rev. 8/1/62)	2079-112	General Project Map
	3 (Rev. 8/1/62)	2079-113	General Project Map
K	1 (Rev. 8/1/62)	2079-114	Duncan Creek Diversion Project Area
	2 (Rev. 8/1/62)	2079-115	French Meadows Reservoir Project Area
	3 (Rev. 8/1/62)	2079-116	French Meadows Reservoir Project Area
	4	2079-26	French Meadows Reservoir Project Area
	5	2079-27	French Meadows Reservoir Project Area

<u>Exhibit</u>	<u>Sheet</u>	<u>FPC No.</u>	<u>Title</u>
K	6 (Rev. 8/1/62)	2079-117	French Meadows Reservoir Project Area
	7 (Rev. 8/1/62)	2079-118	French Meadows Reservoir Project Area
	8 (Rev. 8/1/62)	2079-119	French Meadows Reservoir Project Area
	9 (Rev. 8/1/62)	2079-120	French Meadows Reservoir Project Area
	10	2079-32	Hell Hole Reservoir Project Area
	11	2079-33	Hell Hole Reservoir Project Area
	12	2079-34	Hell Hole Reservoir Project Area
	13	2079-35	Hell Hole Reservoir Project Area
	14 (Rev. 8/1/62)	2079-121	Hell Hole Reservoir Project Area
	15 (Rev. 8/1/62)	2079-122	Hell Hole Reservoir Project Area
	16 (Rev. 8/1/62)	2079-123	Hell Hole Reservoir Project Area
	17 (Rev. 8/1/62)	2079-124	Long Canyon Diversion Project Area
	18 (Rev. 8/1/62)	2079-125	Middle Fork Ralston Interbay Project Area
	19 (Rev. 8/1/62)	2079-126	Middle Fork Ralston Interbay Project Area
	20 (Rev. 8/1/62)	2079-127	Middle Fork Ralston Interbay Project Area
	21 (Rev. 8/1/62)	2079-128	Middle Fork Ralston Interbay Project Area
	24 (Rev. 8/1/62)	2079-129	Ralston Afterbay Project Area
	27 (Rev. 8/1/62)	2079-130	Ralston Afterbay Project Area
	28 (Rev. 8/1/62)	2079-131	Ralston Afterbay Project Area
	39 (Rev. 11/20/62)	2079-132	Tunnels - Project Area
	40 (Rev. 11/20/62)	2079-133	Tunnels - Project Area
	41 (Rev. 11/20/62)	2079-134	Project Roads Property Map

- (ii) All project works consisting principally of the following described developments:

Duncan Creek Diversion, a concrete gravity dam about 32 feet high with a crest length of 180 feet at an elevation of 5275 feet; and 11-foot horseshoe tunnel about 7880 feet long extending to the French Meadows Reservoir;

French Meadows Dam and Reservoir, a composite gravel and earthfill dam, on the Middle Fork of the American River, about 229 feet high with a crest length of about 2700 feet at an elevation of 5269 feet and would have 125,000 acre-feet of usable storage;

French Meadows - Hell Hole Tunnel, a 12-foot horseshoe tunnel 13,613 feet long connecting to a 6 foot 3 inch diameter penstock 655 feet in length extending to the French Meadows Powerhouse;

French Meadows Powerhouse, would contain a 24,000 horsepower reaction turbine connected to a 15,300 kilowatt generator; the tailrace would discharge into the Hell Hole Reservoir;

Hell Hole Reservoir, on the Rubicon River would be created by a rockfill dam about 410 feet high with a crest length of 1570 feet at an elevation of 4650 feet and would have 202,600 acre-feet of usable storage;

Hell Hole - Middle Fork Tunnel, a 13 foot 3 inch horseshoe tunnel 55,034 feet long connecting to a steel penstock about 3680 feet long varying from 9 feet to 7 feet 6 inches in diameter branching at a wye to two 66 inch pipes extending to the Middle Fork Powerhouse; the North Fork Long Canyon Diversion would have 26-foot high concrete dam with a crest length of 155 feet at elevation 4695 feet and the South Fork Long Canyon Diversion would have a 26 foot high concrete gravity dam with a crest length of 230 feet at elevation 4658 feet; each would divert water to the Hell Hole - Middle Fork Tunnel by shafts to be located about midway of its length;

Middle Fork Powerhouse, would contain two 82,000 horsepower impulse turbines connected to two 51,900 kilowatt generators; the tailrace would discharge into the Middle Fork Interbay;

Middle Fork Interbay, on the Middle Fork of the American River to be created by a concrete gravity dam about 75 feet high with a 212 foot crest length at an elevation of 2540 feet;

Middle Fork-Ralston Tunnel, a 13 foot 3 inch horseshoe tunnel 35,326 feet long connecting to a steel penstock 1680 feet long varying in diameter from 9 foot 6 inches to 7 foot 6 inches extending to the Ralston Powerhouse;

Ralston Powerhouse, would contain one 106,000 horsepower impulse turbine connected to a 79,200 kilowatt generator; the tailrace would discharge into Ralston Afterbay.

Ralston Afterbay, on the Middle Fork of the American River would be created by a composite gravel and earth-fill dam about 88 feet high, with a crest length of 525 feet long at elevation 1198 feet;

Ralston Afterbay - Oxbow Tunnel, a 16 foot horseshoe tunnel 1320 feet long connecting to an 11 foot steel penstock extending about 100 feet to the Oxbow Powerhouse;

Oxbow Powerhouse, would contain one 8700 hp Kaplan turbine connected to a 6000 kw generator, and appurtenant mechanical and electrical facilities; the location, nature and character of which are more specifically shown and described by the exhibits hereinbefore cited and by certain other exhibits which also formed part of the amended application and which are designated and described as follows:

<u>Exhibit L:</u>		<u>Title</u>
<u>Sheet</u>	<u>FPC No.</u>	<u>Middle Fork American River Project</u>
1	2079-64	Duncan Creek Diversion - Plan and Sections
2	2079-65	Duncan Creek - Middle Fork Tunnel Plan and Profile
3	(Rev.) 2079-135	French Meadows Dam - Plan
4	(Rev.) 2079-136	French Meadows Dam - Sections and Details
4A	2079-162	French Meadows Spillway Plan, Profile and Sections
4B	2079-163	French Meadows Spillway Crest Dimensions
8	(Rev.) 2079-138	French Meadows - Hell Hole Tunnel Plan and Profile
9	(Rev.) 2079-139	French Meadows Power Plant - Penstock and Surge Shaft
10	(Rev.) 2079-140	French Meadows Power Plant Plan and Sections

<u>Exhibit L:</u>		<u>Title</u>	
<u>Sheet</u>	<u>FPC No.</u>	<u>Middle Fork American River Project</u>	
12	2079-75	Hell Hole Dam - Plan	
13	2079-76	Hell Hole Dam - Sections and Details	
13A	2079-170	Hell Hole Spillway - Plan Profile and Sections	
16 (Rev.)	2079-143	Hell Hole - Middle Fork Tunnel Plan and Profile	
17 (Rev.)	2079-144	Hell Hole - Middle Fork Tunnel Intake and Surge Shaft	
18 (Rev.)	2079-145	Long Canyon Diversion - South Fork Dam and Shaft	
19 (Rev.)	2079-146	Long Canyon Diversion - North Fork Dam and Shaft	
20 (Rev.)	2079-147	Middle Fork Power Plant Penstock Plan and Profile	
21 (Rev.)	2079-148	Middle Fork Power Plant Plan and Elevations	
22 (Rev.)	2079-149	Middle Fork Power Plant Powerhouse Plans	
23	2079-86	Middle Fork Power Plant - Sections	
25	2079-88	Middle Fork - Ralston Interbay Dam Plan and Sections	
26 (Rev.)	2079-151	Middle Fork - Ralston Tunnel Plan and Profile	
27 (Rev.)	2079-152	Ralston Power Plant Penstock Plan and Profile	
28 (Rev.)	2079-153	Ralston Power Plant Plan and Elevations	
29	2079-92	Ralston Power Plant Powerhouse Plans	
30	2079-154	Ralston Power Plant - Sections	
31A (Rev.)	2079-156	Ralston Afterbay Dam - Plan and Sections	
31B (Rev.)	2079-157	Oxbow Power Plant - Plans and Sections	

Exhibit M: Comprised of five (5) pages entitled "General Description of Mechanical & Electrical Equipment".

(iii) 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.

(C) This license is also subject to the terms and conditions set forth in Form L-2, December 15, 1953, entitled "Terms and Conditions of License for Unconstructed Major Project Affecting Lands of the United States" (17 FPC 62), which terms and conditions are attached hereto and made a part hereof, except for Articles 10, 11, 13, 20 and 21 thereof, and subject to the following special conditions set forth herein as additional articles:

Article 25. The Licensee shall commence construction of the project works not later than July 1, 1963, shall thereafter in good faith and with due diligence prosecute such construction and shall complete construction of such works not later than December 31, 1966.

Article 26. The Licensee shall, within one year following completion of the construction of the project file with the Commission revised Exhibits F and K showing final project boundary prepared in accordance with the Commission's Rules and Regulations.

Article 27. The Licensee shall do everything reasonably within its power and shall require its employees, contractors and employees of contractors to do everything reasonably within their power, both independently and upon the request of officers of the Agency concerned to prevent, make advanced preparations for suppression, and suppress fires on the lands to be occupied or used under the license. The Licensee shall be liable for and pay the cost incurred by the United States in suppressing fires caused from the construction, operation, or maintenance of the project works or of the work appurtenant or accessory thereto under the license.

Article 28. The Licensee shall cooperate with the San Francisco State College in the possible survey and salvage of historical and archeological data (including relics and specimens) in the project area and shall compensate the college for the expenses incurred up to a total of \$6,000, upon further order of the Commission.

Article 29. The Licensee shall, prior to impounding water, clear all lands in the bottoms and margins of: Duncan Creek Diversion, North Fork Long Canyon Diversion, South Fork Long Canyon Diversion, Middle Fork Interbay and Ralston Afterbay reservoirs up to high-water level. Licensee shall, prior to impounding water, clear all lands in French Meadow Reservoir between

elevation 5,120 feet (5 feet below minimum pool elevation) to high-water level and in Hell Hole Reservoir between elevation 4,335 feet (5 feet below minimum pool elevation) to high-water level. Licensee shall dispose of all temporary structures, unused timber, brush, 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 margins of reservoirs which may die from operation of the reservoir 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 30. The Licensee shall keep the two tainter gates of the French Meadows Spillway blocked in a fully open position by November 15 of each year and the gates shall remain in that position until the following April 1, unless special permission is obtained for a specific year from the authorized representative of the Commission.

Article 31. The Licensee shall provide protective concrete at the impact and lip areas at the angled intersection of the French Meadows Spillway and its escape channels, as shown on Drawing Exhibit L, Sheet LA (FIC No. 2079-162), if so ordered by the Commission.

Article 32. The Licensee shall construct a stilling pool and/or other types of energy dissipating devices below each cascade of the Hell Hole spillway channel in the interest of structure safety after the spillway area foundation conditions are exposed and the quality of rock is determined; also, Licensee shall incorporate into the designs of the French Meadows and Hell Hole spillway channel walls additional protective measures against erosion, if so ordered by the Commission.

Article 33. The Licensee shall construct such unit or units which will comprehensively develop the head on the river downstream from the Oxbow power-house when so ordered by the Commission upon its determination that such unit or units are economically feasible, after notice and opportunity for hearing.

Article 34. The Licensee shall construct, maintain and operate such protective devices and shall comply with such reasonable modifications of the project structures and operation in the interest of fish and wildlife resources, provided that such modifications shall be reasonable consistent with the primary purpose of the project, as may be prescribed hereafter by the Commission upon its own motion or upon recommendation of the Secretary of the Interior or the California Department of Fish and Game after notice and opportunity for hearing and upon a finding that such modifications are necessary and desirable and consistent with the provisions of the Act: Provided further, That subsequent to approval of the final design drawings prior to commencement of construction no modifications of project structures in the interest of fish and wildlife resources which involve a change in

the location, height, or main structure of a dam, or the addition of or changes in outlets at or through a dam, or a major change in generating units, or a rearrangement or relocation of a powerhouse, or major changes in a spillway structure shall be required.

Article 35. Whenever the United States shall desire, in connection with the project, to construct fish handling facilities or to improve the existing fish handling facilities at its expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of Licensee's lands and interests in lands, reservoirs, waterways and project works as may be reasonably required to complete such fish handling facilities or such improvements thereof. In addition, after notice and opportunity for hearing the Licensee shall modify the project operation as may be prescribed by the Commission, consistent with the primary purpose of the project, in order to permit the maintenance and operation of the fish handling facilities constructed or improved by the United States under the provisions of this article. This article shall not be interpreted to place any obligation on the United States to construct or improve fish handling facilities or to relieve the Licensee of any obligation under the license.

Article 36. The Licensee shall operate Duncan Creek Diversion, French Meadows, and Hell Hole Reservoirs in a manner that will permit maintenance of minimum pools according to the following schedules:

Location and Forecasted runoff to Folsom Reservoir in Acre-feet 1/	Minimum Pool in Acre-feet	
	June Through Sept.	October Through May
<u>French Meadows Reservoir</u>		
More than 2,000,000	60,000	50,000
Less than 2,000,000 but not less than 1,200,000	60,000	25,000
Less than 1,200,000	28,000	8,700
<u>Hell Hole Reservoir</u>		
More than 2,000,000	70,000	50,000
Less than 2,000,000 but not less than 1,200,000	70,000	25,000
Less than 1,200,000	26,000	5,500

1/ Unimpaired run-off of American River to Folsom Reservoir for current year, October 1 through September 30, as estimated by the California Department of Water Resources on or about April 1 of each such calendar year. The estimate shall apply for the period June 1 of each such calendar year to May 31 of the succeeding calendar year. Provided that the schedules may be modified if found appropriate to improve the fishery and recreation value to the extent mutually agreeable to the Licensee, the U.S. Forest Service, the Bureau of Sport Fisheries and Wildlife, and the California Department of Fish and Game.

Location and Forecasted runoff to Folsom Reservoir in Acre-feet ^{1/}	<u>Minimum Pool in Acre-feet</u> June October Through Sept. Through May
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Duncan Creek Diversion Reservoir

Any

Water surface elevation at
5,259 feet

Article 37. The Licensee shall release from Duncan Creek Diversion Dam, French ~~Creek~~ Dam, Hell Hole Dam, South Long Canyon Diversion Dam, North Long Canyon Diversion Dam, Ralston Afterbay Dam and Oxbow Powerplant, sufficient flows to meet the following schedule:

Meadows

<u>Location</u>	<u>Forecasted Runoff To Folsom Reservoir in Acre-feet ^{1/}</u>	<u>Streamflow in Cubic Feet per Second</u>
Duncan Creek Diversion Dam	1,000,000 or more	8, or the natural flow, whichever is less
	Less than 1,000,000	4, or the natural flow whichever is less
French Meadows Dam	1,000,000 or more	8, at all times
	Less than 1,000,000	4, at all times
Hell Hole Dam	1,000,000 or more	20, June 1 thru July 25 15, July 26, thru Aug. 5 10, Aug. 6 thru Oct. 31 14, Nov. 1 thru Jan. 31 20, Feb. 1 thru May 31
	Less than 1,000,000	8, June 1 thru Dec. 31 6, Jan. 1 thru March 25 8, March 26 thru May 31
South Long Canyon Diversion Dam	1,000,000 or more	5, or the natural flow, whichever is less
	Less than 1,000,000	2½, or the natural flow, whichever is less
North Long Canyon Diversion Dam	Any forecast	2, or the natural flow, whichever is less
Ralston Afterbay <i>Dam on Middle Fork Interbay</i>	1,000,000 or more	23, or the natural flow, whichever is less
	Less than 1,000,000	12, or the natural flow, whichever is less
Oxbow Powerplant to provide in Middle Fork of American R. below confluence with North Fork of the Middle Fork	Any Forecast	75, year-round

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^{1/} See footnote - Article 36.

