

78 FERC ¶ 61,109
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.

Southern California Edison) Project No. 1389-001
Company

ORDER ISSUING NEW LICENSE

(Issued February 4, 1997)

Southern California Edison Company (Edison) filed an application for a new license, pursuant to Sections 4(e) and 15 of the Federal Power Act (FPA), 1/ to continue to operate and maintain the 8.4-megawatt (MW) Rush Creek Project, located on Rush Creek in the Mono Lake Basin, about 14 miles upstream from Mono Lake, near the town of June Lake, in Mono and Inyo Counties, California. Most of the project occupies lands of the Inyo National Forest. 2/ Edison proposes no new capacity and no new construction.

The Commission issued the original license for the Rush Creek Project in 1939. 3/ That license expired in 1986. Since then Edison has operated the project pursuant to successive annual licenses authorizing Edison to continue project operations pending the disposition of its application for a new license. For the reasons discussed below, we will issue a new license to Edison.

I. BACKGROUND

Notice of the application was published. The California Department of Fish and Game (Cal. Fish and Game) filed a timely motion to intervene in opposition to Edison's application. Cal. Fish and Game recommended in its motion that Edison's application

1/16 U.S.C. §§ 797(e) and 808.

2/Inasmuch as Project No. 1389 is located in part on lands of the United States, Section 23(b)(1) of the FPA, 16 U.S.C. § 817(1), requires the project to be licensed.

3/Nineteenth Annual Report of the Federal Power Commission at p. 49.

be denied unless Edison agrees to conduct hydrological and biological baseline studies and make subsequent modifications to the design and operation of the project that include maintenance of set instream flows to minimize adverse project impacts to biological resources. Since the filing of its motion to intervene Cal. Fish and Game has filed, pursuant to Section 10(j)(1) of the FPA, recommendations for the protection and enhancement of fish and wildlife resources at the project, discussed below, which this license adopts in part.

An Environmental Assessment (EA) was issued on May 5, 1992. 4/ The EA contains background information, analysis of impacts, and the basis for the finding of no significant impact on the environment. The concerns raised in comments by intervenors, protesters, and other interested agencies and individuals were considered in preparing the EA. A Safety and Design Assessment was also prepared and is available in the Commission's public file associated with this project.

All comments received from interested agencies, entities, and individuals have been fully considered in determining whether, and under what conditions, to issue this license.

II. PROJECT DESCRIPTION

The existing project consists of the 50-foot-high Rush Meadows Dam, impounding the 185-acre Rush Meadows reservoir (Waugh Lake), the 80-foot-high Gem dam, impounding the 282-acre Gem Lake, the 30-foot-high Agnew dam, impounding the 40-acre Agnew Lake, a 4,584-foot-long flowline from Gem dam to the valvehouse, a 575-foot-long flowline from Agnew dam to the valvehouse, two 4,280-foot-long penstocks extending from the valve house near Agnew dam to a powerhouse with an installed capacity of 8.4 MW, a 150-foot-long transmission line, and appurtenant facilities. A more detailed description is contained

4/Incorporated by reference into the EA is the Commission's earlier October 5, 1990 cumulative environmental assessment (CEA), which examined the potential cumulative impacts of two other proposed Mono Lake Basin projects, the Legett Project No. 3272 and the Paoha Project No. 3259, in combination with three existing projects, the Lee Vining Project No. 1388, the Lundy Project No. 1390, and the Rush Creek Project. The Commission staff determined in the subsequent May 5, 1992 EA for the Rush Creek Project that there would be no significant cumulative impacts to the target resources of riparian vegetation, riparian-associated wildlife, resident trout, visual quality, and recreation in the Mono Lake Basin as a result of relicensing the Rush Creek Project. (See EA for Project No. 1389 at pp. 9-10.)

in ordering paragraph (B)(2).

During periods of low flow, water at the project has historically been used conservatively to ensure continuous downstream water supply throughout the year. All three project reservoirs have usually been drawn down before winter and refilled during the spring runoff. Gem Lake is the most important reservoir in terms of storage, with a usable capacity of 17,228 acre-feet. Waugh Lake and Agnew Lake provide net storage capacities of 5,277 acre-feet and 810 acre-feet, respectively.

III. APPLICANT'S PLANS AND CAPABILITIES

In accordance with Sections 10(a)(2)(C) and 15(a) of the FPA, 5/ we have evaluated Edison's record as a licensee for these areas: (1) consumption efficiency improvement program; (2) compliance history and ability to comply with the new license; (3) safe management, operation, and maintenance of the project; (4) ability to provide efficient and reliable electric service; (5) need for power; (6) transmission services; (7) cost effectiveness of plans; and (8) actions affecting the public.

1. Consumption Efficiency Improvement Program

Edison's efforts to conserve electricity include use of all of the energy generated by the projects in its system, encouraging its customers to conserve energy, and maintenance of extensive ongoing programs to reduce system peak demand.

Edison's ongoing plans and activities to promote and achieve conservation include promotion and implementation of state building and appliance standards, supply and demand-side management programs, public energy programs, and electric utility systems improvements. Edison's plans meet the statutory requirements of the California Energy Commission (CEC) and conform to the CEC's recommendations on conservation.

We conclude that Edison is making a satisfactory good faith effort to conserve electric energy.

2. Compliance History and Ability to Comply with the New License

We have reviewed Edison's license application in order to judge its ability to comply with the conditions of any license issued, and with applicable provisions of Part I of the FPA. We

5/16 U.S.C. §§ 803 and 808.

have also reviewed Edison's record of compliance with the Commission's requirements under its prior license.

Our review shows that Edison has made a satisfactory record of filing submissions in a timely manner and of generally complying with the terms of its existing license. Therefore, we conclude that Edison will be able to provide the resources and expertise necessary to carry out its plans and comply with all articles, terms, and conditions of the new license and other provisions of Part I of the FPA.

3. Safe Management, Operation, and Maintenance of the Project

Edison owns and operates the Lee Vining Project. The project dam and appurtenant facilities are subject to Part 12 of the Commission's regulations (18 C.F.R.) concerning project safety. We have reviewed Edison's management, operation, and maintenance of the project pursuant to the requirements of Part 12 and the associated Engineering Guidelines, including all applicable safety requirements such as warning signs and boat barriers, Emergency Action Plan, and Independent Consultant's Safety Inspection Report. We conclude that the project is being safely managed, operated, and maintained.

4. Ability to Provide Efficient and Reliable Electric Service

Edison coordinates operation of the Rush Creek Project with the Los Angeles Department of Water and Power and the Bishop Creek Water Users Association through development and distribution of monthly water release and operation plans. Edison distributes its monthly generation plans to its inter-company departments and informs agencies not involved in power generation of the water releases.

We conclude that Edison has demonstrated the ability to provide efficient and reliable electric service.

5. Need for Power

Edison's operation of the 8.4 MW Rush Creek Project under the requirements of this license will result in an estimated annual net energy production of 49 gigawatt-hours (GWh) of renewable energy.

The 1996 report of the Western Systems Coordinating Council indicated that electricity utilities in the California-Southern Nevada area plan to add over 2,500 MW of capacity over a 10-year planning period. In 1995 Edison had a peak system load of 17,548 MW and an average system energy requirement of 81,924 GWh. With an annual generation of 49 GWh, the 8.4 MW Rush Creek

Project helps to meet a small part of Edison's total generation requirements, and displaces some fossil-fueled generation.

We conclude that Edison will continue to need power for the short and long term, and that the Rush Creek Project can contribute to meeting that need.

6. Transmission Services

The project's primary transmission line consists of a 150-foot-long, 2.3-kV line extending from the Rush Creek powerhouse to an Edison substation.

Edison proposes no new power development at the project and contemplates the continued use of the project's low-cost energy on its system. Edison's electrical system is designed to function so that no significant operational or circuit loading impacts would occur if the project is out of service. The project's principal benefit to Edison is the project's proximity to the load it serves. Such proximity minimizes electrical losses and improves area system efficiency.

We conclude that the existing transmission system is adequate and that licensing the project to continue operations would have no significant effect on the existing or planned transmission system.

7. Cost-Effectiveness of Plans

Edison does not propose any modifications to the project. We conclude that the project, as presently constructed and as Edison proposes to operate it, fully develops and uses the hydropower potential of the site.

8. Actions Affecting the Public

The Rush Creek Project generates electricity which Edison uses to serve its power customers. The project also provides employment and opportunities for a limited amount of recreational fishing. Continued operation of the project will benefit the public.

IV. WATER QUALITY CERTIFICATION

Under Section 401(a)(1) of the Clean Water Act, 6/ the Commission may not issue a license for a hydroelectric project unless the state certifying agency has issued water quality certification for the project or has waived certification by

6/33 U.S.C. § 1341(a)(1).

failing to act on a request for certification within a reasonable time, not to exceed one year.

By letter dated November 4, 1981, Edison filed a request for water quality certification for the Rush Creek Project with the California Regional Water Quality Control Board. By letter dated December 13, 1992, the Water Quality Control Board indicated that water quality certification for the project had been waived.

V. PROJECT IMPACTS ON THREATENED OR ENDANGERED SPECIES

By letter dated September 26, 1996, the U.S. Fish and Wildlife Service provided the Commission with an updated list of threatened or endangered species that may occur in the project area. The updated list contained two species, the threatened bald eagle, which was discussed in the EA, and the peregrine falcon, which was not discussed in the EA.

As discussed in the EA, the project is expected to have no unavoidable adverse impacts to the bald eagle. ^{7/} Although peregrine falcons have never been observed in the Rush Creek area, the area does provide suitable habitat for the species. However, relicensing the Rush Creek Project will not affect any existing or future use of the project for peregrine falcon nesting. The only construction activity, gauge installation, will generate minor, short-term noise unlikely to disturb any falcons that may be nesting in the area. The project transmission line consists of a 150-foot-long, 2.3-kV line segment, extending from the Rush Creek powerhouse to an Edison substation. This short line does not pose an electrocution hazard to peregrine falcons or other raptors.

We conclude that relicensing the project will not affect the endangered peregrine falcon.

VI. SECTION 4(e) FINDINGS AND CONDITIONS

Section 4(e) of the FPA ^{8/} states the Commission may issue a license only after a finding that the license will not interfere or be inconsistent with the purpose for which the reservation was created or acquired. Section 3(2) of the FPA ^{9/} defines reservations as including national forests. There is no evidence or allegation in this proceeding to indicate that the relicensing of the Rush Creek Project will interfere with the

^{7/}See EA at pp. 25-26.

^{8/}16 U.S.C. § 797(e).

^{9/}16 U.S.C. § 796(2).

purposes of the Inyo National Forest. We therefore find that this license will not interfere or be inconsistent with the purposes for which the reservation was created.

FPA Section 4(e) also requires that Commission licenses for projects located within United States reservations must include all conditions that the Secretary of the department under whose supervision the reservation falls shall deem necessary for the adequate protection and utilization of such reservation.

Most of the Rush Creek Project is located within the Inyo National Forest, which is under the supervision of the U.S. Forest Service. Pursuant to Section 4(e), the Forest Service, by letter dated July 15, 1992, submitted terms and conditions, set forth in Appendix A of this order, to be included in any new license for the Rush Creek Project. On September 2, 1992, Edison filed with the Forest Service an appeal of the Forest Service's A Section 4(e) conditions. Forest Service action on the appeal is still pending. Ordering Paragraph (D) of this order therefore reserves the Commission's authority to amend the license as appropriate in light of the Forest Service's ultimate disposition of Edison's appeal.

The Forest Service's 4(e) conditions, as set forth in Appendix A of this order, require Edison to:

- (1) obtain a Forest Service special use authorization for use of National Forest lands and written approval for all final project design plans and project changes after initial construction, and consult with the Forest Service annually on measures needed to protect project area natural resources (Conditions 1, 2, 3, and 4);
- (2) provide minimum flow releases to protect project area fisheries and riparian resources (Condition 5);
- (3) install and continuously operate measurement devices to ensure compliance with the reservoir level requirements and minimum flow requirements of 4(e) Condition 5 (Condition 6);
- (4) implement a riparian and aquatic resource monitoring plan (Condition 7);
- (5) manage recreational and wilderness resources within in the project through (1) maintenance of reservoir water levels in relation to spillway elevations, (2) adherence to Cal. Fish and Game ramping rates, (3) prohibition of motorized uses within the Ansel Adams Wilderness area, (4) construction or financing of toilet facilities, and (5) shifting a portion of the project transmission line away from a project area

campground (Condition 8);

(6) implement a plan for oil and hazardous substance storage and spill prevention (Condition 9);

(7) implement an erosion control plan (Condition 10);

(8) implement a spoil disposal plan (Condition 11);

(9) implement a visual resources protection plan (Condition 12);

(10) implement a plan for the protection of sensitive, threatened, and endangered species (Condition 13); and

(11) implement a cultural resources management plan (Condition 14).

Forest Service Conditions 1 through 7 require, among other things, that Edison's plans and studies and functional design drawings be reviewed, accepted, and approved by the Forest Service. In Escondido Mutual Water Co. v. LaJolla Band of Mission Indians, 10/ the Supreme Court made it clear that the Commission has no authority to decide whether conditions imposed under Section 4(e) are either reasonable or lawful. The Commission must include the Section 4(e) conditions and defer to the Courts of Appeals to determine their validity. 11/ However, under the statutory mandate of the Federal Power Act the Commission cannot relinquish its responsibility to assess plans and designs. The Commission's final approval authority over plans and studies is therefore specifically retained in Articles 402, 403, and 406 of this license.

Condition 1 of the Forest Service's Section 4(e) conditions requires Edison to obtain a special use authorization before Edison may start any land-disturbing activities. The Forest Service submitted its Section 4(e) conditions before passage of

10/466 U.S. 765 (1984).

11/Id. at 777. The only exception to this rule is that the Commission need not include conditions that do not relate to the reservation on which project works are to be located or which relate to project works that are not located on a reservation. See id. at 780-81; Pacific Gas and Electric Company, Minnesota Power & Light Co., 75 FERC ¶ 61,477-48 (1996).

the Energy Policy Act of 1992, 12/ of which Section 2401 amended Section 501 of the Federal Land Policy and Management Act of 1976 (FLPMA) 13/ to add a new subsection which provides that:

- (d) With respect to any project or portion thereof that was licensed pursuant to, or granted an exemption from, part I of the Federal Power Act which is located on lands subject to a reservation under section 24 of the Federal Power Act and which did not receive a permit, right-of-way or other approval under this section prior to enactment of this subsection, no such permit, right-of-way, or other approval shall be required for continued operation, including continued operation pursuant to section 15 of the Federal Power Act, of such project unless the Commission determines that such project involves the use of any additional public lands or National Forest lands not subject to such reservation.

The Rush Creek Project has not previously received a permit, right-of-way, or other approval under Section 501 of FLPMA, and this relicensing proceeding does not involve the use of any additional public lands or National Forest lands. Therefore, we are barred by the Energy Policy Act from requiring Edison to obtain a special use authorization, and Condition 1 cannot be a part of this license. 14/

VII. RECOMMENDATIONS OF FEDERAL AND STATE FISH AND WILDLIFE AGENCIES AND THE SECTION 10(j) PROCESS

Section 10(j)(1) of the FPA 15/ requires the Commission, when issuing a license, to include conditions based upon recommendations of federal and state fish and wildlife agencies, submitted pursuant to the Fish and Wildlife Coordination Act, 16/ "to adequately and equitably protect, mitigate

damages to, and enhance, fish and wildlife (including related

12/Pub. L. No. 102-486, 106 Stat. 3096 (October 24, 1992). The Forest Service's letter, dated July 15, 1992, was filed on July 17, 1992.

13/43 U.S.C. § 1761.

14/See Henwood Associates, Inc., 63 FERC ¶ 61,227 (1993), and Pacific Gas and Electric Co., 69 FERC ¶ 61,070 (1994).

15/16 U.S.C. §803(j)(1).

16/16 U.S.C. § 661 et seq.

spawning grounds and habitat)" affected by the project.

If the Commission believes that any such recommendation may be inconsistent with the purposes and requirements of Part I of the FPA or other applicable law, Section 10(j)(2) requires the Commission and the agencies to attempt to resolve any such inconsistency giving due weight to the recommendations, expertise and statutory responsibilities of such agencies. If the Commission then does not adopt a recommendation, it must explain how the recommendation is inconsistent with applicable law and how the conditions selected by the Commission adequately and equitably protect, mitigate damages to, and enhance fish and wildlife.

A number of recommendations were filed by Cal. Fish and Game pursuant to Section 10(j). The new license issued herein contains conditions consistent with Cal. Fish and Game's recommendations that Edison: (1) maintain at all times between Waugh Lake and Gem Lake a continuous maintenance flow of at least 10 cfs or the natural inflow, whichever is less; (2) install and maintain stream gauges and annually provide the Forest Service with streamflow reading reports; and (3) raptor-proof transmission line structures to prevent bird losses. 17/

Cal. Fish and Game also recommended that Edison: (1) install and maintain fish screens or perform a site-specific study to determine the need for installation of fish screens at the Gem dam and Agnew dam intakes to protect stocked trout fingerlings from potential entrainment and install such screens if the study indicated that screens were needed; and (2) maintain the reservoir elevation at Waugh Lake during the winter at a level sufficient to establish a viable year-round recreational fish population. The Commission staff made a preliminary determination that these two recommendations were inconsistent with, or outside the scope of, Section 10(j).

Cal. Fish and Game, Edison and the Commission staff attempted to resolve the two inconsistencies at a February 4, 1994 meeting. As an alternative to its recommendation for installation of fish screens or a site-specific study, Cal. Fish and Game recommended at the meeting that Edison release a year-round minimum flow of three cfs below Agnew Dam to mitigate the effect of entrainment. Commission staff agreed to reconsider

17/With the exception of its recommendation for raptor-proofing transmission lines, Cal. Fish and Games recommendations are reflected in the Forest Service Section 4(e) Conditions 5 and 6 in Appendix A, which is a part of this license. The project's short 150-foot-long transmission line does not pose a hazard to the peregrine falcon and other raptors.

these recommendations.

Although the EA found that the benefit to the fish resources was not worth the cost of installing and maintaining fish screens, the conclusion in the EA was not based on a site-specific study. Upon further consideration, we believe that a study of entrainment impacts at the Rush Creek Project is needed.

However, specific mitigative measures such as fish screens or an alternative three cfs minimum flow are premature, and are currently unwarranted, until substantial evidence of entrainment impacts is obtained from the study. Article 405 of this license therefore requires Edison to perform an entrainment study and to file for Commission approval after completion of the study a proposed plan for mitigation of entrainment impacts at the project. The required plan need not limit mitigative measures to fish screens and minimum flow restrictions. The Commission under Article 405 reserves the right to require any changes in the plan that it may find to be necessary to protect fishery resources.

Maintenance of winter reservoir levels sufficient to establish a year-round fishery at Waugh Lake, however, would require construction of a cofferdam at Waugh Lake, which is located within an area designated by Congress in 1968 as the Ansel Adams Wilderness Area. Section 4(c) of the Wilderness Act, 16 U.S.C. § 1133(c), prohibits the creation of any structure or installation within a designated wilderness area. That recommendation, therefore, will not be adopted as it is inconsistent with applicable requirements of law.

VIII. COMPREHENSIVE PLANS

Section 10(a)(2)(A) of the FPA, 16 U.S.C. § 803(a)(2)(A), requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project. 18/ Under Section 10(a)(2)(A), federal and state agencies filed 32 plans addressing various resources in California. Of these, the Commission staff identified and reviewed five plans that are relevant to the Rush

Creek Project. 19/ The project does not conflict with any of

18/Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (1996).

19/The California Water Plan: Projected Use and Available Water Supplies to 2010, 1983, California Department of Water Resources; California Water, Looking to the Future, 1987, California Department of Water Resources; Recreation Needs in

these comprehensive plans.

IX. COMPREHENSIVE DEVELOPMENT

Sections 4(e) and 10(a)(1) of the FPA require the Commission, in acting on applications for a license, to give equal consideration to the power development purposes and to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of fish and wildlife, the protection of recreational opportunities, and the preservation of other aspects of environmental quality. Any license issued shall be such as in the Commission's judgement will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflect such consideration.

The EA analyzed the effects associated with issuance of a new license for the Rush Creek Project, and the EA recommends a variety of measures to protect and enhance the environmental resources, which, as discussed above, we adopt. We conclude that issuance of a new license for the Rush Creek Project will not constitute a major federal action significantly affecting the quality of the human environment.

In determining whether a proposed will be best adapted to a comprehensive plan for developing a waterway for beneficial public purposes, pursuant to Section 10(a)(1) of the FPA, the Commission considers a number of public interest factors, including the economic benefits of project power.

We have considered the proposed project, enhancement measures recommended by intervenors and by the Commission staff, and the alternative of continuing the project operations authorized in the original license. From our independent analysis of the environmental and economic effects of the alternatives, we have selected the applicant's proposed project, plus the staff's recommended additional measures, as the preferred alternative. We have selected this option because these measures will protect and enhance water quality and fishery resources while continuing to generate electricity from a renewable resource. The project's economic and environmental benefits outweigh its costs.

California, 1983, California Department of Parks and Recreation; Inyo National Forest Land Resource Management Plan, 1988, Forest Service, U.S. Department of Agriculture; and Inyo National Forest Environmental Impact Statement for the Land and Resource Management Plan, 1988, Forest Service, U.S. Department of Agriculture.

Under our approach to evaluating the economics of hydropower projects, as articulated in Mead Corp., 20/ we employ an analysis that uses current costs to compare the costs of the project and likely alternative power without regard to forecasts of potential future inflation, escalation, or deflation beyond the license issuance date. The basic purpose of our analysis is to provide a general estimate of the potential power benefits and the costs of a project, and reasonable alternatives to project power. The estimate helps to support an informed decision concerning what is in the public interest with respect to a proposed license.

In making these determinations, we considered the project with the applicant's mitigative proposals, with intervenor-recommended enhancement measures, and with the Commission's mitigative proposals. Based on current economic conditions, without future escalation or inflation, with the conditions we have adopted, the annual value to Edison of power from the project will be about \$1,443,000 annually (about 29.5 mills/kWh). We base our estimate of the project's energy benefits on cost information provided by Edison in August of 1996. The cost of replacing the project's dependable capacity is \$111 per kW-year. The annual cost of operating the project is about \$794,000 (16.5 mills/kWh). To determine whether the project is economically beneficial, we subtract the project cost from the current value of the project power. We find that the cost of power from the project will be about \$625,000 (13 mills/kWh) less than the current cost of alternative power. The project is therefore economically beneficial.

X. LICENSE TERM

Section 15 of the FPA 21/ specifies that any license issued shall be for a term that the Commission determines to be in the public interest, but not less than 30 years nor more than 50 years. The Commission's policy is to establish 30-year terms for projects with little or no redevelopment, new construction, new capacity, or environmental mitigative or enhancement measures; 40-year terms for projects with a moderate amount thereof; and 50-year terms for those projects with an extensive amount thereof. 22/ The environmental mitigation and enhancement costs of the new license for the Rush Creek Project warrant a term of 30 years, effective the first day of the month in which this license is issued.

20/72 FERC ¶ 61,027 (1995).

21/16 U.S.C. § 808(e)

22/See e.g. Mead Corp., supra.

XI. SUMMARY

Background information, analysis of impacts, support for related license articles, and the basis for our finding of no significant impact on the environment are contained in the EA.

The design of the project is consistent with the engineering safety standards governing dam safety. The project will be safe if operated and maintained in accordance with the requirements of this license. Analysis of related issues is provided in the Safety and Design Assessment, which is available in the Commission's public file for this project.

The Commission orders:

(A) This license is issued to Southern California Edison Company (licensee), for a period of 30 years, effective the first day of the month in which this order is issued, to operate and maintain the Rush Creek Project. This license is subject to the terms and conditions of the FPA, which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

(1) All lands, to the extent of the licensee's interests in those lands, enclosed by the project boundary shown by exhibits G-1 through G-14 (FERC Drawing numbers 1 through 14).

(2) Project works consisting of: (a) the 463-foot-long, 50-foot-high, concrete, constant radius, Rush Meadows arch dam, impounding the 185-acre Rush Meadows reservoir (Waugh Lake); (b) the 688-foot-long, 80-foot-high, concrete, multiple arch Gem dam, impounding the 282-acre Gem Lake; (c) the 278-foot-long, 30-foot-high, concrete, multiple arch Agnew dam, impounding 40-acre Agnew Lake; (d) a reinforced concrete intake structure at Gem dam, including trashracks and 48-inch-diameter steel pipe; (e) a reinforced concrete intake structure at Agnew dam, including trashrack and 30-inch-diameter steel pipe; (f) a valve house; (g) a 4,584-foot-long, 48-inch-diameter flowline from Gem dam to the valve house; (h) a 575-foot-long, 30-inch-diameter flowline from Agnew dam to the valve house; (i) two lap-welded, 4,280-foot-long penstocks varying from 28 to 30 inches in diameter from the valve house to the powerhouse; (j) a two-story, reinforced concrete powerhouse containing two turbine/generator units, one rated at 4.4 MW and one rated at 4 MW, for a total installed capacity of 8.4 MW; (k) a 150-foot-long, 2.3 kV transmission line; and (l) appurtenant facilities.

The project works generally described above are more specifically described in Exhibit A of the application, sections

A.1 through A.5, consisting of four typewritten pages, describing the project electrical and mechanical facilities of the project, and shown by the following exhibits:

<u>Drawing</u>	FERC No. <u>1389-</u>	<u>Showing</u>
F- 1	15	Rush Meadows Dam
F- 2	16	Gem and Agnew Dam
F- 3	17	Rush Creek Pipeline Details
F- 4	18	Rush Creek Powerhouse
F- 5	19	Rush Creek Powerhouse

(3) All of the structures, fixtures, equipment, or facilities used to operate or maintain the project and located within the project boundary, all portable property that may be employed in connection with the project and located within or outside the project boundary, and all riparian or other rights that are necessary or appropriate in the operation or maintenance of the project.

(C) Exhibits A, F, and G described above are approved and made part of the license.

(D) This license is subject to the conditions (except Condition 1) submitted by the U.S. Forest Service under Section 4(e) of the FPA, as those conditions are set forth in Appendix A to this order. The Commission reserves the right to amend this ordering paragraph and Appendix A to this order as appropriate in light of the Forest Service's ultimate disposition of the appeals of the Section 4(e) conditions, and to make whatever additional conforming changes in the license may be necessitated by any such amendment. For the reasons discussed above, Condition 1 is not incorporated into this license.

(E) This license is subject to the articles set forth in Form L-1 (October 1975), entitled "Terms and Conditions of License for Constructed Major Project Affecting Lands of the United States," and the following additional articles:

Article 201. The licensee shall pay the United States the following charges, effective the first day of the month in which this order is issued.

(a) For purposes of reimbursing the United States for the cost of administering Part I of the Federal Power Act, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from

time to time. The authorized installed capacity for that purpose is 8,400 kilowatts.

(b) Recompensing the United States for use, occupancy, and enjoyment of 1,129.38 acres of its lands, other than for transmission line right-of-way.

Article 202. Pursuant to Section 10(d) of the FPA , a specified reasonable rate of return upon the net investment in the project shall be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. The licensee shall set aside in a project amortization reserve account at the end of each fiscal year one half of the project surplus earnings, if any, in excess of the specified rate of return per annum on the net investment. To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year, the licensee shall deduct the amount of that deficiency from the amount of any surplus earnings subsequently accumulated, until absorbed. The licensee shall set aside one-half of the remaining surplus earnings, if any, cumulatively computed, in the project amortization reserve account. The licensee shall maintain the amounts established in the project amortization reserved account until further order of the Commission.

The specified reasonable rate of return used in computing amortization reserves shall be calculated annually based on current capital ratios developed from an average of 13 monthly balances of amounts properly includible in the licensee's long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rate for such ratios shall be the weighted average cost of long-term debt and preferred stock for the year, and the cost of common equity shall be the interest rate on 10-year government bonds (reported as the Treasury Department's 10 year constant maturity series) computed on the monthly average for the year in question plus four percentage points (400 basis points).

Article 203. Within 45 days of the issuance date of the license, the licensee shall file a complete original set and two complete duplicate sets of aperture cards of all the approved drawings, and a third, partial duplicate set of aperture cards showing only the Exhibit G drawings. The set of originals must be reproduced on silver or gelatin 3mm microfilm. The duplicate sets are copies of the originals made on diazo-type microfilm. All microfilm must be mounted on type D (3-1/4" x 7-3/8") aperture cards. The licensee shall submit two copies of Form FERC-587 with aperture cards.

Prior to microfilming, the FERC Drawing Number shall be shown in the margin below the title block of the approved drawing. After mounting, the FERC Drawing Number must be typed

on the upper right corner of each aperture card. Additionally, the Project Number, FERC Exhibit (e.g., F-1, G-1, etc.), Drawing Title, and date of issuance of this license must be typed on the upper left corner of each aperture card.

The complete original set and one complete duplicated set of aperture cards, and one copy of the Form FERC-587, must be filed with the Secretary of the Commission, ATTN: Division of Licensing and Compliance/ERB. The second complete set of aperture cards shall be filed with the Commission's San Francisco Regional Office. The third partial duplicate set of aperture cards (Exhibit G only) and the remaining copy of Form FERC-587 shall be filed with the Bureau of Land Management Office at the following address:

State Director
California State Office
Bureau of Land Management
Branch of Adjudication and Records (CA-943.5)
attn: FERC Withdrawal Recordation
2135 Butano Drive
Sacramento, CA 95825-0451

Article 401. The flows required by Condition 5 in Appendix A of this order, and the lake levels and ramping rates required by Condition 8 in Appendix A of this order, may be temporarily modified if required by operating emergencies beyond the control of the licensee, or for short periods upon agreement among the licensee, the California Department of Fish and Game, and the U.S. Forest Service.

Article 402. The licensee shall file, at least 60 days prior to the start of any land-disturbing or land-clearing activities, the erosion control plan required by Condition 10 in Appendix A of this order. The plan shall be based on actual site geological, soil, and groundwater conditions and on project design, and shall include, at a minimum, the following:

- (a) a description of the actual site conditions;
- (b) measures proposed to control erosion and to minimize the quantity of sediment resulting from land disturbance;
- (c) detailed descriptions, functional design drawings, and specific topographic locations of all control measures;
- (d) a specific implementation schedule and details for monitoring and maintenance programs for the land disturbance; and
- (e) documentation of Forest Service approval of the plan.

The Commission may require changes to the plan to ensure

adequate protection of the environmental, scenic, and cultural values of the project area.

Article 403. Within one year from the date of issuance of this license, the licensee shall file for Commission approval the plan for implementation of the cultural resources management plan, and the data recovery plan to mitigate the adverse impacts of shoreline erosion on cultural sites required by Condition 14 in Appendix A to this order. The Commission reserves the right to require changes in the plan necessary to protect the cultural values of the project area.

Article 404. If archeological or historic sites are discovered during project operation, the licensee shall: (1) consult with the Forest Service and the California State Historic Preservation Officer (SHPO); (2) prepare a cultural resources management plan and a schedule to evaluate the significance of the sites and to avoid or mitigate any impacts to any sites found eligible for inclusion in the National Register of Historic Places; (3) base the plan on the recommendations of the Forest Service and the SHPO, and the Secretary of the Interior's Guidelines for Archeology and Historic Preservation; (4) file the plan for Commission approval, together with the written comments of the Forest Service and SHPO on the plan; and (5) take the necessary steps to protect the discovered sites from further impact until notified by the Commission that all of these requirements have been satisfied.

The Commission may require a cultural resources survey and changes to the cultural resources management plan based on the filings. The licensee shall not implement a cultural resources management plan or begin any land-clearing or land-disturbing activities in the vicinity of any discovered sites until informed by the Commission that the requirements of this article have been fulfilled.

Article 405. Within six months of the date of issuance of this license, the licensee shall file with the Commission for approval, a plan to evaluate the entrainment of stocked trout at the project's intake to determine if screens are needed to protect the trout resource.

The study plan shall include a schedule for:

- (1) conducting the study;
- (2) consultation with the appropriate federal and state agencies concerning the results of the study; and
- (3) filing the study results, agency comments, and the licensee's response to agency comments with the Commission.

The licensee shall prepare the study plan after consultation with the California fish and Game Department and the U.S. Forest Service. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the plan after it has been prepared and provided to the agencies, and specific descriptions of how the plan accommodates the agencies comments. The licensee shall allow a minimum of thirty days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the proposed study plan. The study plan to evaluate trout entrainment at the project shall not be implemented until the Commission notifies the licensee that the plan is approved. Upon Commission approval the licensee shall implement the proposal, including any changes required by the Commission.

If the entrainment study indicates that significant entrainment of trout is occurring at the project, the licensee shall file with the Commission, for approval, plans and a schedule for the installation of fish protection screens to reduce the entrainment of trout at the project, or an alternative mitigation proposal.

The licensee shall prepare the fish protection plan or alternative mitigation proposal after consultation with the California Fish and Game Department and the U.S. Forest Service. The filing shall include, but not be limited to:

- (a) detailed design drawings of the licensee's proposed fish protection measure;
- (b) documentation of consultation with the California Fish and Game Department and U.S. Forest Service.
- (c) specific descriptions of how agency comments and recommendations were incorporated into the plan;
- (d) agency comments and recommendations on the plan after the plan has been prepared and re-submitted for their review; and
- (e) a schedule for installing the licensee's proposed fish protection measure or implementing any alternative mitigation proposal.

The licensee shall allow a minimum of thirty days for the agencies to comment and make recommendations during consultation periods and before filing the plan with the Commission. If the

licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the proposed plan. Construction of any protection measure or implementation of any alternative mitigation proposal shall not begin until the licensee is notified by the Commission that the filing is approved. Upon Commission approval, the licensee shall implement the proposal, including any changes required by the Commission.

Article 406. Within one year of the date of issuance of this license, the plans for relocating a segment of the transmission line away from the Oh! Ridge Campground, as required by Condition 8 in Appendix A to this order, shall be filed with the Commission for approval. The Commission reserves the right to require changes to the plan. The transmission line relocation shall not occur until the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 407. (a) In accordance with the provisions of this Article, the licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensee shall also have continuing responsibility to supervise and control the use and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this Article. If a permitted use and occupancy violates any condition of this Article or any other condition imposed by the licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this Article is violated, the licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The type of use and occupancy of project lands and water for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 watercraft at a

time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancement. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline. To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The licensee may convey easements or rights-of-way across, or leases of, project lands for: (1) replacement, expansion, realignment, or maintenance of bridges or roads where all necessary state and federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kV or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir. No later than January 31 of each year, the licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed. If no conveyance was made during the prior calendar year, the licensee shall so inform the Commission and the Regional Director in writing no later than January 31 of each year.

(d) The licensee may convey fee title to, easements or

rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 60 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Hydropower Licensing, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked exhibit G or K map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

(e) The following additional conditions apply to any intended conveyance under paragraph (c) or (d) of this Article:

(1) Before conveying the interest, the licensee shall consult with federal and state fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved exhibit R or approved report on recreational resources of an exhibit E; or, if the project does not have an approved exhibit R or approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include the following

covenants running with the land: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use;

(ii) the grantee shall take all reasonable precautions to insure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project; and (iii) the grantee shall not unduly restrict public access to project waters.

(4) The Commission reserves the right to require the licensee to take reasonable remedial action to correct any violation of the terms and conditions of this Article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

(f) The conveyance of an interest in project lands under this Article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this Article only upon approval of revised exhibit G or K drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this Article will be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this Article from the project shall be consolidated for consideration when revised exhibit G or K drawings would be filed for approval for other purposes.

(g) The authority granted to the licensee under this Article shall not apply to any part of the public lands and reservations of the United States included within the project boundary.

Article 501. If the licensee's project was directly benefitted by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement during the term of the original license (including extensions of that term by annual licenses), and if those headwater benefits were not previously assessed and reimbursed to the owner of the headwater improvement, the licensee shall reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed, in the same manner as for benefits received during the term of this new license.

(F) The licensee shall serve copies of any Commission filing required by this order on any entity specified in this order to be consulted on matters related to that filing. Proof

of service on these entities must accompany the filing with the Commission.

(G) This order is final unless a request for rehearing is filed within 30 days of the date of issuance of this order, pursuant to Section 313 of the FPA. Requests for rehearing may be filed within 30 days of the date of this order, pursuant to 18 C.F.R. § 385.813. The filing of a request for rehearing does not operate as a stay of the effective date of this order or of any other date specified in this order, except as specifically ordered by the Commission. The licensee's failure to file a request for rehearing shall constitute acceptance of this license.

By the Commission.

(S E A L)

Lois D. Cashell,
Secretary.

APPENDIX A

FOREST SERVICE SECTION 4(E) CONDITIONS

Condition No. 1 - Requirement to Obtain a Forest Service Special-Use Authorization

Within 6 months following the date of issuance of this license and before starting any activities the U.S. Forest Service (FS) determines to be of a land-disturbing nature, the Licensee shall obtain from the FS a special-use authorization for the occupancy and use of (National Forest System) NFS lands, and that authorization shall be filed with the Director, Office of Hydropower Licensing.

The Licensee may commence land-disturbing activities authorized by the license and special-use authorization 60 days following the filing date of such authorization, unless the Director, Office of Hydropower Licensing, prescribes a different commencement schedule.

Notwithstanding the authorizations granted under the Federal Power Act, NFS lands within the project boundaries shall be managed by the FS under the laws, rules, and regulations applicable to the NFS. The terms and conditions of the FS special-use authorization are enforceable by the FS under the laws, rules, and regulations applicable to the NFS. The violation of such terms and conditions also shall be subject to applicable sanctions and enforcement procedures of the Commission at the request of the FS. In the event there is a conflict between any provisions of the license and FS special-use authorization, the special-use authorization shall prevail on matters which the FS deems to affect NFS resources.

Condition No. 2 - Forest Service Approval of Final Design

Before any construction of the project occurs on NFS land, the Licensee shall obtain the prior written approval of the FS for all final design plans for project components which the FS deems as affecting or potentially affecting NFS resources. The Licensee shall follow the schedules and procedures for design review and approval specified in the FS special-use authorization. As part of such prior written approval, the FS may require adjustments in final plans and facility locations to preclude or mitigate impacts and to assure that the project is compatible with on-the-ground conditions. Should such necessary adjustments be deemed by the FS, the Commission, or the Licensee to be a substantial change, the licensee shall follow the procedures of Article 2 of the license. Any changes to the license made for any reason pursuant to Article 2 or Article 3 shall be made subject to any new terms and conditions of the Secretary of Agriculture made pursuant to section 4(e) of the Federal Power Act.

Condition No. 3 - Approval of Changes After Initial Construction

Notwithstanding any license authorization to make changes to the project, the licensee shall get written approval from the FS prior to making any changes in the location of any constructed project features or facilities, or in the uses of project lands and waters, or any departure from the requirements of any approved exhibits filed with the Commission. Following receipt of such approval from the FS, and at least 60 days prior to initiating any such changes or departure, the Licensee shall file a report with the Commission describing the changes, the reasons for the changes, and showing the approval of the FS for such changes. The licensee shall file an exact copy of this report

with the FS at the same time it is filed with the Commission. This article does not relieve the Licensee from the amendment or other requirements of Article 2 or Article 3 of this License.

Condition No. 4 - Consultation

Each year during the 60 days preceding the anniversary date of the license, the Licensee shall consult with the FS with regard to measures needed to ensure protection and development of the natural resource values of the project area. Within 60 days following such consultation, the Licensee shall file with the Commission evidence of the consultation with any recommendations made by the FS. The Commission reserves the right, after notice and opportunity for hearing, to require changes in the project and its operation that may be necessary to accomplish natural resource protection.

Condition No. 5 - Minimum Streamflow Requirements

During the operation of the facilities authorized by this license, the Licensee shall maintain each year between Waugh and Gem Lakes, a continuous, minimum flow of 10 cubic feet per second (cfs) or the natural flow into Waugh Lake, whichever is less. Said flow shall be measured immediately below Waugh Dam (aka "Rush Meadows Dam"). The Licensee shall also maintain each year in those reaches of Rush Creek between Gem Lake and Agnew Lake, and immediately below Agnew Lake Dam, a continuous minimum flow of 1 cfs, or natural flows when the level of either Gem or Agnew Lake falls below the level of the face of each respective dam.

The Licensee may temporarily modify minimum flows if required by operating emergencies beyond the control of the Licensee. The Licensee may also modify minimum flows for short periods upon written consent of the FS.

The Licensee, FS, and the California Department of Fish and Game (FG) will meet no later than May 1st of each year to develop a summer operations and maintenance plan for the project facilities. The Licensee will accommodate FS and FG objectives to the extent that those objectives are within operational constraints of the project. This plan will address the subjects of construction and maintenance of powerhouses, powerlines, penstocks, flowlines, roads, dams, and all other facilities; and construction and maintenance work which is earth disturbing in nature and is beyond simple maintenance work. Additionally, water management of the reservoirs and spills, and projected streamflows will be addressed and be based upon the Mono Basin snow water forecast compiled annually by the State of California on April 1st.

Condition No. 6--Guaranteed Flow Device

The Licensee shall construct, operate, and maintain guaranteed streamflow devices as part of the release of the minimum instream flows identified in Condition No. 5. Required stream maintenance flows and lake levels listed in Conditions 5 and 8 herein shall be automatically released through or measured by these devices. Within 1 year following issuance of this license, the Licensee shall have installed and will have operational a continuously monitoring stream gauge device located in Rush Creek just below Waugh Lake Dam, reservoir level monitoring devices located in Waugh, Gem, and Agnew Lakes, and v-notch weirs to measure the minimum flow requirements below Gem Lake and Agnew Lake Dams. Prior to construction, FS approval must be obtained for the design, location, and means of installing the stream gauge and reservoir level monitoring devices. FS approval will be granted in accordance with all applicable Federal regulations and FS policy concerning the management of National Forest lands and Congressionally designated wilderness. Alternative consideration may be given to the installation of a guaranteed bypass flow device in the toe of Rush Meadows Dam should the installation of a continuously monitoring streamgauge device be determined to be inconsistent with wilderness management objectives. The Licensee shall file a report of the streamflow at the gauging station and the levels of Waugh, Gem, and Agnew Lakes by December 31st of each year for the preceding water year. The report will be filed with the Inyo National Forest.

Condition No. 7--Monitoring

A monitoring program will be conducted by the Licensee as follows:

- A. Monitoring will continue for the term of the license.
- B. The Licensee will ensure continuity between monitoring periods, subject to approval by the Forest Service. The Forest Service will approve transect locations and marking methodology prior to implementation. Deviations from approved methodologies must be approved by the Forest Service before their implementation.
- C. The Licensee and its contractor will meet with the Forest Service for a field review prior to and at the end of each field season. At the end of each monitoring field season, the Licensee, its contractor, and the FS will discuss monitoring reporting format for final approval by the FS. If determined necessary, a draft of the report will be provided by the Licensee to the FS for review by the end of December of that calendar year.
- D. By March 1 of the year following each monitoring season, the Licensee will provide the FS with a monitoring report that has

been prepared in accordance with the previously agreed-to format. Monitoring reports will include all data collected, photos, data analysis, a comparative analysis between current and past years' data, and detailed descriptions of methodologies used. Repeatability of measurements within transects and quadrants will be ensured by providing adequate information on all locations. The Licensee and the FS will then meet by March 31 for a post monitoring review.

E. Yearly riparian measurements will be taken after peak annual flows, at the time of peak vegetative production and prior to annual reservoir drawdowns to provide for comparable data throughout the term of the monitoring plan. Aquatic monitoring will be conducted concurrently.

F. Monitoring will be conducted at 3 sites on Rush Creek, between Rush Meadows (Waugh Lake) Dam and Gem Lake. The specific location of each site will be identified on the ground by the FS in consultation with the Licensee and its contractor. Endpoints of transects will be permanently marked with either angle iron or rebar and referenced to permanent bearing points outside the riparian zone. Flagging, transect lines, and other monitoring paraphernalia will be removed upon the completion of data collection at each site.

G. Riparian transects will extend beyond the fluvial surface to ensure that future increases in riparian vegetation are accounted for.

H. Photo documentation will be completed at the same time as the vegetation and aquatic monitoring.

I. As new methodologies and technologies become available, their usefulness and applicability to the monitoring will be evaluated. The Forest Service will have final approval regarding any changes in methodology.

ABIOTIC PARAMETERS TO BE MEASURED ONCE INITIALLY AND ONCE AT THE END OF THE TERM OF LICENSE

(In addition, cataclysmic events may necessitate re-evaluation of some or all of these parameters between monitoring years).

<u>Parameter</u>	<u>Units</u>	<u>Definition</u>
Physiographic valley type	N/A	Classification of types based on landform features
Reach types	N/A	Hydrological classification of stream reaches (e.g., gaining,

Elevation	Meters	losing, or in equilibrium) Altitude above sea level
Channel Gradient	Degrees	Slope of stream channel along length of stream
Valley Slope	Degrees	Slope of surfaces beyond the active channel edge and perpendicular to the stream
Soil profile description	N/A	Description of soil horizon characteristics including color, structure, texture, degree of alkalinity or acidity, rooting depths by species or life form. Descriptions will follow Soil Conservation Service (SCS) soil survey and profile description standards. Number of profiles will reflect soil variability within each site and fluvial surface.
Soil moisture retention capacity	gm/gm or %	Measure of moisture holding capacity of soil determined by gravimetric method or available water holding (field AWC) following SCS standards.

ABIOTIC PARAMETERS TO BE MEASURED IN 1993, 1994, 1995, AND THEN
ONCE EVERY FIVE YEARS THEREAFTER, (i.e., 2003, 2011, 2019, etc.)

Yearly measurements are to be taken after peak flows, during the peak of vegetative production, and prior to annual reservoir drawdown of the year in which monitoring is conducted.

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>	<u>Method or Source of Data</u>
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Streamflow	cfs	Daily	License gauging stations
Streamflow	cfs	Weekly during growing season at each site	Current meter or gauge calibrated to gauging stations.
Riparian zone width	Meters	Yearly	Direct measure with tape. Show x-section profile in data summary.
Channel width bankfull to bankfull	Meters	Yearly	Direct measure on transects
Channel depth bankfull to bankfull	Meters	Yearly	Direct measure along transects (note current water level height)
Soil moisture	Ohms	Yearly	Fiberglass blocks. Number of blocks per transect to be determined according to soil variability.

* For the following climatic parameters, information from the nearest location where weather data is collected, will be provided.

Temperature	Degrees	Daily	License
Precipitation	Millimeters	Daily	License
Relative humidity	Percent	Daily	CA Dept of Water Resources, or nearest source
Wind speed	Meters/second	Daily	CA Dept of Water Resources, or nearest source

VEGETATIVE PARAMETERS TO BE MEASURED IN 1993, 1994, 1995, AND THEN EVERY FIVE YEARS THEREAFTER, (i.e., 2003, 2011, etc.)

Yearly measurements are to be taken after peak flows, during the peak of vegetative production, and prior to annual reservoir drawdowns during the year in which monitoring is conducted.

All vegetative parameters will be identified by fluvial surface. All vegetative parameters will be measured using belt transects, each five meters in width, with the exception of seedling beds

and species composition, which will be determined for each entire site.

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>	<u>Method of Source of Data</u>
<u>Riparian Vegetative Zone Width</u>	Meters	Yearly	Direct measure with tape. S x-profile with corresponding fluvial surfaces in data summary.
<u>Absolute Cover (transects)</u>			
Tree/shrub cover	Percent	Yearly	Belt transect by species and by size/age classes.
Herbaceous cover	Percent	Yearly	Nested sq meter plot (min. 3 per transect).
Ground cover (rock, litter, bare ground, water, moss)	Percent	Yearly	Nested sq meter plot (min. per transect); use SCS stds for rock categories.
<u>Absolute Cover (site walkover)</u>	Percent	Yearly	Ocular estimate of absolute cover, by species, over entire plot
Frequency	Number	Yearly	Number of individuals recorded during cover estimate on belt transect and cover estimate over entire plot.
<u>Species Richness</u>	Number	Yearly	Display from plot and belt transect data.
<u>Relative Importance</u>	#/hectare	Yearly	Belt transects-count individuals by species and size/age classes.
Tree and shrub density			
Tree and shrub height	Meters	Yearly	Belt transect-direct measurement or estimation, by species and by size/age classes.
Relative cover	Percent	Yearly	Display from plot and belt transect data.
<u>Stand Age and Productivity</u>			
Tree diameter at breast height	Cm	Yearly	Measure along transect by species.

Tree growth	Cm/yr	Baseline	Increment bore taken only
Tree age	Years	Baseline and 10 yr interval	Increment bore will be taken only once per tree
Biomass			
Trees	Kg/hectare	Yearly	For species with height/dbh relationships
Shrubs	Kg/hectare	Yearly	Reference unit estimation method, by species.
Herbaceous	Kg/hectare	Yearly	Nested plots on transect reference unit estimation by species.
Shrub stem number	#/shrub	Yearly	Count stems on transect.
Tree stem number for multi-stemmed trees	#/tree	Yearly	Count stems on transect.
<u>Mortality</u> Trees & Shrubs	% of total by species on transect	Yearly	Ocular estimate, brief description of cause, include collection of damaged leaves & insects for verification.
Snags	Number/ac	Yearly	Count by species and size class over whole site.
<u>Recruitment</u> Seedling beds	Number, spp	Monthly	Entire site, in channel; record substrate and location.
Seedlings	Number, spp	Yearly	Presence or absence on transects by fluvial surfaces.
Tree & shrub juveniles			
Shoot age	Years/meters	Yearly	Bud scar count and height by species.
Shoot origin	Sexual or veg./meters	Yearly	Ocular observation and height by species.

<u>Shading</u> Canopy Closure	Percent	Yearly	% of ground area shaded by all woody veg. using a ceptometer or sphere densiometer.
Stream Shading	Percent	Yearly	Ceptometer reading mid-stream, channel pt on transect.
<u>Photo documentation</u> Photo points	35 mm (black and white prints)	Yearly	Minimum 4/transect: upstream, downstream, endpoints
Aerial photos	1":500'	Yearly	False color infrared.
Off-site Photo Points	35 mm (black and white prints)	Yearly	Minimum of 4/location (upstream, downstream, and endpoints) at 5 locations to be identified between Waugh Lake and Rush Creek Powerhouse (other than the 3 aquatic/riparian monitoring sites)

AQUATIC PARAMETERS TO BE MEASURED IN 1993, 1994, 1995, AND THEN ONCE EVERY FIVE YEARS THEREAFTER (I.E., 2003,2011, ETC.)

Yearly measurements will be taken after peak flows, during the peak of vegetative production, and prior to annual reservoirs drawdowns during the year in which monitoring is conducted.

All parameters will be measured along the same transects used for riparian monitoring. Unless otherwise indicated, parameters are measured at 15 evenly spaced sampling points across each transect.

<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>	<u>Method of Source of Data</u>
<u>Height of Bankfull</u>	cm	Yearly	vertical distance from water level to bankfull

<u>Wetted Perimeter width</u>	cm	" "	distance across wetted perimeter of channel
<u>Water Depth</u>	cm	" "	at each sampling point along transects
<u>Water Velocities</u>	ft/sec	Yearly	at each sampling point along transects
<u>Discharge</u>	cu ft/sec	" "	calculate from water depth and velocity
<u>Channel Substrate</u>	cm	" "	actual particle size for each sampling point along line transect.
Size Composition	percent	" "	a) ocular estimate of particle size distribution along wetted width of veg. Belt transects b) calculated from above point sampling estimates and grouped as follows: boulder > 30 cm cobble 8-30cm gravel 0.5cm-8cm sand 0.1-0.5cm fines < 0.1cm
Embeddedness	percent	" "	% percent particles embedded in fine/sand substrates at each sampling point along transects.
Consolidation	rating	" "	After Pfankuch (1978) for each transect.
<u>Streambank angle</u>	degrees	" "	Measured from water surface.
<u>Streambank overhang</u>	cm	" "	Horizontal extension of bank out over water.
<u>Stream Canopy</u>	%	" "	Using densiometer or
<u>Submerge Debris</u>	cm	" "	Horizontal coverage of substrate by submerged organic debris.

<u>Aquatic Vegetation</u>	cm	" "	Horizontal coverage of transect by aquatic vegetation.
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Immediately following the second eight-year monitoring interval, (i.e., following the year 2011), the licensee shall prepare, using the data collected as required above, an analysis of the effects of the flow requirements (identified in Condition No. 5) on aquatic and riparian dependent resources. Based upon that analysis, the licensee shall recommend any changes in flow necessary to meet Forest Service management goals and objectives for aquatic/riparian dependent resources, as identified in the Inyo National Forest Land and Resource Management Plan. The licensee shall provide the FS, FG, and the U.S. Fish and Wildlife Service an opportunity to comment on their analysis and recommendations, and shall submit all such documentation to the Commission by no later than 6 months following the close of the second five-year monitoring interval. The above procedure will be repeated after each subsequent five-year monitoring interval. In addition, the Forest Service reserves the right to petition the Commission to amend the flows cited in Condition No. 5 if determined necessary to meet the above referenced management goals and objectives.

Condition No. 8 - Recreation and Wilderness Management

The Licensee shall maintain the water levels in Waugh and Gem Lakes within 2 feet of the spillway elevations from July 1st to the Tuesday following Labor Day weekend. On low water years (defined as < 75% of the April 1st snow water equivalent for the Mono Basin), the water level of Waugh Lake will be maintained to within 3 feet of the spillway elevation and the level of Gem Lake within 6 feet of the spillway elevation during the season specified above. The water level of Agnew Lake will be maintained within 15 feet of the spillway elevation in all water years during the season specified above.

The Licensee will adhere to the California Department of Fish and Game standards for the ramping of flows during its annual drawdown of the Waugh Lake, Gem Lake, and Agnew Lake reservoirs. This includes a standard which provides for no more than a 25% change in flow over any given 8 hour period.

All motorized uses within those portions of the license boundaries located within the boundary of the Ansel Adams Wilderness will be discontinued. FS authorization must be obtained for use of any motorized equipment within the Ansel Adams Wilderness. The FS will consider the need for such a use on a case-by-case basis, and will authorize such use only if the

activity is determined to be essential for the operation of the project and cannot be feasibly accomplished by nonmotorized means because of such factors as unavoidable time or season limitations, safety factors, or other restrictions.

Within 1 year following issuance of this License, the Licensee shall provide to the FS for approval, plans for the construction of three new toilet facilities at the Oh! Ridge Campground, and the relocation of a segment of the 115 kV transmission line away from developed recreation facilities at the Oh! Ridge Campground. Such plans will include a schedule for the completion of these projects, and detailed maps of the design and proposed location/relocation of these facilities. In lieu of designing and constructing the 3 new toilet facilities, the Licensee may choose to satisfy that portion of this condition by depositing with the FS a sum of money equal to either the FS costs to complete the construction of said toilet facilities or \$180,000, whichever is less.

Condition No. 9 - Hazardous Substances Plan

Within 1 year following the date of issuance of this license and at least 60 days before starting any activities the FS determines to be of a land-disturbing nature on National Forest System land, the Licensee shall file with the Director, Office of Hydropower Licensing, a plan approved by the Forest Service for oil and hazardous substances storage and spill prevention and cleanup.

At a minimum, the plan must require the Licensee to (1) maintain in the project area, a cache of spill cleanup equipment suitable to contain any spill from the project; (2) to periodically inform the Forest Service of the location of the spill cleanup equipment on National Forest System lands and of the location, type, and quantity of oil and hazardous substances stored in the project area; and (3) to inform the FS immediately of the nature, time, date, location, and action taken for any spill.

The Licensee shall not commence activities the FS determines to be affected by the plan until after 60 days following the filing date, unless the Director, Office of Hydropower Licensing, prescribes a different commencement schedule.

Condition No. 10 - Erosion Control Plan

Within 1 year following the date of issuance of this license and before starting any activities the FS determines to be of a land-disturbing nature on NFS land, the Licensee shall file with the Director, Office of Hydropower Licensing, a plan approved by the FS for the control of erosion, stream sedimentation, dust,

and soil mass movement.

The Licensee shall not commence activities the FS determines to be affected by the plan until after 60 days following the filing date, unless the Director, Office of Hydropower Licensing, prescribes a different commencement schedule.

Condition No. 11 - Spoil Disposal

Within 1 year following the date of issuance of this license and before starting any activities the Forest Service determines to be of a land-disturbing nature on National Forest System land, the Licensee shall file with the Director, Office of Hydropower Licensing, a plan approved by the Forest Service for the storage and/or disposal of excess construction/tunnel spoils and slide material. At a minimum, the plan must address contouring of any storage piles to conform to adjacent land forms and slopes, stabilization and rehabilitation of all spoil sites and borrow pits, and prevention of water contamination by leachate and runoff. The plan also must include an implementation schedule and maintenance program.

The Licensee shall not commence activities the Forest Service determines to be affected by the plan until after 60 days following the filing date, unless the Director, Office of Hydropower Licensing, prescribes a different commencement schedule.

Condition No. 12 - Visual Resource Protection

Before starting any activities the FS determines to be of a land-disturbing nature on NFS lands, the Licensee shall file with the Director, Office of Hydropower Licensing, a plan approved by the FS for the design and construction of project facilities in order to preserve or enhance its visual character. The plan must consider facility configurations and alignments, building materials, color, conservation of vegetation, landscaping, and screening. Project facilities of concern to this plan include, among other things, -clearings, diversion structures, penstocks, pipes, ditches, powerhouses, other buildings, transmission lines and corridors, and access roads.

Condition No. 13 - Protection of Sensitive and T&E Species

Within 1 year from the issuance of this license and before starting any activities the FS determines to be of a land-disturbing nature on NFS land, the Licensee shall file with the Director, Office of Hydropower Licensing, a detailed implementation plan approved by the FS for the mitigation of impacts to sensitive, threatened, and endangered plant and animal

species located within the area to be disturbed.

The Licensee shall not commence activities the FS determines to be affected by the plan until after 60 days following the filing date, unless the Director, Office of Hydropower Licensing, prescribes a different commencement schedule.

Condition No. 14 - Cultural Resources Management

Within 1 year following issuance of this license, the Licensee shall submit for Forest Service approval a multi-year plan to implement provisions of the "Management Plan for Historic and Archaeological Resources Associated with the Rush Creek Hydroelectric Project" (White, 1990) concerning the management of those resources within the project boundaries. This will include a plan to implement a multi-year data recovery program to mitigate the adverse impacts of reservoir shoreline erosion at 9 of the sites belonging to the Rush Meadow Archaeological District, as identified in the above-referenced Plan. These provisions will allow for compliance with Section 106 of the National Historic Preservation Act. The Licensee shall consult with the California State Historic Preservation Officer and the Inyo National Forest prior to the demolition, alteration, or remodeling of the contributing properties that would affect their significant characteristics. The Licensee shall implement the Plan in a manner satisfactory to the Forest Service and the California State Historic Preservation Office, and consistent with the Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation.