

PINE FLAT POWER PLANT

FERC License
for
Project No. 2741

Issued
September 25, 1979

to the

Kings River Conservation District
by the
Federal Energy Regulatory Commission

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

LICENSE (MAJOR);
NEW CAPACITY;
USE OF GOVERNMENT DAM

Kings River Conservation)
District)

Project No. 2741

ORDER ISSUING LICENSE (MAJOR)

(Issued September 25, 1979)

On January 31, 1977, Kings River Conservation District (KRCD) filed an application for a major license under Part I of the Federal Power Act (Act) for the proposed Pine Flat Project No. 2741. 1/ The project would be located at the United States Army Corps of Engineers' (Corps) Pine Flat Dam, located on the Kings River in Fresno County, California, and would affect lands of the United States under the Corps' supervision.

Notice of the application has been published in accordance with the Act. The California Department of Fish and Game (DF&G) and Pacific Gas and Electric Company (PG&E) petitioned to intervene. Both were granted intervention.

Project Description

The Pine Flat Project would be located at the downstream toe of the Corps' Pine Flat Dam. 2/ The project would consist of an outdoor-type powerhouse containing three generating units with capacities of 55 megawatts (MW) each, for a total installed capacity of 165 MW. KRCD would make use of the three existing 13.5-foot diameter penstocks that were installed in the Pine Flat Dam when it was constructed in 1954. The project is more fully described in ordering paragraph (B), below.

1/ Authority to act on this matter is delegated to the Director, Office of Electric Power Regulation, under Section 3.5(g) of the Commission's regulations, 18 CFR 3.5(g), as amended in Docket No. RM78-19 (August 14, 1978), and Docket No. 79-59 (July 23, 1979).

2/ The Pine Flat dam was completed by the Corps in 1954 at a cost of approximately \$39,000,000. The dam is a concrete gravity structure 429 feet high and 1,820 feet long. The dam was constructed to provide irrigation and flood control.

Safety of Structures

The Corps stated in its comments that the powerhouse must be located sufficiently far downstream from the toe of the dam to prevent undercutting of the dam by the powerhouse foundation excavation. The Corps also stated that there has been a continuing problem with pinhole leaks in the penstock liners. The Corps further reported that the construction of a wall will be necessary between the powerhouse and the spillway to protect the powerhouse from damage during the maximum spillway design discharge. KRCD has met with the Corps on these matters and states that during the final design of the project the Corps will be consulted.

The Commission's staff has, however, examined the preliminary plans for the powerhouse structure for stability and has found it to be safe under maximum hydrostatic loading, which would occur during a maximum spillway discharge of 391,000 cfs. The Commission's staff has also concluded that the proposed structures would be safe and adequate, with proper final design, and construction in accordance with sound engineering practices.

Article 37 of the license requires the KRCD to obtain Corps approval of the final design plans before construction of the project begins. Article 42 of the license also requires that a copy of the final plans and specifications be filed with the Commission's Regional Engineer in San Francisco, California, before construction commences. Should any changes in the final plans or specifications be necessary to ensure the safety and adequacy of the project, the Director, Office of Electric Power Regulation, may require those changes.

Economic Feasibility

The average annual energy that would be generated at the power plant is estimated to be 418,920,000 kWh. Staff studies show that the proposed project is economically feasible when compared to the cost of producing equivalent power from the most economical alternative, a coal-fired steam-electric plant. Staff estimates that the annual value of the project's power output would be about \$7.82 million. ^{3/} When compared with \$4.96 million, the total

^{3/} This analysis assumes the proposed plant would have no capacity value.

estimated annual costs to KRCD of the Pine Flat Project, a net benefit of \$2.86 million would result. Accordingly, the proposed project is found to be economically feasible.

Use of Project Power

The power to be developed by the project would be sold to the California Department of Water Resources (CDWR). CDWR would use the power to operate the California state water project. The U.S. Department of the Interior (Interior) recommends that the license be conditioned to require that KRCD provide the United States the first option to purchase the power generated by the project, with the Commission to set the rates in cooperation with the Western Area Power Administration, the Bureau of Reclamation, the Corps, and KRCD. In Interior's opinion this scheme would ensure that the United States is receiving just compensation for the private use of a federal dam.

Interior's proposal will not be accepted. Interior has not recommended federal development of hydroelectric power at the dam, or suggested any reason why the United States should have first option on project power except to provide for adequate compensation for use of the Corps' dam. The local Kings River water interests, which are represented by KRCD, are paying for 37.5 percent of the construction cost of Pine Flat Dam and Reservoir. Moreover, under the Federal Power Act the statutory mechanism for ensuring adequate compensation to the United States for use of its dams is proper annual charges under Section 10(e) (discussed infra).

Fish and Wildlife

When the project commences operation, fewer fish from Pine Flat Reservoir will pass downstream via the spillway and midlevel sluice gates. Instead, most of the fish that pass downstream will normally pass through the penstocks and turbines and their mortality rates will rise accordingly.

KRCD has entered into a memorandum of agreement with the California Department of Fish and Game (CF&G). According to this agreement, KRCD will conduct studies in cooperation with CF&G to determine if the operation of the project has caused a significant decrease in the

number of rainbow trout and white catfish in the reservoir. Should the results of the study show a significant decrease, KRCD has agreed to implement appropriate mitigation or compensation measures.

KRCD has also agreed to conduct population surveys of rainbow trout and white catfish in the Kings River below Pine Flat Dam before and after the project is constructed. Should the studies indicate that construction or operation of the project has had a significant adverse impact on the white catfish and rainbow trout populations below the dam, KRCD has agreed to implement appropriate mitigation or compensation measures.

CF&G stated that the Exhibit S is complete and adequate. The Exhibit S, while not specifying the details of the studies set forth in the memorandum of agreement, states that KRCD would finance an annual stocking program in order to maintain the impacted fish species at pre-project levels. Because the agreement and the Exhibit S are so interrelated, KRCD will be expected as part of its compliance with the approved Exhibit S to adhere to the agreement. Standard Articles 15 and 16 reserve to the Commission authority to require additional studies or reasonable changes in the project or its operation to conserve and protect fish and wildlife resources, on its own motion or that of Interior or CF&G.

The project's effect on terrestrial wildlife will generally be minor. Potential adverse effects will be eliminated through implementation of mitigation measures. The memorandum of agreement and Exhibit S provide that KRCD will conduct a study to determine any possible adverse impacts of construction activity on raptors. If field investigations uncover any active nests that are in an area of disturbance, measures are to be taken to mitigate disturbance, including alteration of construction schedules during the nesting period. Exhibit S also provides that the transmission lines will be designed to prevent any possible electrocution of raptors.

Recreation

Existing public recreation sites within the project area include the Pine Flat Recreation Area, Choinumni Park, Winston Park, and Avocado Lake Park. These sites are

owned and operated by local and state agencies. A number of recreation sites also exist at the Pine Flat Reservoir. These sites are operated jointly by the Corps and the U.S. Forest Service, U.S. Department of Agriculture. KRCD originally did not propose any additional facilities, but noted that the Fresno County Parks and Recreation Department plans to expand existing recreation areas in the vicinity of the project. The Corps and the California Department of Parks and Recreation concurred that no additional recreational facilities would be necessary beyond those referred to in the Exhibit R.

Interior, on the other hand, stated that the Exhibit R was inadequate. Interior contended that the Exhibit R did not adequately consider: (1) mitigation for loss of fishing access immediately below Pine Flat Dam; (2) mitigation for the temporary loss, and possible permanent degradation, of a fishing access site developed by Fresno County; and (3) provisions for recreationists' safety below the powerhouse. Interior believed that the loss of fishing access below the dam should be mitigated by construction of a picnic area on the north bank of the Kings River. Since the receipt of Interior's comments, KRCD has agreed to provide a fishing access site on the Kings River to replace the site that would be lost as a result of the project's construction and operation. With regard to the loss of the Fresno County fishing access site during project construction, KRCD pointed out that, in fact, the site is not yet developed. Moreover, KRCD agrees to conduct construction at this particular site in a manner that will allow public access for fishing. The Commission's staff favors KRCD's proposal to mitigate the loss of fishing access below Pine Flat Dam by providing lands for fishing access elsewhere, as more appropriate than Interior's proposal for an additional picnic area along the river.

KRCD's proposal will be approved, rather than adopting Interior's recommendation. But because that proposal is not set forth in the Exhibit R, Article 33 is included in the license to require inclusion of plans for fishing access on the Kings River, and to include the site within the project boundary. Article 17 of the license reserves the Commission's right to require the licensee to provide or arrange for reasonable additional recreational facilities at the project if the need should arise.

In view of Interior's concern for the safety of recreationists, Article 36 has been included in the license to require the installation of safety devices, to the satisfaction of the Commission's authorized representative, to warn the public of fluctuations in flow from the project and to protect the public in its recreational use of project lands and waters.

Minimum Flows and Water Quality

KRCD has obtained a state water quality certificate for the Pine Flat Project, in accordance with Section 401 of the Federal Water Pollution Control Act, 33 U.S.C. §1341. KRCD has also agreed with CF&G to release a continuous minimum flow of 25 cubic feet per second. Special Article 35 requires this flow or the natural flow into Pine Flat Reservoir, whichever is less.

Once the project commences operation, water would be released through the penstocks, rather than through the midlevel sluice gates. The difference in the release location would cause water to be withdrawn from the cooler bottom level of Pine Flat Reservoir where dissolved oxygen concentrations are low. Interior and CF&G commented that the California Water Resources Control Board adopted a minimum dissolved oxygen objective of 7.0 mg/l for the 12-mile reach of the Kings River below the dam. KRCD has entered into agreement to maintain a minimum of 7.0 mg/l at all times during power operation. Article 34 of this license requires KRCD to monitor the dissolved oxygen content on the Kings River during project operation and to ensure a dissolved oxygen concentration of at least 7.0 mg/l. 4/

Cultural Resources

There are no sites within the project boundary that are listed or declared eligible for listing on the National Register of Historic Places. Archeological investigations did, however, identify a Yokut Indian food processing site in the area of the project. Even though this site was determined not eligible for inclusion on the National Register by the California State Historic Preservation

4/ Interior noted that the future dissolved oxygen goal for this reach of the river is 9.0 mg/l. Articles 9, 12, and 15 of this license reserve sufficient authority for the Commission to require KRCD to meet this higher dissolved oxygen level in the future, if necessary.

Officer, KRCD will take all necessary steps to protect it during construction. Article 43 of the license also requires KRCD to take any necessary steps to protect any currently unknown archeological resources that may be uncovered during construction of the project or by any future construction that may be permitted at the project.

Other Exhibits

KRCD's Exhibit K is approved to the extent that it generally shows the project boundary and location of project works. Because Article 33 requires the licensee to include additional lands in the project for recreational purposes, Article 44 requires KRCD to file a revised Exhibit K map showing this change. Article 44 also requires KRCD to file within one year of completion of project construction "as built" Exhibits K, L, and M, to show and describe the project as finally constructed and located.

Other Environmental Concerns

Noise and human activities occurring during construction would have minor, temporary adverse effects on wildlife that inhabit or frequent the project areas. No threatened or endangered plant or animal species would be affected at the development, however, and the impacts will essentially cease with completion of construction. There would be no significant long-term effects on land use or the environment in general, because the project reservoir already exists.

The proposed project would provide short-term employment opportunities for construction workers. Most of the construction personnel would be from the local or regional labor force, and would commute daily to work. Consequently, no significant increase in the area's population is expected. There would, however, probably be a minor temporary increase in demands on public facilities and services in the immediate area.

Based upon the record, including agency comments and the staff's independent analysis, it is found that the environmental impacts associated with development of this project would be minimal and of short duration. Issuance of a license for this project is not therefore a major federal action significantly affecting the quality of the human environment.

Comprehensive Development

The Corps' Pine Flat Dam is operated to provide flood control for about 80,000 acres of agricultural land in the Kings River service area, and to reduce flood damages on about 260,000 acres of cropland in the Tulare Lake area. The dam also stores water for irrigation, recreational opportunities, and re-regulation of releases from upstream power plants.

The Pine Flat project would develop the head created by the Pine Flat dam and reservoir. The project would utilize flow releases for irrigation which are not now being used to generate power. The operation of the project would not alter the existing releases from the reservoir. Interior stated that the proposed project would not affect either the use of the Pine Flat reservoir for irrigation purposes or the existing contracts executed by the Bureau of Reclamation in 1963.

The project would utilize a non-polluting, renewable resource to produce annually an average of 418.92 million kWh of electric energy. Equivalent fossil fueled generation of electric energy would consume approximately 690,000 barrels of oil or about 194,000 tons of coal per year.

Under the preliminary permit issued for Project No. 2741, KRCD had planned to investigate the feasibility of constructing an additional dam downstream from the Pine Flat Dam. The additional development would have re-regulated discharges from the Pine Flat Dam and provided an additional 24 MW of capacity. KRCD has not provided an analysis of the feasibility of that additional development. The Commission's staff reports that development of an afterbay dam to re-regulate Pine Flat discharges and increase the project's dependable capacity may be economically feasible. Article 44 of this license requires a study of the economic feasibility of this additional development to be filed within six months. It also reserves to the Commission authority to require development of a re-regulating afterbay dam if economically sound and in the public interest.

Project No. 2741 is compatible with all other water resource projects in the region, both existing and proposed. Development of the project would permit utilization of a renewable resource to provide substantial power benefits. It is found that, under the terms of this license, the project is best adapted to the comprehensive development of the Kings River.

License Term

KRCD has requested a 50-year license. Interior recommended that the license be limited to a shorter period of time and in no case to more than 25 years, with periodic reevaluation. In support of its position, Interior cites the Commission's order on rehearing for Pacific Gas and Electric Company's Pit 1 Project No. 2687. 5/ That order is not apposite. There, the project had been constructed long before the license was issued. The Commission noted that the licensee had already had the benefit of unlicensed operation for nearly 50 years. In this proceeding, a new, unconstructed hydroelectric project is being licensed. In light of the extent of development, involving installation of 165 MW of new capacity, issuance of a 50-year license would be consistent with Commission practice and established policy. 6/

Annual Charges

Section 10(e) of the Act 7/ requires the Commission to fix a reasonable annual charge to be paid to the United States for the use of a government dam. The Commission has had occasion to exercise this authority many times in the past. The method used historically to arrive at a charge has been the "sharing of the net

5/ Pacific Gas and Electric Co., Project No. 2687, Order on Rehearing, 45 F.P.C. 28(1971).

6/ See, e.g., City and Borough of Sitka, Alaska, Project No. 2818, Order Issuing Major License (issued April 5, 1979).

7/ 16 U.S.C. §803(e).

benefits method." As the Commission has applied it, this method involves calculating the difference between the cost to the licensee of developing power at the proposed hydroelectric project and the hypothetical cost to the licensee of obtaining an equivalent amount of power from the least expensive alternative. This difference is the net benefit to be derived from developing the power potential of the government dam. Half of this figure is then assessed as the annual charge for use of the government dam, thus dividing the value of the net benefit equally between the licensee and the United States.

This method results in different annual charges depending on whether the licensee is a tax-free public entity or a private entity that does pay taxes. ^{8/} In two cases involving the City of Vanceburg, Kentucky, ^{9/} the Commission found reasonable this method that computes annual charges on the basis of a public entity's own costs, reflecting its tax exempt status, rather than on the basis of what the licensee's costs would be if it were not tax exempt. The Commission's method in those two cases was upheld in City of Vanceburg v. FERC, 571 F.2d 630 (D.C. Cir. 1977), cert. denied, _____ U.S. _____, 99 S.Ct. 79 (1978).

^{8/} The difference in tax status affects not only the tax expenses of the public and non-public licensees' hydroelectric developments and hypothetical alternative power sources in these calculations, but also their respective costs of money.

^{9/} See Order Issuing License (Major), Cannelton Project No. 2245 (issued Mar. 29, 1976), Order on Rehearing (issued June 21, 1976) (reh. denied); and Order Issuing License (Major) and Dismissing Application for Preliminary Permit, Greenup Project No. 2614 (issued Mar. 29, 1976), Order on Rehearing (issued June 21, 1976) (reh. denied).

As noted above in discussing project feasibility, the annual cost to KRCD of the proposed project is estimated to be about \$4.96 million, 10/ while the annual cost of producing equivalent power from the most economical alternative is estimated to be \$7.82 11/ million. Thus, under the current Commission methodology the annual net benefit of the project would be \$2.86 million and the reasonable annual charge for the use of the Corps' Pine Flat Dam would be \$1.43 million.

The Commission's Staff is currently reassessing comprehensively the subject of suitable annual charges for use of government dams, however, for the purpose of making recommendations to the Commission for any appropriate changes in its policies and regulations. Consequently, a final determination on the annual

10/ Total Estimated Annual Cost of Pine Flat Project

Fixed Charges (9.72% <u>a/</u> of 1980 Capital Cost)	\$4,216,800
O & M Expense	\$ 491,700
A & G Expense	\$ 191,800
FERC Part I Administrative Charges	\$ 26,000
Fixed Charges of Transmission Line <u>b/</u>	\$ <u>33,000</u>
Total Estimated Annual Cost	\$4,959,300

--a/ Fixed Charge Rate under Public Financing: 9.00%
Cost of Money, 0.12% Depreciation, 0.40% Interim
Replacements, 0.20% Insurance = Total Fixed Charge
Rate 9.72%.

--b/ Primary Transmission Line to be licensed as
Project No. 2876.

11/ Value of project output based on estimated variable
cost of coal-fired steam plant energy is 18.66 mills/kWh.

charge for the use of the Pine Flat Dam will be reserved. ^{12/} Article 40 provides for subsequent determination of that charge, which will be not more than \$1.43 million. Thus, the project need not be delayed pending staff's reassessment for recommendations to the Commission. Consistent with the Commission's orders licensing the City of Vanceburg's Projects Nos. 2245 and 2614, the annual charge for the use of the Pine Flat Dam will be assessed proportionately beginning on the effective dates of commercial operation of the three project generating units. Because of the magnitude of the potential annual charge assessment, Article 45 provides for establishment of a reserve, if the commercial operation of the project begins before final determination of the annual charge for the use of the Pine Flat Dam.

^{12/} For the Pine Flat Project, Interior proposed that the Commission consider three alternative methods in determining this annual charge, one of which was the sharing of the net benefits method. The other two methods would either have the U.S. share equally in the "net profit" from the project or allocate the investment cost of the joint-use facilities to power and to each of the other project purposes at Pine Flat Dam. The Corps did not recommend any particular method for setting this annual charge. KRCD urged that the annual charge take into account the fact that the ultimate burden of the charge would rest upon the California Department of Water Resources, which would purchase project power to pump water for the State Water Project, "a public purpose and benefit." These matters will be considered during the review of the general question of annual charges for use of government dams and in determining the specific final annual charge for the use of the Pine Flat Dam by Project No. 2741. KRCD also requests the Commission to take into account the payments made to the United States by local Kings River water interests for the cost of the Pine Flat Dam. KRCD states that these payments are made in accordance with water storage contracts and would eventually be 37.5 percent of the cost of constructing the dam and reservoir, or \$14.25 million, of which \$11 million have already been paid. When and how this 37.5 percent payment should be taken into account will be considered in finally determining the proper annual charge.

Reimbursement for Penstocks

The Corps and Interior also recommended that KRCD be required to reimburse the United States for the cost of the three existing penstocks that the project will use. The original cost of the penstocks has been included in KRCD's Exhibit N and, together with the cost of repairing them, in the staff's estimates of project costs used in its studies of economic feasibility and annual value of net power benefits. Pursuant to Article 41, KRCD must reimburse the United States for the original cost of the penstocks. Interior argues that KRCD should also pay interest on that cost from 1954 to present and KRCD argues that it should pay no interest and only the original cost less depreciation. It is concluded, however, that original cost without interest or depreciation is reasonable, inasmuch as KRCD has had no benefit from the penstocks to date and the penstocks do require repairs; and, on the other hand, the cost to KRCD of constructing penstocks now would be significantly greater than the original cost of the existing penstocks.

It is ordered:

(A) This license is issued under Part I of the Federal Power Act (Act) to the Kings River Conservation District of Fresno, California, for a fifty-year period effective the first day of the month in which this license is issued, for the construction, operation, and maintenance of the Pine Flat Project No. 2741, located in Fresno County, on the Kings River, and affecting the Pine Flat Dam of the United States and appurtenant lands administered by the U.S. Army Corps of Engineers. This license is subject to the terms and conditions of the Act, which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the Act.

(B) Project No. 2741 consists of:

(1) all lands, to the extent of the Licensee's interests in those lands, constituting the project area and enclosed by the project boundary, the project areas and boundary being shown and described by certain exhibits which form part of the application for license and which are designated and described as:

<u>Exhibit</u>	<u>FERC No. 2741-</u>	<u>Showing</u>
J	4	Location Map
K	5	Site Plan

(2) Project works consisting of (a) three penstock extensions from the three 13.5-foot diameter penstocks in Pine Flat Dam to the powerhouse; (b) an outdoor-type powerhouse at the toe of the dam, with three Francis turbines, each coupled to a generator rated at 55 MW; (c) three generator leads and a step-up transformer bank at the powerhouse, consisting of three 70 MVA single-phase units; and (d) all appurtenant facilities.

The location, nature, and character of these project works are more specifically shown and described by the exhibits cited above and by certain other exhibits which also form part of the application for license and which are designated and described as:

<u>Exhibit L</u>	<u>FERC No. 2741-</u>	<u>Showing</u>
Sheet 1	6	Cross Section and Elevation
Sheet 2	7	Plans and Longitudinal Section

Exhibit M - containing general specifications of equipment and consisting of 2 pages filed on January 31, 1977, and revised January 31, 1978.

Exhibit R - consisting of 24 pages of text and an Exhibit R map, FERC No. 2741-8, filed on January 31, 1977.

Exhibit S - consisting of 66 pages filed on January 31, 1977.

(3) All of the structures, fixtures, equipment, or facilities used or useful in the operation or maintenance of the project and located on the project area, all portable property that may be employed in connection with the project, whether located on or off the project area, as approved by the Commission, and all riparian or other rights necessary or appropriate in the operation or maintenance of the project.

(C) Exhibits K, L, and M, designated in ordering paragraph (B) above, are approved and made a part of the license only to the extent that they show the basic location and layout of the project and its works and generally describe its mechanical and electrical equipment and appurtenances. Exhibits J, R, and S, designated in ordering paragraph (B) above, are approved and made a part of the license.

(D) This license is also subject to the terms and conditions designated Articles 1 through 32 in Form L-2 (revised October 1975), entitled "Terms and Conditions of License for Unconstructed Major Project Affecting Lands of the United States," attached to and made a part of this license. This license is also subject to the following special conditions set forth as additional articles:

Article 33. The Licensee shall consult with the California Department of Fish and Game and the Heritage Conservation and Recreation Service of the U.S. Department of the Interior and, within one year from the date of issuance of this license, shall file for approval an amendment to the Exhibit R which shall include, but need not be limited to, a plan for development of a fishing access site on the Kings River, downstream from Pine Flat Dam, to be included within the project boundary.

Article 34. Upon commencement of commercial operation of the project, the Licensee shall install and operate continuously dissolved oxygen monitoring equipment in the Kings River at the Pine Flat Road bridge. The Licensee shall maintain records of the monitoring data and shall file with the California Department of Fish and Game and the Commission an annual summary at the end of each year after the commencement of commercial operation, and summaries

for other intervals when requested, which shall include observed daily minimum, maximum, and average dissolved oxygen concentrations. If the results of the monitoring indicate that any change in project works or operation is necessary to maintain a minimum dissolved oxygen concentration of 7.0 mg/l, the Licensee shall promptly file for approval its proposal for the change.

Article 35. Pending further order by the Commission, on its own motion or at the request of others, the Licensee shall discharge from the Pine Flat Dam a continuous minimum flow of 25 cfs or a flow equal to the natural inflow to the Pine Flat Reservoir, whichever is less, for the purpose of protecting fish and wildlife resources. These flows may be modified temporarily: (1) during and to the extent required by operating emergencies beyond the control of the Licensee; and (2) for fishery management purposes, upon mutual agreement between the Licensee and the California Department of Fish and Game.

Article 36. The Licensee shall, to the satisfaction of the Commission's authorized representative, install and operate any signs, lights, sirens, or other safety devices that may reasonably be needed to warn the public of fluctuations in flow from the project and to protect the public in its recreational use of project lands and waters.

Article 37. The Licensee shall, prior to initiation of construction, obtain approval from the U.S. Army Corps of Engineers, Sacramento District, Sacramento, California, of the final design, construction plans, specifications, and operating plans for the Pine Flat Project.

Article 38. The Licensee shall have no claim under this license against the United States arising from the effect of any changes made in the pool levels of the Pine Flat Reservoir.

Article 39. The Licensee shall commence construction of the project works within two years from the effective date of this license and in good faith and with due diligence shall prosecute and complete construction of the project works within four years from the effective date of this license.

Article 40. The Licensee shall pay the United States the following annual charges, to be assessed according to this schedule: (a) one-third of each charge effective from the date when the first generating unit begins commercial operation; (b) two-thirds of each charge effective from the date when the second generating unit begins commercial operation; (c) the entire amount of each charge effective from the date when the third generating unit begins commercial operation:

(1) For the purpose of reimbursing the United States for the cost of administration of Part I of the Act, a reasonable annual charge as determined by the Commission in accordance with its regulations in effect from time to time. The total authorized installed capacity for that purpose is 220,000 horsepower.

(2) For the purpose of recompensing the United States for the use, occupancy, and enjoyment of its lands, a reasonable annual charge as determined by the Commission in accordance with its regulations in effect from time to time. The acreage of United States lands for that purpose will be determined after submission of "as built" exhibits for approval.

(3) For the purpose of recompensing the United States for the use of the Pine Flat Dam, an amount that shall be determined later and that shall not exceed \$1,430,000, subject to possible adjustment at the intervals specified in Section 10(e) of the Act.

Article 41. The Licensee shall reimburse the United States for all construction costs incurred by the United States for the specific and sole purpose of accommodating the installation of power facilities at the Pine Flat Dam. This reimbursement is in addition to the annual charge specified in paragraph (3) of Article 40. Arrangements for payment shall be made with the Chief of Engineers, Department of the Army, at the time of commencement of construction of the project.

Article 42. The Licensee shall file with the Commission's Regional Engineer in San Francisco, California, with a copy to the Director, Office of Electric Power Regulation, one copy each of the final design and construction plans and specifications prior to the start of construction. The Director, Office of Electric Power Regulation, may require any changes in those plans and specifications necessary to ensure a safe and adequate project.

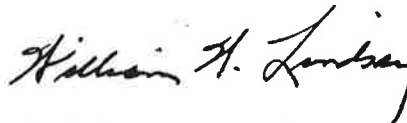
Article 43. The Licensee shall continue to consult and cooperate with the California State Historic Preservation Officer (SHPO) prior to any construction or development of any project works or other facilities at the project. If any previously unrecorded archeological sites are discovered during the course of any construction or development of any project works or other facilities at the project, construction activity in the vicinity shall be halted, a qualified archeologist shall be consulted to determine the significance of the sites, and the Licensee shall consult with the SHPO to develop a mitigation plan for the protection of significant archeological resources. The Licensee shall provide funds in a reasonable amount for any mitigative measures that may be necessary. If the Licensee and the SHPO cannot agree on the amount of money to be expended on archeological work related to the project, the Commission reserves the right to require the Licensee to conduct, at its own expense, any archeological work found necessary.

Article 44. Within one year from the issuance date of this license, the Licensee shall prepare and file with the Commission a study of the economic feasibility of constructing an after-bay dam that would re-regulate project discharges for the purpose of increasing the dependable power capacity of the project, taking into account, to the extent reasonable, all benefits that would be derived from the re-regulating dam, including any contribution to the conservation of non-renewable energy resources. If the study shows the re-regulating dam to be economically feasible, the Licensee shall simultaneously file a schedule for filing an application to amend its license to include the additional project works. The Commission reserves the right to require the Licensee to develop such a re-regulating dam, to the extent economically feasible and in the public interest.

Article 45. If the Commission has not finally determined the amount of the annual charge for the use of the Pine Flat Dam by the time when the first generating unit begins commercial operation, the Licensee shall establish and shall maintain, until the Commission has finally determined that amount and the accumulated annual charges have been paid, a reserve sufficient to meet its potential liability for the accumulated annual charges for the use of the Pine Flat Dam.

(F) This order is final unless within 30 days from the date of its issuance a petition appealing it to the Commission is filed, as provided in §1.7(d) of the Commission's regulations, 18 C.F.R. 1.7(d) [as amended in Docket No. RM79-59 (July 23, 1979) and Docket No. RM78-19 (Aug. 14, 1978)]. The Licensee's failure to file such a petition shall constitute acceptance of the license for Project No. 2741. The filing of a petition appealing this order to the Commission or an application for rehearing as provided in section 313(a) of the Act does not operate as a stay of the effective date of this license or of any other date specified in this order, except as specifically ordered by the Commission. In acknowledgment of acceptance of the license and its terms and conditions, the license shall be signed for the Licensee and returned to the Commission within 60 days from the date this order is issued.

(S E A L)



William W. Lindsay
Director, Office of Electric
Power Regulation

Project No. 2741

IN TESTIMONY of its acknowledgment of acceptance of all of the terms and conditions of this Order, Kings River Conservation District, this 16th day of October, 1979, has caused its corporate name to be signed hereto by Ed H. Howe, its _____ President, and its corporate seal to be affixed hereto and attested by Jeff L. Taylor its _____ Secretary, pursuant to a resolution of its Board of Directors duly adopted on the 9th day of October, 1979, a certified copy of the record of which is attached hereto.

By 
President

Attest:


Secretary

(Executed in quadruplicate)

FEDERAL ENERGY REGULATORY COMMISSION

TERMS AND CONDITIONS OF LICENSE FOR
UNCONSTRUCTED MAJOR PROJECT
AFFECTING LANDS OF THE UNITED STATES

Article 1. The entire project, as described in this order of the Commission, shall be subject to all of the provisions, terms, and conditions of the license.

Article 2. No substantial change shall be made in the maps, plans, specifications, and statements described and designated as exhibits and approved by the Commission in its order as a part of the license until such change shall have been approved by the Commission: Provided, however, That if the Licensee or the Commission deems it necessary or desirable that said approved exhibits, or any of them, be changed, there shall be submitted to the Commission for approval a revised, or additional exhibit or exhibits covering the proposed changes which, upon approval by the Commission, shall become a part of the license and shall supersede, in whole or in part, such exhibit or exhibits theretofore made a part of the license as may be specified by the Commission.

Article 3. The project works shall be constructed in substantial conformity with the approved exhibits referred to in Article 2 herein or as changed in accordance with the provisions of said article. Except when emergency shall require for the protection of navigation, life, health, or property, there shall not be made without prior approval of the Commission any substantial alteration or addition not in conformity with the approved plans to any dam or other project works under the license or any substantial use of project lands and waters not authorized herein; and any emergency alteration, addition, or use so made shall thereafter be subject to such modification and change as the Commission may direct. Minor changes in project works, or in uses of project lands and waters, or divergence from such approved exhibits may be made if such changes will not result in a decrease in efficiency, in a material increase in cost, in an adverse environmental impact, or in impairment of the general scheme of development; but any of such minor changes made without the prior approval of the Commission, which in its judgment have produced or will produce any of such results, shall be subject to such alteration as the Commission may direct.

Upon the completion of the project, or at such other time as the Commission may direct, the Licensee shall submit to the Commission for approval revised exhibits insofar as necessary to show any divergence from or variations in the project area and project boundary as finally located or in the project works as actually constructed when compared with the area and boundary shown and the works described in the license or in the exhibits approved by the Commission, together with a statement in writing setting forth the reasons which in the opinion of the Licensee necessitated or justified variation in or divergence from the approved exhibits. Such revised exhibits shall, if and when approved by the Commission, be made a part of the license under the provisions of Article 2 hereof.

Article 4. The construction, operation, and maintenance of the project and any work incidental to additions or alterations shall be subject to the inspection and supervision of the Regional Engineer, of the Commission, in the region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of the project and for any subsequent alterations to the project. Construction of the project works or any feature or alteration thereof shall not be initiated until the program of inspection for the project works or any such feature thereof has been approved by said representative. The Licensee shall also furnish to said representative such further information as he may require concerning the construction, operation, and maintenance of the project, and of any alteration thereof, and shall notify him of the date upon which work will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

Article 5. The Licensee, within five years from the date of issuance of the license, shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction, maintenance, and operation of the project. The Licensee or its successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights of occupancy and use; and none of such properties shall be voluntarily sold, leased, transferred, abandoned, or otherwise disposed of without the prior written approval of the Commission, except that the Licensee may lease or otherwise dispose of interests in project lands or property without specific written approval of the Commission pursuant to the then current regulations of the Commission. The provisions of this article are not intended to prevent the abandonment or the retirement from service of structures, equipment, or other project works in connection with replacements thereof when they become obsolete, inadequate, or inefficient for further service due to wear and tear; and mortgage or trust deeds or judicial sales made thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.

Article 6. In the event the project is taken over by the United States upon the termination of the license as provided in Section 14 of the Federal Power Act, or is transferred to a new licensee or to a non-power licensee under the provisions of Section 15 of said Act, the Licensee, its successors and assigns shall be responsible for, and shall make good any defect of title to, or of right of occupancy and use in, any of such project property that is necessary or appropriate or valuable and serviceable in the maintenance and operation of the project, and shall pay and discharge, or shall assume responsibility for payment and discharge of, all liens or encumbrances upon the project or project property created by the Licensee or created or incurred after the issuance of the license: Provided, That the provisions of this article are not intended to require the Licensee, for the purpose of transferring the project to the United States or to a new licensee, to acquire any different title to, or right of occupancy and use in, any of such project property than was necessary to acquire for its own purposes as the Licensee.

Article 7. The actual legitimate original cost of the project, and of any addition thereto or betterment thereof, shall be determined by the Commission in accordance with the Federal Power Act and the Commission's Rules and Regulations thereunder.

Article 8. The Licensee shall install and thereafter maintain gages and stream-gaging stations for the purpose of determining the stage and flow of the stream or streams on which the project is located, the amount of water held in and withdrawn from storage, and the effective head on the turbines; shall provide for the required reading of such gages and for the adequate rating of such stations; and shall install and maintain standard meters adequate for the determination of the amount of electric energy generated by the project works. The number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, shall at all times be satisfactory to the Commission or its authorized representative. The Commission reserves the right, after notice and opportunity for hearing, to require such alterations in the number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, as are necessary to secure adequate determinations. The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may be mutually agreed upon. The Licensee shall keep accurate and sufficient records of the foregoing determinations to the satisfaction of the Commission, and shall make return of such records annually at such time and in such form as the Commission may prescribe.

Article 9. The Licensee shall, after notice and opportunity for hearing, install additional capacity or make other changes in the project as directed by the Commission, to the extent that it is economically sound and in the public interest to do so.

Article 10. The Licensee shall, after notice and opportunity for hearing, coordinate the operation of the project, electrically and hydraulically, with such other projects or power systems and in such manner as the Commission may direct in the interest of power and other beneficial public uses of water resources, and on such conditions concerning the equitable sharing of benefits by the Licensee as the Commission may order.

Article 11. Whenever the Licensee is directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement, the Licensee shall reimburse the owner of the headwater improvement for such part of the annual charges for interest, maintenance, and depreciation thereof as the Commission shall determine to be equitable, and shall pay to the United States the cost of making such determination as fixed by the Commission. For benefits provided by a storage reservoir or other headwater improvement of the United States, the Licensee shall pay to the Commission the amounts for which it is billed from time to time for such headwater benefits and for the cost of making the determinations pursuant to the then current regulations of the Commission under the Federal Power Act.

Article 12. The operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Commission may prescribe for the protection of life, health, and property, and in the interest of the fullest practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes, and the Licensee shall release water from the project reservoir at such rate in cubic feet per second, or such volume in acre-feet per specified period of time, as the Commission may prescribe for the purposes hereinbefore mentioned.

Article 13. On the application of any person, association, corporation, Federal agency, State or municipality, the Licensee shall permit such reasonable use of its reservoir or other project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission, after notice and opportunity

for hearing, in the interests of comprehensive development of the waterway or waterways involved and the conservation and utilization of the water resources of the region for water supply or for the purposes of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive reasonable compensation for use of its reservoir or other project properties or parts thereof for such purposes, to include at least full reimbursement for any damages or expenses which the joint use causes the Licensee to incur. Any such compensation shall be fixed by the Commission either by approval of an agreement between the Licensee and the party or parties benefiting or after notice and opportunity for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

Article 14. In the construction or maintenance of the project works, the Licensee shall place and maintain suitable structures and devices to reduce to a reasonable degree the liability of contact between its transmission lines and telegraph, telephone and other signal wires or power transmission lines constructed prior to its transmission lines and not owned by the Licensee, and shall also place and maintain suitable structures and devices to reduce to a reasonable degree the liability of any structures or wires falling or obstructing traffic or endangering life. None of the provisions of this article are intended to relieve the Licensee from any responsibility or requirement which may be imposed by any other lawful authority for avoiding or eliminating inductive interference.

Article 15. The Licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain, and operate, or arrange for the construction, maintenance, and operation of such reasonable facilities, and comply with such reasonable modifications of the project structures and operation, as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior or the fish and wildlife agency or agencies of any State in which the project or a part thereof is located, after notice and opportunity for hearing.

Article 16. Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways and project works as may be reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife 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 and wildlife facilities or to relieve the Licensee of any obligation under this license.

Article 17. The Licensee shall construct, maintain, and operate, or shall arrange for the construction, maintenance, and operation of such reasonable recreational facilities, including modifications thereto, such as access roads, wharves, launching ramps, beaches, picnic and camping areas, sanitary facilities, and utilities, giving consideration to the needs of the physically handicapped, and shall comply with such reasonable modifications of the project, as may be prescribed hereafter by the Commission during the term of this license upon its own motion or upon the recommendation of the Secretary of the Interior or other interested Federal or State agencies, after notice and opportunity for hearing.

Article 18. So far as is consistent with proper operation of the project, the Licensee shall allow the public free access, to a reasonable extent, to project waters and adjacent project lands owned by the Licensee for the purpose of full public utilization of such lands and waters for navigation and for outdoor recreational purposes, including fishing and hunting: Provided, That the Licensee may reserve from public access such portions of the project waters, adjacent lands, and project facilities as may be necessary for the protection of life, health, and property.

Article 19. In the construction, maintenance, or operation of the project, the Licensee shall be responsible for, and shall take reasonable measures to prevent, soil erosion on lands adjacent to streams or other waters, stream sedimentation, and any form of water or air pollution. The Commission, upon request or upon its own motion, may order the Licensee to take such measures as the Commission finds to be necessary for these purposes, after notice and opportunity for hearing.

Article 20. The Licensee shall consult with the appropriate State and Federal agencies and, within one year of the date of issuance of this license, shall submit for Commission approval a plan for clearing the reservoir area. Further, the Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. Upon approval of the clearing plan all clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statutes and regulations.

Article 21. Timber on lands of the United States cut, used, or destroyed in the construction and maintenance of the project works, or in the clearing of said lands, shall be paid for, and the resulting slash and debris disposed of, in accordance with the requirements of the agency of the United States having jurisdiction over said lands. Payment for merchantable timber shall be at current stumpage rates, and payment for young growth timber below merchantable size shall be at current damage appraisal values. However, the agency of the United States having jurisdiction may sell or dispose of the merchantable timber to others than the Licensee: Provided, That timber so sold or disposed of shall be cut and removed from the area prior to, or without undue interference with, clearing operations of the Licensee and in coordination with the Licensee's project construction schedules. Such sale or disposal to others shall not relieve the Licensee of responsibility for the clearing and disposal of all slash and debris from project lands.

Article 22. 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, to make advance preparations for suppression of, and to suppress fires on the lands to be occupied or used under the license. The Licensee shall be liable for and shall pay the costs incurred by the United States in suppressing fires caused from the construction, operation, or maintenance of the project works or of the works appurtenant or accessory thereto under the license.

Article 23. The Licensee shall interpose no objection to, and shall in no way prevent, the use by the agency of the United States having jurisdiction over the lands of the United States affected, or by persons or corporations occupying lands of the United States under permit, of water for fire suppression from any stream, conduit, or body of water, natural or artificial, used by the Licensee in the operation of the project works covered by the license, or the use by said parties of water for sanitary and domestic purposes from any stream, conduit, or body of water, natural or artificial, used by the Licensee in the operation of the project works covered by the license.

Article 24. The Licensee shall be liable for injury to, or destruction of, any buildings, bridges, roads, trails, lands, or other property of the United States, occasioned by the construction, maintenance, or operation of the project works or of the works appurtenant or accessory thereto under the license. Arrangements to meet such liability, either by compensation for such injury or destruction, or by reconstruction or repair of damaged property, or otherwise, shall be made with the appropriate department or agency of the United States.

Article 25. The Licensee shall allow any agency of the United States, without charge, to construct or permit to be constructed on, through, and across those project lands which are lands of the United States such conduits, chutes, ditches, railroads, roads, trails, telephone and power lines, and other routes or means of transportation and communication as are not inconsistent with the enjoyment

of said lands by the Licensee for the purposes of the license. This license shall not be construed as conferring upon the Licensee any right of use, occupancy, or enjoyment of the lands of the United States other than for the construction, operation, and maintenance of the project as stated in the license.

Article 26. In the construction and maintenance of the project, the location and standards of roads and trails on lands of the United States and other uses of lands of the United States, including the location and condition of quarries, borrow pits, and spoil disposal areas, shall be subject to the approval of the department or agency of the United States having supervision over the lands involved.

Article 27. The Licensee shall make provision, or shall bear the reasonable cost, as determined by the agency of the United States affected, of making provision for avoiding inductive interference between any project transmission line or other project facility constructed, operated, or maintained under the license, and any radio installation, telephone line, or other communication facility installed or constructed before or after construction of such project transmission line or other project facility and owned, operated, or used by such agency of the United States in administering the lands under its jurisdiction.

Article 28. The Licensee shall make use of the Commission's guidelines and other recognized guidelines for treatment of transmission line rights-of-way, and shall clear such portions of transmission line rights-of-way across lands of the United States as are designated by the officer of the United States in charge of the lands; shall keep the areas so designated clear of new growth, all refuse, and inflammable material to the satisfaction of such officer; shall trim all branches of trees in contact with or liable to contact the transmission lines; shall cut and remove all dead or leaning trees which might fall in contact with the transmission lines; and shall take such other precautions against fire as may be required by such officer. No fires for the burning of waste material shall be set except with the prior written consent of the officer of the United States in charge of the lands as to time and place.

Article 29. The Licensee shall cooperate with the United States in the disposal by the United States, under the Act of July 31, 1947, 61 Stat. 681, as amended (30 U.S.C. sec. 601, et seq.), of mineral and vegetative materials from lands of the United States occupied by the project or any part thereof: Provided, That such disposal has been authorized by the Commission and that it does not unreasonably interfere with the occupancy of such lands by the Licensee for the purposes of the license: Provided further, That in the event of disagreement, any question of unreasonable interference shall be determined by the Commission after notice and opportunity for hearing.

Article 30. If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may require the Licensee to remove any or all structures, equipment and power lines within the project boundary and to take any such other action necessary to restore the project waters, lands, and facilities remaining within the project boundary to a condition satisfactory to the United States agency having jurisdiction over its lands or the Commission's authorized representative, as appropriate, or to provide for the continued operation and maintenance of nonpower facilities and fulfill such other obligations under the license as the Commission may prescribe. In addition, the Commission in its discretion, after notice and opportunity for hearing, may also agree to the surrender of the license when the Commission, for the reasons recited herein, deems it to be the intent of the Licensee to surrender the license.

Article 31. The right of the Licensee and of its successors and assigns to use or occupy waters over which the United States has jurisdiction, or lands of the United States under the license, for the purpose of maintaining the project works or otherwise, shall absolutely cease at the end of the license period, unless the Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of this license.

Article 32. The terms and conditions expressly set forth in the license shall not be construed as impairing any terms and conditions of the Federal Power Act which are not expressly set forth herein.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Elizabeth Anne Moler, Chair;
Vicky A. Bailey, James J. Hoecker,
William L. Massey, and Donald F. Santa, Jr.

Kings River Conservation District) Project No. 2741-007

ORDER AMENDING LICENSE
(Issued November 19, 1993)

On July 31, 1989, the Kings River Conservation District (District) filed an application to amend its license for the 165-megawatt (MW) Pine Flat Project, to delete Article 35 of the license. The project is located at the Pine Flat Dam, which is on the Kings River in Fresno County, California, and is operated by the U.S. Army Corps of Engineers (Corps). Article 35 requires the licensee to provide a minimum flow from the dam of 25 cubic feet per second (cfs) or natural inflow to the Pine Flat Reservoir, whichever is less.

In response to published notice of the application, the Sierra Land Use Committee filed a motion to intervene. ^{1/} Timely comments on the application were filed by the Resources Agency of California (Cal. Resources Agency), the U.S. Department of the Interior (Interior), and the California Sport Fishing Alliance.

For the reasons discussed below, we will grant the application in part and amend Article 35 of the license.

BACKGROUND

The Pine Flat Dam was constructed by the Corps in 1954 to provide flood control and irrigation. The dam is a concrete gravity structure 429 feet high and 1,820 feet long. The project's powerhouse is located on the downstream toe of the dam and consists of three 55-MW generating units. The project uses three existing penstocks that were installed for power purposes when the dam was constructed.

^{1/} The District filed an answer opposing the motion. On January 10, 1990, the Commission's Secretary issued a notice granting the motion to intervene.

By contract between the United States and the Kings River Water Association (Water Association), ^{2/} the Pine Flat Dam and Reservoir are operated by the Corps to store and release water as requested by the Water Association through its Watermaster (irrigation demand), except during mandatory flood control operations, when all releases are determined solely by the Corps.

The Pine Flat Project was constructed pursuant to a license issued in 1979. ^{3/} Article 35 of the license provides:

Article 35. Pending further order by the Commission, on its own motion or at the request of others, the Licensee shall discharge from the Pine Flat Dam a continuous minimum flow of 25 cfs or a flow equal to the natural inflow to the Pine Flat Reservoir, whichever is less, for the purpose of protecting fish and wildlife resources. These flows may be modified temporarily: (1) during and to the extent required by operating emergencies beyond the control of the licensee; and (2) for fishery management purposes, upon mutual agreement between the licensee and the California Department of Fish and Game. ^{4/}

The District and the Water Association entered into an agreement whereby the Water Association permits the District to divert for power purposes those irrigation releases that are within the operating range of the project. The District shall not however in any other way "alter the release pattern or regulate such releases . . ." ^{5/}

^{2/} All water rights and storage rights within the reservoir are severally owned by 28 separate water districts, which constitute the Water Association.

^{3/} 8 FERC ¶ 62,109.

^{4/} The 25-cfs minimum flow requirement in the license was based on a 25-cfs minimum flow agreement entered into in 1964 by the Water Association and the California Department of Fish and Game.

^{5/} See the District's June 25, 1993 response to a June 7, 1993 request for additional information, "Agreement for the Use of Waters of Kings River for Power Generation at Pine Flat Dam," dated October 18, 1977. The June 25 response was placed in the public file of this proceeding on October 29, 1993.

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The District's diversion of flows for power purposes is implemented through an agreement between it and the Corps. 6/ Under the agreement, the District is responsible for meeting the Water Association's irrigation demand when the required release is within the operating range of the powerplant; the Corps is responsible for releases above and below the operating range of the powerplant.

The Water Association notifies the District of the flows that need to be released to meet the irrigation demand. If the irrigation demand is less than the powerplant's operating range, the District notifies the Corps, and the Corps makes the required releases through various gates in the dam. If the irrigation demand is within or above the powerplant's operating range, the District calculates how many cfs it will release to downstream irrigators through its project's turbines, and, to the extent it will not use all the required flows, notifies the Corps as to what flows the Corps must release to ensure that the total irrigation demand is met. The agreement also establishes procedures whereby the District will notify the Corps in the case of an unexpected plant shut-down, and, if it cannot get the powerplant back on line, will direct the Corps to begin or to increase the releases through the dam gates to meet the irrigation demand.

On February 27, 1989, the Director, Division of Project Compliance and Administration, advised the District that, according to a Commission staff report, the daily average flow on January 9 and 10, 1988, had been 24 cfs, in violation of the 25 cfs minimum flow requirement in Article 35 of the license. The letter stated that the 24 cfs flow resulted from gate adjustments by the Corps, but that the licensee is responsible for ensuring compliance with the terms of the license.

By letter dated March 7, 1989, the District notified the Corps of the Commission staff's finding that the Corps' failure to release 25 cfs placed the District in violation of its license. On March 29, 1989, the Corps replied, objecting to the term "violation" to describe the flow releases in question, because the releases did not violate any of the Corps' contracts or agreements.

6/ See "Agreement for the Operation and Maintenance of Pine Flat Power Plant," entered into on March 25, 1993, and submitted as part of the District's June 25, 1993 filing (See n. 5, *supra*).

By letter to the District dated June 29, 1989, 7/ the Commission's San Francisco Regional Office stated, *inter alia*:

The requirements of Article 35, the minimum flow article, do not appear to be within the control of the KRCD [District] and do not appear to be appropriate for this license. You should write to the Commission to request that this article be deleted from the license.

Thereafter, the District filed the license amendment application that is before us today.

In its application, the District states that its project cannot generate electricity when the reservoir storage is less than approximately 100,000 acre-feet or when the release is less than 500 to 600 cfs, depending on the available head. Therefore, during drought conditions or at other times when the District's project is not operating, only the Corps "has the actual physical capability, by release through the Dam's sluice gates," to make releases. 8/ Since the District does not have the physical capability to assure that release when its project is not operating, it seeks deletion of the minimum flow requirement in its license.

The Cal. Resources Agency forwarded comments of the California Department of Fish and Game concurring in the requested deletion of Article 35 because the District does not control the flow when the project is not being operated. 9/ The California Sportfishing Protection Alliance (Alliance) filed comments in support of the proposed amendment. 10/ Interior

7/ Copies of all of the above-referenced letters were attached to the District's July 31, 1989 application to amend the license.

8/ District's Application at 1.

9/ Letter from the Assistant Secretary for Resources, The Resources Agency of California, to the Commission Secretary, dated December 21, 1989, and filed January 2, 1990.

10/ The Alliance also asked for other amendments to Article 35 relating to the maintenance of adequate water temperatures for fishery resources. As the Alliance noted, the California Department of Fish and Game is conducting comprehensive fishery studies of the Lower Kings River. If these studies indicate that modifications to project structures or operations are necessary to protect fish and wildlife resources, the Commission may, pursuant to its (continued...)

opposes the deletion of Article 35 11/ and suggests that the proviso at the end of the article exonerates the District when operating conditions at the dam preclude the Corps from providing the mandated 25 cfs minimum flow. 12/ The Sierra Land Use Committee also opposes deletion of Article 35.

DISCUSSION

The Corps makes all releases of water through the dam when the Water Association's total irrigation demand is below 500 to 600 cfs (the project's minimum operating capacity). Because the District has neither physical nor contractual control of these releases, it cannot ensure that a 25-cfs minimum flow release is made. When the District is operating its project, it has control over the releases being made through its powerplant, and these releases will always far exceed the 25-cfs minimum flow that is needed to protect fish and wildlife resources. The only time that we can foresee a problem with the District's meeting the minimum flow requirement when it has control over releases is in the case of an unexpected powerplant shut-down. From the time that the powerplant shuts down to the time that the District notifies the Corps and the Corps begins or increases its releases, the District is responsible for ensuring that 25 cfs is released through the powerhouse. Accordingly, we will not delete Article 35 as requested but will instead amend it to clarify that the District is responsible for making minimum flow releases only when it has actual control over and responsibility for making the releases.

10/ (...continued)

reserved authority in standard Article 15 of the District's license (see 54 FPC 1813, incorporated by reference in the Project No. 2741 license, 8 FERC at p. 63,146, ordering paragraph D), order reasonable modifications, after notice and opportunity for hearing.

11/ Interior indicates that, after the completion of studies in progress on stream flow in the river, the Commission should consider an increase in the minimum flow requirement, and in the meantime should retain the 25 cfs minimum flow requirement.

12/ Letter from the Director of the Office of Environmental Affairs, Office of the Secretary of the Interior, to the Commission Secretary, dated January 16, 1990, and filed January 22, 1990.

The Commission orders:

- (A) The application for amendment of license filed on July 31, 1989, is approved to the extent set forth in this order.
- (B) Article 35 of the license for Project No. 2741 is amended to read:

Article 35. Pending further order by the Commission, on its own motion or at the request of others, when flows are available for project operation and the licensee has control over release of these flows, the licensee shall discharge from the project a continuous minimum flow of 25 cfs, for the purpose of protecting fish and wildlife resources. These flows may be modified temporarily: (1) during and to the extent required by operating emergencies beyond the control of the licensee; and (2) for fishery management purposes, upon mutual agreement between the licensee and the California Department of Fish and Game.

By the Commission.

(S E A L)

Lois D. Cashell

Lois D. Cashell,
Secretary.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

LICENSE (MAJOR);
NEW CAPACITY;
USE OF GOVERNMENT DAM

Kings River Conservation)
District)

Project No. 2741

ORDER ISSUING LICENSE (MAJOR)

(Issued September 25, 1979)

On January 31, 1977, Kings River Conservation District (KRCD) filed an application for a major license under Part I of the Federal Power Act (Act) for the proposed Pine Flat Project No. 2741. 1/ The project would be located at the United States Army Corps of Engineers' (Corps) Pine Flat Dam, located on the Kings River in Fresno County, California, and would affect lands of the United States under the Corps' supervision.

Notice of the application has been published in accordance with the Act. The California Department of Fish and Game (DF&G) and Pacific Gas and Electric Company (PG&E) petitioned to intervene. Both were granted intervention.

Project Description

The Pine Flat Project would be located at the downstream toe of the Corps' Pine Flat Dam. 2/ The project would consist of an outdoor-type powerhouse containing three generating units with capacities of 55 megawatts (MW) each, for a total installed capacity of 165 MW. KRCD would make use of the three existing 13.5-foot diameter penstocks that were installed in the Pine Flat Dam when it was constructed in 1954. The project is more fully described in ordering paragraph (B), below.

1/ Authority to act on this matter is delegated to the Director, Office of Electric Power Regulation, under Section 3.5(g) of the Commission's regulations, 18 CFR 3.5(g), as amended in Docket No. RM78-19 (August 14, 1978), and Docket No. 79-59 (July 23, 1979).

2/ The Pine Flat dam was completed by the Corps in 1954 at a cost of approximately \$39,000,000. The dam is a concrete gravity structure 429 feet high and 1,820 feet long. The dam was constructed to provide irrigation and flood control.

Safety of Structures

The Corps stated in its comments that the powerhouse must be located sufficiently far downstream from the toe of the dam to prevent undercutting of the dam by the powerhouse foundation excavation. The Corps also stated that there has been a continuing problem with pinhole leaks in the penstock liners. The Corps further reported that the construction of a wall will be necessary between the powerhouse and the spillway to protect the powerhouse from damage during the maximum spillway design discharge. KRCD has met with the Corps on these matters and states that during the final design of the project the Corps will be consulted.

The Commission's staff has, however, examined the preliminary plans for the powerhouse structure for stability and has found it to be safe under maximum hydrostatic loading, which would occur during a maximum spillway discharge of 391,000 cfs. The Commission's staff has also concluded that the proposed structures would be safe and adequate, with proper final design, and construction in accordance with sound engineering practices.

Article 37 of the license requires the KRCD to obtain Corps approval of the final design plans before construction of the project begins. Article 42 of the license also requires that a copy of the final plans and specifications be filed with the Commission's Regional Engineer in San Francisco, California, before construction commences. Should any changes in the final plans or specifications be necessary to ensure the safety and adequacy of the project, the Director, Office of Electric Power Regulation, may require those changes.

Economic Feasibility

The average annual energy that would be generated at the power plant is estimated to be 418,920,000 kWh. Staff studies show that the proposed project is economically feasible when compared to the cost of producing equivalent power from the most economical alternative, a coal-fired steam-electric plant. Staff estimates that the annual value of the project's power output would be about \$7.82 million. ^{3/} When compared with \$4.96 million, the total

^{3/} This analysis assumes the proposed plant would have no capacity value.

estimated annual costs to KRCD of the Pine Flat Project, a net benefit of \$2.86 million would result. Accordingly, the proposed project is found to be economically feasible.

Use of Project Power

The power to be developed by the project would be sold to the California Department of Water Resources (CDWR). CDWR would use the power to operate the California state water project. The U.S. Department of the Interior (Interior) recommends that the license be conditioned to require that KRCD provide the United States the first option to purchase the power generated by the project, with the Commission to set the rates in cooperation with the Western Area Power Administration, the Bureau of Reclamation, the Corps, and KRCD. In Interior's opinion this scheme would ensure that the United States is receiving just compensation for the private use of a federal dam.

Interior's proposal will not be accepted. Interior has not recommended federal development of hydroelectric power at the dam, or suggested any reason why the United States should have first option on project power except to provide for adequate compensation for use of the Corps' dam. The local Kings River water interests, which are represented by KRCD, are paying for 37.5 percent of the construction cost of Pine Flat Dam and Reservoir. Moreover, under the Federal Power Act the statutory mechanism for ensuring adequate compensation to the United States for use of its dams is proper annual charges under Section 10(e) (discussed infra).

Fish and Wildlife

When the project commences operation, fewer fish from Pine Flat Reservoir will pass downstream via the spillway and midlevel sluice gates. Instead, most of the fish that pass downstream will normally pass through the penstocks and turbines and their mortality rates will rise accordingly.

KRCD has entered into a memorandum of agreement with the California Department of Fish and Game (CF&G). According to this agreement, KRCD will conduct studies in cooperation with CF&G to determine if the operation of the project has caused a significant decrease in the

number of rainbow trout and white catfish in the reservoir. Should the results of the study show a significant decrease, KRCD has agreed to implement appropriate mitigation or compensation measures.

KRCD has also agreed to conduct population surveys of rainbow trout and white catfish in the Kings River below Pine Flat Dam before and after the project is constructed. Should the studies indicate that construction or operation of the project has had a significant adverse impact on the white catfish and rainbow trout populations below the dam, KRCD has agreed to implement appropriate mitigation or compensation measures.

CF&G stated that the Exhibit S is complete and adequate. The Exhibit S, while not specifying the details of the studies set forth in the memorandum of agreement, states that KRCD would finance an annual stocking program in order to maintain the impacted fish species at pre-project levels. Because the agreement and the Exhibit S are so interrelated, KRCD will be expected as part of its compliance with the approved Exhibit S to adhere to the agreement. Standard Articles 15 and 16 reserve to the Commission authority to require additional studies or reasonable changes in the project or its operation to conserve and protect fish and wildlife resources, on its own motion or that of Interior or CF&G.

The project's effect on terrestrial wildlife will generally be minor. Potential adverse effects will be eliminated through implementation of mitigation measures. The memorandum of agreement and Exhibit S provide that KRCD will conduct a study to determine any possible adverse impacts of construction activity on raptors. If field investigations uncover any active nests that are in an area of disturbance, measures are to be taken to mitigate disturbance, including alteration of construction schedules during the nesting period. Exhibit S also provides that the transmission lines will be designed to prevent any possible electrocution of raptors.

Recreation

Existing public recreation sites within the project area include the Pine Flat Recreation Area, Choinumni Park, Winston Park, and Avocado Lake Park. These sites are

owned and operated by local and state agencies. A number of recreation sites also exist at the Pine Flat Reservoir. These sites are operated jointly by the Corps and the U.S. Forest Service, U.S. Department of Agriculture. KRCD originally did not propose any additional facilities, but noted that the Fresno County Parks and Recreation Department plans to expand existing recreation areas in the vicinity of the project. The Corps and the California Department of Parks and Recreation concurred that no additional recreational facilities would be necessary beyond those referred to in the Exhibit R.

Interior, on the other hand, stated that the Exhibit R was inadequate. Interior contended that the Exhibit R did not adequately consider: (1) mitigation for loss of fishing access immediately below Pine Flat Dam; (2) mitigation for the temporary loss, and possible permanent degradation, of a fishing access site developed by Fresno County; and (3) provisions for recreationists' safety below the powerhouse. Interior believed that the loss of fishing access below the dam should be mitigated by construction of a picnic area on the north bank of the Kings River. Since the receipt of Interior's comments, KRCD has agreed to provide a fishing access site on the Kings River to replace the site that would be lost as a result of the project's construction and operation. With regard to the loss of the Fresno County fishing access site during project construction, KRCD pointed out that, in fact, the site is not yet developed. Moreover, KRCD agrees to conduct construction at this particular site in a manner that will allow public access for fishing. The Commission's staff favors KRCD's proposal to mitigate the loss of fishing access below Pine Flat Dam by providing lands for fishing access elsewhere, as more appropriate than Interior's proposal for an additional picnic area along the river.

KRCD's proposal will be approved, rather than adopting Interior's recommendation. But because that proposal is not set forth in the Exhibit R, Article 33 is included in the license to require inclusion of plans for fishing access on the Kings River, and to include the site within the project boundary. Article 17 of the license reserves the Commission's right to require the licensee to provide or arrange for reasonable additional recreational facilities at the project if the need should arise.

In view of Interior's concern for the safety of recreationists, Article 36 has been included in the license to require the installation of safety devices, to the satisfaction of the Commission's authorized representative, to warn the public of fluctuations in flow from the project and to protect the public in its recreational use of project lands and waters.

Minimum Flows and Water Quality

KRCD has obtained a state water quality certificate for the Pine Flat Project, in accordance with Section 401 of the Federal Water Pollution Control Act, 33 U.S.C. §1341. KRCD has also agreed with CF&G to release a continuous minimum flow of 25 cubic feet per second. Special Article 35 requires this flow or the natural flow into Pine Flat Reservoir, whichever is less.

Once the project commences operation, water would be released through the penstocks, rather than through the midlevel sluice gates. The difference in the release location would cause water to be withdrawn from the cooler bottom level of Pine Flat Reservoir where dissolved oxygen concentrations are low. Interior and CF&G commented that the California Water Resources Control Board adopted a minimum dissolved oxygen objective of 7.0 mg/l for the 12-mile reach of the Kings River below the dam. KRCD has entered into agreement to maintain a minimum of 7.0 mg/l at all times during power operation. Article 34 of this license requires KRCD to monitor the dissolved oxygen content on the Kings River during project operation and to ensure a dissolved oxygen concentration of at least 7.0 mg/l. 4/

Cultural Resources

There are no sites within the project boundary that are listed or declared eligible for listing on the National Register of Historic Places. Archeological investigations did, however, identify a Yokut Indian food processing site in the area of the project. Even though this site was determined not eligible for inclusion on the National Register by the California State Historic Preservation

4/ Interior noted that the future dissolved oxygen goal for this reach of the river is 9.0 mg/l. Articles 9, 12, and 15 of this license reserve sufficient authority for the Commission to require KRCD to meet this higher dissolved oxygen level in the future, if necessary.

Officer, KRCD will take all necessary steps to protect it during construction. Article 43 of the license also requires KRCD to take any necessary steps to protect any currently unknown archeological resources that may be uncovered during construction of the project or by any future construction that may be permitted at the project.

Other Exhibits

KRCD's Exhibit K is approved to the extent that it generally shows the project boundary and location of project works. Because Article 33 requires the licensee to include additional lands in the project for recreational purposes, Article 44 requires KRCD to file a revised Exhibit K map showing this change. Article 44 also requires KRCD to file within one year of completion of project construction "as built" Exhibits K, L, and M, to show and describe the project as finally constructed and located.

Other Environmental Concerns

Noise and human activities occurring during construction would have minor, temporary adverse effects on wildlife that inhabit or frequent the project areas. No threatened or endangered plant or animal species would be affected at the development, however, and the impacts will essentially cease with completion of construction. There would be no significant long-term effects on land use or the environment in general, because the project reservoir already exists.

The proposed project would provide short-term employment opportunities for construction workers. Most of the construction personnel would be from the local or regional labor force, and would commute daily to work. Consequently, no significant increase in the area's population is expected. There would, however, probably be a minor temporary increase in demands on public facilities and services in the immediate area.

Based upon the record, including agency comments and the staff's independent analysis, it is found that the environmental impacts associated with development of this project would be minimal and of short duration. Issuance of a license for this project is not therefore a major federal action significantly affecting the quality of the human environment.

Comprehensive Development

The Corps' Pine Flat Dam is operated to provide flood control for about 80,000 acres of agricultural land in the Kings River service area, and to reduce flood damages on about 260,000 acres of cropland in the Tulare Lake area. The dam also stores water for irrigation, recreational opportunities, and re-regulation of releases from upstream power plants.

The Pine Flat project would develop the head created by the Pine Flat dam and reservoir. The project would utilize flow releases for irrigation which are not now being used to generate power. The operation of the project would not alter the existing releases from the reservoir. Interior stated that the proposed project would not affect either the use of the Pine Flat reservoir for irrigation purposes or the existing contracts executed by the Bureau of Reclamation in 1963.

The project would utilize a non-polluting, renewable resource to produce annually an average of 418.92 million kWh of electric energy. Equivalent fossil fueled generation of electric energy would consume approximately 690,000 barrels of oil or about 194,000 tons of coal per year.

Under the preliminary permit issued for Project No. 2741, KRCD had planned to investigate the feasibility of constructing an additional dam downstream from the Pine Flat Dam. The additional development would have re-regulated discharges from the Pine Flat Dam and provided an additional 24 MW of capacity. KRCD has not provided an analysis of the feasibility of that additional development. The Commission's staff reports that development of an afterbay dam to re-regulate Pine Flat discharges and increase the project's dependable capacity may be economically feasible. Article 44 of this license requires a study of the economic feasibility of this additional development to be filed within six months. It also reserves to the Commission authority to require development of a re-regulating afterbay dam if economically sound and in the public interest.

Project No. 2741 is compatible with all other water resource projects in the region, both existing and proposed. Development of the project would permit utilization of a renewable resource to provide substantial power benefits. It is found that, under the terms of this license, the project is best adapted to the comprehensive development of the Kings River.

License Term

KRCD has requested a 50-year license. Interior recommended that the license be limited to a shorter period of time and in no case to more than 25 years, with periodic reevaluation. In support of its position, Interior cites the Commission's order on rehearing for Pacific Gas and Electric Company's Pit 1 Project No. 2687. 5/ That order is not apposite. There, the project had been constructed long before the license was issued. The Commission noted that the licensee had already had the benefit of unlicensed operation for nearly 50 years. In this proceeding, a new, unconstructed hydroelectric project is being licensed. In light of the extent of development, involving installation of 165 MW of new capacity, issuance of a 50-year license would be consistent with Commission practice and established policy. 6/

Annual Charges

Section 10(e) of the Act 7/ requires the Commission to fix a reasonable annual charge to be paid to the United States for the use of a government dam. The Commission has had occasion to exercise this authority many times in the past. The method used historically to arrive at a charge has been the "sharing of the net

5/ Pacific Gas and Electric Co., Project No. 2687, Order on Rehearing, 45 F.P.C. 28(1971).

6/ See, e.g., City and Borough of Sitka, Alaska, Project No. 2818, Order Issuing Major License (issued April 5, 1979).

7/ 16 U.S.C. §803(e).

benefits method." As the Commission has applied it, this method involves calculating the difference between the cost to the licensee of developing power at the proposed hydroelectric project and the hypothetical cost to the licensee of obtaining an equivalent amount of power from the least expensive alternative. This difference is the net benefit to be derived from developing the power potential of the government dam. Half of this figure is then assessed as the annual charge for use of the government dam, thus dividing the value of the net benefit equally between the licensee and the United States.

This method results in different annual charges depending on whether the licensee is a tax-free public entity or a private entity that does pay taxes. ^{8/} In two cases involving the City of Vanceburg, Kentucky, ^{9/} the Commission found reasonable this method that computes annual charges on the basis of a public entity's own costs, reflecting its tax exempt status, rather than on the basis of what the licensee's costs would be if it were not tax exempt. The Commission's method in those two cases was upheld in City of Vanceburg v. FERC, 571 F.2d 630 (D.C. Cir. 1977), cert. denied, _____ U.S. _____, 99 S.Ct. 79 (1978).

^{8/} The difference in tax status affects not only the tax expenses of the public and non-public licensees' hydroelectric developments and hypothetical alternative power sources in these calculations, but also their respective costs of money.

^{9/} See Order Issuing License (Major), Cannelton Project No. 2245 (issued Mar. 29, 1976), Order on Rehearing (issued June 21, 1976) (reh. denied); and Order Issuing License (Major) and Dismissing Application for Preliminary Permit, Greenup Project No. 2614 (issued Mar. 29, 1976), Order on Rehearing (issued June 21, 1976) (reh. denied).

As noted above in discussing project feasibility, the annual cost to KRCD of the proposed project is estimated to be about \$4.96 million, 10/ while the annual cost of producing equivalent power from the most economical alternative is estimated to be \$7.82 11/ million. Thus, under the current Commission methodology the annual net benefit of the project would be \$2.86 million and the reasonable annual charge for the use of the Corps' Pine Flat Dam would be \$1.43 million.

The Commission's Staff is currently reassessing comprehensively the subject of suitable annual charges for use of government dams, however, for the purpose of making recommendations to the Commission for any appropriate changes in its policies and regulations. Consequently, a final determination on the annual

10/ Total Estimated Annual Cost of Pine Flat Project

Fixed Charges (9.72% <u>a/</u> of 1980 Capital Cost)	\$4,216,800
O & M Expense	\$ 491,700
A & G Expense	\$ 191,800
FERC Part I Administrative Charges	\$ 26,000
Fixed Charges of Transmission Line <u>b/</u>	\$ 33,000
Total Estimated Annual Cost	\$4,959,300

--a/ Fixed Charge Rate under Public Financing: 9.00%
Cost of Money, 0.12% Depreciation, 0.40% Interim
Replacements, 0.20% Insurance = Total Fixed Charge
Rate 9.72%.

--b/ Primary Transmission Line to be licensed as
Project No. 2876.

11/ Value of project output based on estimated variable
cost of coal-fired steam plant energy is 18.66 mills/kWh.

charge for the use of the Pine Flat Dam will be reserved. ^{12/} Article 40 provides for subsequent determination of that charge, which will be not more than \$1.43 million. Thus, the project need not be delayed pending staff's reassessment for recommendations to the Commission. Consistent with the Commission's orders licensing the City of Vanceburg's Projects Nos. 2245 and 2614, the annual charge for the use of the Pine Flat Dam will be assessed proportionately beginning on the effective dates of commercial operation of the three project generating units. Because of the magnitude of the potential annual charge assessment, Article 45 provides for establishment of a reserve, if the commercial operation of the project begins before final determination of the annual charge for the use of the Pine Flat Dam.

^{12/} For the Pine Flat Project, Interior proposed that the Commission consider three alternative methods in determining this annual charge, one of which was the sharing of the net benefits method. The other two methods would either have the U.S. share equally in the "net profit" from the project or allocate the investment cost of the joint-use facilities to power and to each of the other project purposes at Pine Flat Dam. The Corps did not recommend any particular method for setting this annual charge. KRCD urged that the annual charge take into account the fact that the ultimate burden of the charge would rest upon the California Department of Water Resources, which would purchase project power to pump water for the State Water Project, "a public purpose and benefit." These matters will be considered during the review of the general question of annual charges for use of government dams and in determining the specific final annual charge for the use of the Pine Flat Dam by Project No. 2741. KRCD also requests the Commission to take into account the payments made to the United States by local Kings River water interests for the cost of the Pine Flat Dam. KRCD states that these payments are made in accordance with water storage contracts and would eventually be 37.5 percent of the cost of constructing the dam and reservoir, or \$14.25 million, of which \$11 million have already been paid. When and how this 37.5 percent payment should be taken into account will be considered in finally determining the proper annual charge.

Reimbursement for Penstocks

The Corps and Interior also recommended that KRCD be required to reimburse the United States for the cost of the three existing penstocks that the project will use. The original cost of the penstocks has been included in KRCD's Exhibit N and, together with the cost of repairing them, in the staff's estimates of project costs used in its studies of economic feasibility and annual value of net power benefits. Pursuant to Article 41, KRCD must reimburse the United States for the original cost of the penstocks. Interior argues that KRCD should also pay interest on that cost from 1954 to present and KRCD argues that it should pay no interest and only the original cost less depreciation. It is concluded, however, that original cost without interest or depreciation is reasonable, inasmuch as KRCD has had no benefit from the penstocks to date and the penstocks do require repairs; and, on the other hand, the cost to KRCD of constructing penstocks now would be significantly greater than the original cost of the existing penstocks.

It is ordered:

(A) This license is issued under Part I of the Federal Power Act (Act) to the Kings River Conservation District of Fresno, California, for a fifty-year period effective the first day of the month in which this license is issued, for the construction, operation, and maintenance of the Pine Flat Project No. 2741, located in Fresno County, on the Kings River, and affecting the Pine Flat Dam of the United States and appurtenant lands administered by the U.S. Army Corps of Engineers. This license is subject to the terms and conditions of the Act, which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the Act.

(B) Project No. 2741 consists of:

(1) all lands, to the extent of the Licensee's interests in those lands, constituting the project area and enclosed by the project boundary, the project areas and boundary being shown and described by certain exhibits which form part of the application for license and which are designated and described as:

<u>Exhibit</u>	<u>FERC No. 2741-</u>	<u>Showing</u>
J	4	Location Map
K	5	Site Plan

(2) Project works consisting of (a) three penstock extensions from the three 13.5-foot diameter penstocks in Pine Flat Dam to the powerhouse; (b) an outdoor-type powerhouse at the toe of the dam, with three Francis turbines, each coupled to a generator rated at 55 MW; (c) three generator leads and a step-up transformer bank at the powerhouse, consisting of three 70 MVA single-phase units; and (d) all appurtenant facilities.

The location, nature, and character of these project works are more specifically shown and described by the exhibits cited above and by certain other exhibits which also form part of the application for license and which are designated and described as:

<u>Exhibit L</u>	<u>FERC No. 2741-</u>	<u>Showing</u>
Sheet 1	6	Cross Section and Elevation
Sheet 2	7	Plans and Longitudinal Section

Exhibit M - containing general specifications of equipment and consisting of 2 pages filed on January 31, 1977, and revised January 31, 1978.

Exhibit R - consisting of 24 pages of text and an Exhibit R map, FERC No. 2741-8, filed on January 31, 1977.

Exhibit S - consisting of 66 pages filed on January 31, 1977.

(3) All of the structures, fixtures, equipment, or facilities used or useful in the operation or maintenance of the project and located on the project area, all portable property that may be employed in connection with the project, whether located on or off the project area, as approved by the Commission, and all riparian or other rights necessary or appropriate in the operation or maintenance of the project.

(C) Exhibits K, L, and M, designated in ordering paragraph (B) above, are approved and made a part of the license only to the extent that they show the basic location and layout of the project and its works and generally describe its mechanical and electrical equipment and appurtenances. Exhibits J, R, and S, designated in ordering paragraph (B) above, are approved and made a part of the license.

(D) This license is also subject to the terms and conditions designated Articles 1 through 32 in Form L-2 (revised October 1975), entitled "Terms and Conditions of License for Unconstructed Major Project Affecting Lands of the United States," attached to and made a part of this license. This license is also subject to the following special conditions set forth as additional articles:

Article 33. The Licensee shall consult with the California Department of Fish and Game and the Heritage Conservation and Recreation Service of the U.S. Department of the Interior and, within one year from the date of issuance of this license, shall file for approval an amendment to the Exhibit R which shall include, but need not be limited to, a plan for development of a fishing access site on the Kings River, downstream from Pine Flat Dam, to be included within the project boundary.

Article 34. Upon commencement of commercial operation of the project, the Licensee shall install and operate continuously dissolved oxygen monitoring equipment in the Kings River at the Pine Flat Road bridge. The Licensee shall maintain records of the monitoring data and shall file with the California Department of Fish and Game and the Commission an annual summary at the end of each year after the commencement of commercial operation, and summaries

for other intervals when requested, which shall include observed daily minimum, maximum, and average dissolved oxygen concentrations. If the results of the monitoring indicate that any change in project works or operation is necessary to maintain a minimum dissolved oxygen concentration of 7.0 mg/l, the Licensee shall promptly file for approval its proposal for the change.

Article 35. Pending further order by the Commission, on its own motion or at the request of others, the Licensee shall discharge from the Pine Flat Dam a continuous minimum flow of 25 cfs or a flow equal to the natural inflow to the Pine Flat Reservoir, whichever is less, for the purpose of protecting fish and wildlife resources. These flows may be modified temporarily: (1) during and to the extent required by operating emergencies beyond the control of the Licensee; and (2) for fishery management purposes, upon mutual agreement between the Licensee and the California Department of Fish and Game.

Article 36. The Licensee shall, to the satisfaction of the Commission's authorized representative, install and operate any signs, lights, sirens, or other safety devices that may reasonably be needed to warn the public of fluctuations in flow from the project and to protect the public in its recreational use of project lands and waters.

Article 37. The Licensee shall, prior to initiation of construction, obtain approval from the U.S. Army Corps of Engineers, Sacramento District, Sacramento, California, of the final design, construction plans, specifications, and operating plans for the Pine Flat Project.

Article 38. The Licensee shall have no claim under this license against the United States arising from the effect of any changes made in the pool levels of the Pine Flat Reservoir.

Article 39. The Licensee shall commence construction of the project works within two years from the effective date of this license and in good faith and with due diligence shall prosecute and complete construction of the project works within four years from the effective date of this license.

Article 40. The Licensee shall pay the United States the following annual charges, to be assessed according to this schedule: (a) one-third of each charge effective from the date when the first generating unit begins commercial operation; (b) two-thirds of each charge effective from the date when the second generating unit begins commercial operation; (c) the entire amount of each charge effective from the date when the third generating unit begins commercial operation:

(1) For the purpose of reimbursing the United States for the cost of administration of Part I of the Act, a reasonable annual charge as determined by the Commission in accordance with its regulations in effect from time to time. The total authorized installed capacity for that purpose is 220,000 horsepower.

(2) For the purpose of recompensing the United States for the use, occupancy, and enjoyment of its lands, a reasonable annual charge as determined by the Commission in accordance with its regulations in effect from time to time. The acreage of United States lands for that purpose will be determined after submission of "as built" exhibits for approval.

(3) For the purpose of recompensing the United States for the use of the Pine Flat Dam, an amount that shall be determined later and that shall not exceed \$1,430,000, subject to possible adjustment at the intervals specified in Section 10(e) of the Act.

Article 41. The Licensee shall reimburse the United States for all construction costs incurred by the United States for the specific and sole purpose of accommodating the installation of power facilities at the Pine Flat Dam. This reimbursement is in addition to the annual charge specified in paragraph (3) of Article 40. Arrangements for payment shall be made with the Chief of Engineers, Department of the Army, at the time of commencement of construction of the project.

Article 42. The Licensee shall file with the Commission's Regional Engineer in San Francisco, California, with a copy to the Director, Office of Electric Power Regulation, one copy each of the final design and construction plans and specifications prior to the start of construction. The Director, Office of Electric Power Regulation, may require any changes in those plans and specifications necessary to ensure a safe and adequate project.

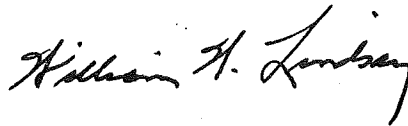
Article 43. The Licensee shall continue to consult and cooperate with the California State Historic Preservation Officer (SHPO) prior to any construction or development of any project works or other facilities at the project. If any previously unrecorded archeological sites are discovered during the course of any construction or development of any project works or other facilities at the project, construction activity in the vicinity shall be halted, a qualified archeologist shall be consulted to determine the significance of the sites, and the Licensee shall consult with the SHPO to develop a mitigation plan for the protection of significant archeological resources. The Licensee shall provide funds in a reasonable amount for any mitigative measures that may be necessary. If the Licensee and the SHPO cannot agree on the amount of money to be expended on archeological work related to the project, the Commission reserves the right to require the Licensee to conduct, at its own expense, any archeological work found necessary.

Article 44. Within one year from the issuance date of this license, the Licensee shall prepare and file with the Commission a study of the economic feasibility of constructing an after-bay dam that would re-regulate project discharges for the purpose of increasing the dependable power capacity of the project, taking into account, to the extent reasonable, all benefits that would be derived from the re-regulating dam, including any contribution to the conservation of non-renewable energy resources. If the study shows the re-regulating dam to be economically feasible, the Licensee shall simultaneously file a schedule for filing an application to amend its license to include the additional project works. The Commission reserves the right to require the Licensee to develop such a re-regulating dam, to the extent economically feasible and in the public interest.

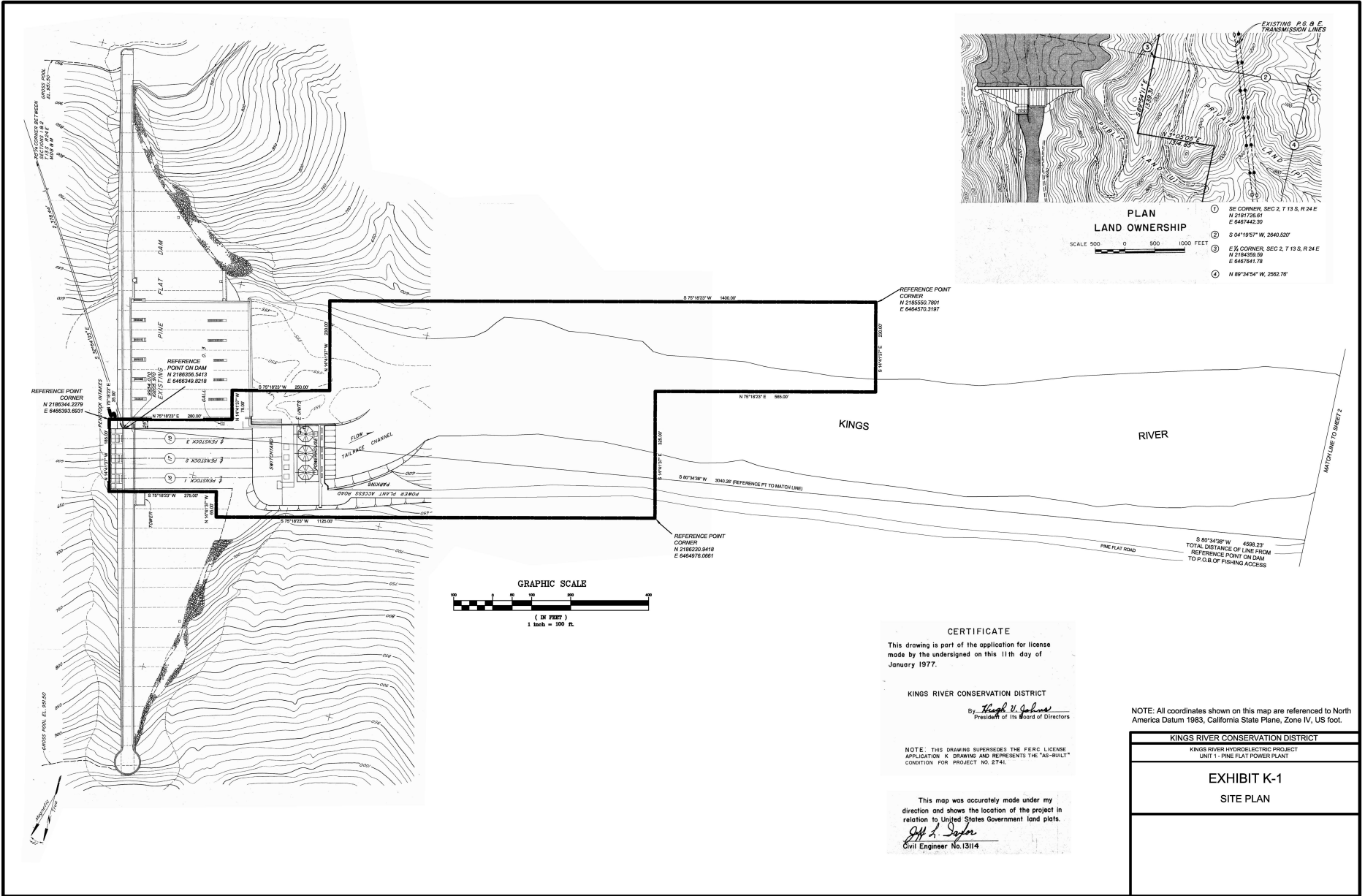
Article 45. If the Commission has not finally determined the amount of the annual charge for the use of the Pine Flat Dam by the time when the first generating unit begins commercial operation, the Licensee shall establish and shall maintain, until the Commission has finally determined that amount and the accumulated annual charges have been paid, a reserve sufficient to meet its potential liability for the accumulated annual charges for the use of the Pine Flat Dam.

(F) This order is final unless within 30 days from the date of its issuance a petition appealing it to the Commission is filed, as provided in §1.7(d) of the Commission's regulations, 18 C.F.R. 1.7(d) [as amended in Docket No. RM79-59 (July 23, 1979) and Docket No. RM78-19 (Aug. 14, 1978)]. The Licensee's failure to file such a petition shall constitute acceptance of the license for Project No. 2741. The filing of a petition appealing this order to the Commission or an application for rehearing as provided in section 313(a) of the Act does not operate as a stay of the effective date of this license or of any other date specified in this order, except as specifically ordered by the Commission. In acknowledgment of acceptance of the license and its terms and conditions, the license shall be signed for the Licensee and returned to the Commission within 60 days from the date this order is issued.

(S E A L)



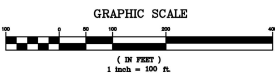
William W. Lindsay
Director, Office of Electric
Power Regulation



PLAN LAND OWNERSHIP

SCALE 500 0 500 1000 FEET

- ① SE CORNER, SEC 2, T 13 S, R 24 E
N 2187755.61
E 6487442.30
- ② S 04°19'51" W, 2640.520'
- ③ E 1/4 CORNER, SEC 2, T 13 S, R 24 E
N 2184359.59
E 6487614.78
- ④ N 89°34'54" W, 2562.76'



CERTIFICATE

This drawing is part of the application for license made by the undersigned on this 11th day of January 1977.

KINGS RIVER CONSERVATION DISTRICT

By: *Hugh V. Johnson*
President of its Board of Directors

NOTE: THIS DRAWING SUPERSEDES THE FERC LICENSE APPLICATION K DRAWING AND REPRESENTS THE "AS-BUILT" CONDITION FOR PROJECT NO. 2741.

This map was accurately made under my direction and shows the location of the project in relation to United States Government land plots.

Off. J. Taylor
Civil Engineer No. 13114

NOTE: All coordinates shown on this map are referenced to North America Datum 1983, California State Plane, Zone IV, US foot.

KINGS RIVER CONSERVATION DISTRICT
KINGS RIVER HYDROELECTRIC PROJECT UNIT 1 - PINE FLAT POWER PLANT
EXHIBIT K-1
SITE PLAN