

43 FERC P 62191 (F.E.R.C.), 1988 WL 244562

1 Office Director **Orders

Floyd N. Bidwell

Project No. **3863**-001

Order Issuing License (Minor Project)

(Issued May 18, **1988**)

***63275** Fred E. Springer, Director, Office of Hydropower Licensing.

Floyd N. Bidwell has filed a license application under Part I of the Federal Power Act (Act) to construct, operate, and maintain the Lost Creek No. 1 Hydroelectric Project, located in Shasta County, California, on Lost Creek. The project would occupy lands of the United States within Lassen National Forest.

Notice of the application has been published. The motions to intervene that have been granted and the comments and protests filed by agencies and individuals have been fully considered in determining whether to issue this license, as discussed below.

In its motion to intervene, the Pit River Tribe of Indians expresses concern that project construction and operation could detract from the religious significance of cultural sites in the project area. To minimize the potential for such an impact, the applicant has entered into a Memorandum of Agreement with the Tribe, among others, as discussed in the Commission staff's attached Environmental Assessment (EA).

In their protest, the Mother-Lode Chapter Sierra Club and the Northern California Council of Fly Fishing Clubs request that the applicant be required to comply with terms and conditions recommended by the California Department of Fish and Game (DFG) to protect fish and wildlife, and that license issuance be delayed until a water rights permit has been issued. DFG's recommendation is discussed below. The Commission does not require license applicants to acquire rights necessary to construct and operate projects prior to taking final action on their applications. Alternatively, standard license article 5 directs licensees to acquire those rights within 5 years from license issuance.

Comprehensive Plans

Section 10(a)(2) of the Act requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans (where they exist) for improving, developing, or conserving a water way or waterways affected by the project. The Commission provided an interpretation of comprehensive plans under section 10(a)(2) ¹ that is revised by the **Order** Granting Rehearing, issued April 27, **1988**.² In granting rehearing, the Commission instructed the Director, Office of Hydropower Licensing, to request the state and federal agencies to file plans they believe meet the revised guidelines. Until the process is completed, the staff will review all available plans to ensure project consistency with the plans.

The staff reviewed four plans that address various aspects of waterway management in ***63276** relation to the proposed project.³ No conflicts were found.

Based on a review of agency and public comments filed in this proceeding, and on the staff's independent analysis, the Lost Creek No. 1 Hydroelectric Project is best adapted to a comprehensive plan for Lost Creek.

Recommendations of Federal and State Fish and Wildlife Agencies

Section (10)(j) of the Act, requires the Commission to include license conditions based upon recommendations of federal and state fish and wildlife agencies for the protection, mitigation, and enhancement of fish and wildlife. In the EA for the project, the staff addresses the concerns of the federal and state fish and wildlife agencies, except as indicated below, and makes recommendations consistent with those of the agencies.

**2 The California DFG has requested authority to approve all plans relating to fish passage facilities. Since the DFG's recommendation requests authority to approve plans and does not specify terms and conditions for the protection, mitigation, and enhancement of fish and wildlife, it is considered outside the scope of section 10(j) of the Act. There are various articles herein requiring the licensee to consult with the DFG and other agencies prior to making filings with the Commission. The views of the DFG will be given full consideration prior to any Commission action on any filing pursuant to this license affecting the DFG's interests.

Summary of Findings

An EA was issued for this project. Background information, analysis of impacts, support for related license articles, and the basis for a finding of no significant impact on the environment are contained in the EA attached to this **order**. Issuance of this license is not a major federal action significantly affecting the quality of the human environment.

The design of this project is consistent with the engineering standards governing dam safety. The project will be safe if constructed, operated, and maintained in accordance with the requirements of this license. Analysis of related issues is provided in the Safety and Design Assessment attached to this **order**.

The Director, Office of Hydropower Licensing, concludes that the project would not conflict with any planned or authorized development, and would be best adapted to comprehensive development of the waterway for beneficial public uses, as discussed in the attached Safety and Design Assessment.

The Director orders:

(A) This license is issued to Floyd N. Bidwell (licensee), for a period of 50 years, effective the first day of the month in which this **order** is issued, to construct, operate, and maintain the Lost Creek No. 1 Hydroelectric Project. 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) 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 Exhibit G-1, **FERC** Drawing No. **3863**-12, entitled *Project Location Map*.

(2) Project works consisting of: (a) a 6-foot-high, 26-foot-long grout-filled rock diversion weir with crest elevation at 4,075 feet m.s.l.; (b) a 48-foot-long, 20-foot-wide, and 15-foot-high buried concrete intake structure; (c) a 2,700-foot-long, 51-inch-diameter steel pen stock; (d) a powerhouse at elevation 3,847 feet containing a generating unit with a rated capacity of 1,100 kW; (e) a 60-foot-long tail race conduit; (f) a 2,000-foot-long, 12-kV transmission line connecting to the Lost Creek II transmission line; and (g) appurtenant facilities.

The project works generally described above are more specifically shown and described by those portions of Exhibits A and F recommended for approval in the attached Safety and Design Assessment.

****3** (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.

***63277** (C) The Exhibit G described above and those sections of Exhibits A and F recommended for approval in the attached Safety and Design Assessment are approved and made part of the license.

(D) The following sections of the Act are waived and excluded from the license for this minor project:

4(b), except the second sentence; 4(e), insofar as it relates to approval of plans by the Chief of Engineers and the Secretary of the Army; 6, insofar as it relates to public notice and to the acceptance and expression in the license of terms and conditions of the Act that are waived here; 10(c), insofar as it relates to depreciation reserves; 10(d); 10(f); 14, except insofar as the power of condemnation is reserved; 15*; 16; 19; 20; and 22.

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*At the expiration of this license, any license application filed, including the licensee's, will be treated as an original license application. The municipal preference provisions of Section 7(a) of the Act will apply.

(E) This license is subject to the following articles submitted by the United States Department of Agriculture under section 4(e) of the Act:

Article 101. Within 6 months following the date of issuance of this license and before starting any activities the Forest Service determines to be of a land-disturbing nature, the Licensee shall obtain from the Forest Service a special-use authorization for the occupancy and use of National Forest System 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, National Forest System lands within the project boundaries shall be managed by the Forest Service under laws, rules, and regulations applicable to the National Forest System. The terms and conditions of the Forest Service special-use authorization are enforceable by the Forest Service under the laws, rules, and regulations applicable to the National Forest System. 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 Forest Service. In the event there is a conflict between any provisions of the license and Forest Service special-use authorization, the special-use authorization shall prevail on matters which the Forest Service deems to affect National Forest System resources.

****4** *Article 102.* Before any construction of the project occurs on National Forest System land, the Licensee shall obtain the prior written approval of the Forest Service for all final design plans for project components which the Forest Service deems as affecting or potentially affecting National Forest System resources. The Licensee shall follow the schedules and procedures for design review and approval specified in the Forest Service special-use authorization. As part of such prior written approval, the Forest Service 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 Forest Service, 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 and 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.

Article 103. Notwithstanding any license authorization to make changes to the project, the Licensee shall get written approval from the Forest Service 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 Forest Service, 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 Forest Service for such changes. The Licensee shall file an exact copy of this report with the Forest Service 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.

Article 104. Each year during the 60 days preceding the anniversary date of the license, the Licensee shall consult with the Forest Service 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 Forest Service. The Commission reserves the right, after notice and opportunity for hearing, to require changes in the project and ***63278** its operation that may be necessary to accomplish natural resource protection.

Article 105. During the construction and operation of the facilities authorized by this license, the Licensee shall maintain each year, below the point of diversion in Lost Creek, a continuous minimum flow of fifteen (15) cubic feet per second (cfs) or the natural flow, which ever is less, as measured below the point of proposed diversion.

****5** 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 Forest Service.

Article 106. The Licensee shall construct, operate, and maintain a guaranteed priority stream flow device as part of the diversion/intake structure. Required stream maintenance flows listed in Article 105 shall be automatically released through this device, before any flow can be diverted into the conduit. The Licensee shall install a water measurement control section with a continuously-recording streamgauge, downstream of the point of release of the bypass flow, that will accurately measure the bypass flow. The Licensee shall provide a stage discharge chart to the Forest Service prior to commencement of operation of the project. Forest Service approval must be obtained for the design of the bypass mechanism and the design and location of the measuring control section and streamgauge prior to construction. The Licensee shall file a report of the streamflow at the gaging station by December 31 of each year for the preceding water year. The report must be filed with the Lassen National Forest.

Article 107. 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 control of erosion, stream sedimentation, dust, and soil mass movement.

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.

Article 108. Within 1 year following the date of issuance of this license and at least 60 days 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 Hydro power 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 Forest Service immediately of the nature, time, date, location, and action taken for any spill.

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.

****6** *Article 109.* 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.

Article 110. 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 design and construction of the 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.

The Licensee shall not commence activities the Forest Service determines to be affected by the plan until after 60 days following the filing ***63279** date, unless the Director, Office of Hydropower Licensing, prescribes a different commencement schedule.

Article 111. The terms and conditions of the Memorandum of Agreement between Mega Renewables, the USDA Forest Service Pacific Southwest Region, the State Historic Preservation Office of California, and the Pit River Tribal Council concerning access to cultural sites within the project area is hereby incorporated into this license, shall be deemed a term and condition of the Secretary of Agriculture pursuant to section 4(e) of the Federal Power Act, and the Licensee shall abide by the terms of said agreement. Incorporation of the Memorandum of Agreement into the license shall not be construed to limit, replace, or otherwise diminish the authority of the Secretary of Agriculture, acting through the Forest Service, for making additional terms and conditions pursuant to said section 4(e). Notwithstanding any language in the Memorandum of Agreement to the contrary, should there be a conflict between any other provision of this license and said Memorandum of Agreement, the provisions of the Memorandum of Agreement shall prevail on matters which the Forest Service deems as affecting National Forest System resources.

****7** (F) This license is subject to the articles set forth in Form L-17 (October 1975) [reported at 54 FPC 1896], entitled "Terms and Conditions of License for Minor Project Affecting Lands of the United States", except Article 15. The license is also subject to the following additional articles:

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

- a. For the purpose of reimbursing the United States for the cost of administration of Part I of the 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 1,470 horsepower.
- b. For the purpose of recompensing the United States for the use, occupancy, and enjoyment of 75 acres of its lands, exclusive of the transmission line right-of-way, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time.

c. For the purpose of recompensing the United States for the use, occupancy, and enjoyment of 3 acres of its lands for transmission line right-of-way, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time.

Article 202. The licensee shall clear and keep clear to an adequate width all 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 result from maintenance, operation, 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. All clearing of lands and disposal of unnecessary material shall be done with due diligence to the satisfaction of the authorized representative of the Commission and in accordance with appropriate federal, state, and local statutes and regulations.

Article 203. Within 90 days from the date of this **order**, the licensee must file with the Commission's Secretary one original and one Diazo-type duplicate set of aperture cards, showing each approved exhibit drawing. The originals must be reproduced on silver or gelatin 35-mm microfilm and mounted on Type D (3 1/4"x 7 3/8") aperture cards. The licensee must also submit at the same time a set of Diazo-type duplicate aperture cards to the Commission's San Francisco Regional Office. The **FERC** drawing number must be shown in the margin below the title block of microfilmed drawings. The top line(s) of each aperture card shall show the appropriate **FERC** Exhibit, Drawing Number, Drawing Title, and the date of this **order**.

Article 301. The licensee shall commence construction of project works within 2 years from the issuance date of the license and shall complete construction of the project within 4 years from the issuance date of the license.

Article 302. The licensee, at least 60 days prior to start of construction, shall submit one copy to the Commission's Regional Director and two copies to the Director, Division of Dam Safety and Inspections, of the final contract drawings and specifications for pertinent features of the project, such as water retention structures, powerhouse, and water conveyance structures. The Director, Division of Dam Safety and Inspections, may require changes in the plans and specifications to assure a safe and adequate project.

****8 Article 303.** The licensee shall review and approve the design of contractor-designed cofferdams and deep excavations prior to the start of construction and shall ensure that construction of cofferdams and deep excavations is consistent with the approved design. At least 30 days prior to start of construction of the coffer dam, the licensee shall submit to the Commission's Regional Director and the Director, Division of Dam Safety and Inspections, one ***63280** copy each of the approved cofferdam construction drawings and specifications and the letter(s) of approval.

Article 304. The licensee shall within 90 days of completion of construction file, for approval by Commission, revised Exhibits A, F, and G to describe and show the project as built.

Article 401. The licensee, after consultation with the Forest Service, the U.S. Fish and Wildlife Service, the California Department of Conservation, the California Department of Fish and Game, and the Soil Conservation Service, and before commencing any project-related land-clearing, land-disturbing, or spoil-producing activities, shall file for Commission approval a plan to control erosion, dust, and slope stability and to minimize the quantity of sediment or other potential water pollutants resulting from project construction, spoil disposal, and project operation and maintenance. The Commission reserves the authority to require changes to the plan. No project-related land-clearing, land-disturbing, or spoil-producing activities shall begin until the licensee is notified that the plan complies with the requirements of this article. The plan shall be based on actual-site geological, soil, slope, and groundwater conditions and on the final project design, and shall include detailed descriptions of the actual-site conditions, detailed descriptions and functional design drawings of control measures, topographic map locations of all control measures, a specific implementation schedule, specific details of monitoring and maintenance programs for the project construction period and for project operation, and a schedule for periodic review of the plan and for making any necessary revisions to the plan. The licensee shall include in the filing documentation of consultation with the agencies before preparing

the plan, copies of agency comments or recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how all agency comments and recommendations are accommodated by the plan. The licensee shall allow a reasonable time frame, in no case less than 30 days, for agencies to comment and make recommendations prior to filing the plan. If the licensee disagrees with any agency recommendations, the licensee shall provide a discussion of the reasons for disagreeing, based on actual-site geological, soil, and groundwater conditions.

Article 402. The licensee shall consult with the California Department of Fish and Game (DFG) and the U.S. Fish and Wildlife Service (FWS) on the final design of the intake structure and fish screening, and within 6 months from the date of issuance of this license, shall file for Commission approval functional design drawings of the fish screening structure for the Lost Creek No. 1 Hydroelectric Project. The filing shall document consultation with the DFG and the FWS and shall include the agencies' comments on the drawings. The Commission reserves the right to require changes to the functional design drawings of the intake structure and fish screening. The licensee shall receive Commission approval of the design drawings before starting project construction, and shall install the fish screens before starting project operation.

****9** *Article 403.* The licensee, after consultation with the U.S. Fish and Wildlife Service, the California Department of Fish and Game, and the Forest Service, and within 1 year from the date of issuance of this license, shall file a transmission line design plan, prepared in accordance with the guidelines set forth in "Suggested Practices for Raptor Protection on Power Lines", Raptor Research Report No. 4, Raptor Research Foundation, Inc., 1981. The plan shall include detailed design drawings of the transmission line, clearly showing phase-spacing, configuration, and grounding practices, a construction schedule, and agency comments on the adequacy of the design plan. Unless the Director, Office of Hydropower Licensing, instructs otherwise, the licensee may commence construction 90 days after filing the plan.

Article 404. The licensee, before starting any land-clearing or ground-disturbing activities associated with the project, shall implement the cultural resources management plan to avoid and to minimize impacts to Rainbow Falls, Old Man Cave, and Double Springs cultural resource sites, as described in Enclosure V of the letter from the Forest Service (FS), filed with the Commission on December 10, 1987. The plan shall be implemented in a manner satisfactory to the California State Historic Preservation Officer (SHPO) and the FS. After construction of the project and 60 days before any commercial operation of the project, the licensee shall file for Commission approval copies of letters from the SHPO and the FS indicating that the cultural resources management plan has been implemented in a satisfactory manner. No commercial operation shall begin until the licensee is notified that this filing has been approved. The licensee shall make funds available in a reasonable amount for implementation of the plan. If the licensee, the SHPO, and the FS cannot agree on the amount of money to be spent for implementation of the plan, the Commission reserves the right to require the licensee to conduct the necessary work at the licensee's own expense.

Article 405. The licensee, before starting any land-clearing or land-disturbing activities ***63281** within the project boundaries, other than those specifically authorized in this license, shall consult with the California State Historic Preservation Officer (SHPO) and the Forest Service (FS), and shall file with the Commission a cultural resources management plan, prepared by a qualified cultural resource specialist. If the licensee discovers previously unidentified archeological or historic properties during the course of constructing or developing project works or other facilities at the project, the licensee shall stop all land-clearing and land-disturbing activities in the vicinity of the properties, shall consult with the SHPO and the FS, and shall file with the Commission a new cultural resources management plan, prepared by a qualified cultural resource specialist.

Either management plan shall include the following: (1) a description of each discovered property, indicating whether it is listed on or eligible to be listed on the *National Register of Historic Places*; (2) a description of the potential effect on each discovered property; (3) proposed measures for avoiding or mitigating effects; (4) documentation of the nature and extent of consultation; and (5) a schedule for mitigating effects and conducting additional studies. The Commission may require changes to the plan.

****10** The licensee shall not begin land-clearing or land-disturbing activities, other than those specifically authorized in this license, or resume such activities in the vicinity of a property discovered during construction, until informed that the requirements of this article have been fulfilled.

Article 406. (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, cancelling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The types of use and occupancy of project lands and waters 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; and (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline. 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.

****11** (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 and roads for which 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) tele phone, 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.

(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 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 the edge of the project reservoir at normal maximum 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 45 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.

****12** (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 covenants running with the land adequate to ensure that: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; and (ii) the grantee shall take all reasonable precautions to ensure 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.

(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.

(G) The licensee shall serve copies of any Commission filing required by this **order** on ***63283** 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.

(H) This **order** is issued under authority delegated to the Director and is final unless appealed under Rule 1902 to the Commission by any party within 30 days from the issuance date of this **order**. Filing an appeal does not stay the effective date of this **order** or any date specified in this **order**. The licensee's failure to appeal this **order** shall constitute acceptance of the license.

Environmental Assessments¹

****13** Federal Energy Regulatory Commission

Office of Hydropower Licensing, Division of Environmental Analysis

Date: February 19, 1987

Project Name: Lost Creek No. 1 Hydroelectric Project

FERC Project No. **3863**-001

A. Application

1. Application type: Minor License, Date filed: 9/3/82
2. Applicant: Floyd N. Bidwell
3. Water body: Lost Creek; River basin: Pit
4. Nearest city or town: Burney
5. County: Shasta; State: California

B. Purpose and Need for Action

1. Purpose.

The proposed project would provide an estimated average of 5,760 000 kilowatthours (kWh) of electrical energy per year to the Pacific Gas and Electric Company or other area utilities.

2. Need for power.

The power from the project would be useful in meeting a small portion of the need for power projected by the Western Systems Coordinating Council (WSCC) for the California- Southern Nevada area of the WSCC region. From the time the project goes on-line (commercial operation), it would be available to displace fossil-fueled electric power generation in the WSCC region, thus conserving nonrenewable fossil fuels and reducing the emission of noxious byproducts caused by the combustion of fossil fuels.

C. Proposed Project and Alternatives

1. Description of the proposed action.

The proposed project would consist of the following facilities: (1) a 6-foot-high, 26-foot-long concrete diversion structure; (2) a 48-foot-long, 20-foot-wide, and 15-foot-high buried intake structure; (3) a 2,700-foot-long, 51-inch-diameter steel penstock; (4) a powerhouse containing a single generating unit with a total installed capacity of 1,100 kilowatts (kW); (5) a 60-foot-long tailrace conduit; (6) a 2,000-foot-long 12-kilovolt (kV) transmission line; and (7) appurtenant facilities.

2. Applicant's proposed mitigative measures.

a. Construction.

The applicant proposes to minimize construction impacts by using the following measures: (1) wet down or cover the soil with protective materials to impede erosion; (2) use mulch or reseed to protect denuded slopes as soon as practical following active work; and (3) reseed all denuded slopes with plant species which are of value to wildlife.

b. Operation.

The applicant proposes to minimize operation impacts by using the following measures: (1) design and construct the transmission line to avoid or minimize electrocution of large rap tors; (2) operate the project in a run-of-river mode to protect the flow-dependent resources of the creek; (3) screen the intake structure to protect resident trout moving downstream through the project area; and (4) release a year-round continuous minimum flow of 15 cubic feet per second (cfs), or inflow to the project, whichever is less, to protect fishery resources immediately downstream of the dam.

3. Federal lands affected.

Yes; agency: Forest Service (FS); acreage = 75;

The federal land management agency has provided conditions by letter dated: 7/15/83 and 12/9/87 (attachment).

Remarks: The FS first provided comments in response to the application for license dated 9-3-82. It then provided comments in response to the amendment to application for license dated 2-19-87.

****14** 4. Alternatives to the proposed project.

a. No reasonable action alternatives have been found.

b. Alternative of no action.

No action, denial of a license, would preclude the applicant from constructing the proposed project. No action would involve no alterations to the existing environment and would preclude the applicant from producing electrical power at the site.

***63284** D. Consultation and Compliance

1. Fish and wildlife consultation (Fish & Wildlife Coordination Act).

a. U.S. Fish & Wildlife Service (FWS): Yes.

b. State(s): Yes.

c. National Marine Fisheries Service (NMFS): No.

2. Section 7 consultation (Endangered Species Act).

- a. Listed species: None.
- b. Consultation: Not required.

3. Section 401 certification (Clean Water Act).

Required; the applicant requested § 401 certification on 10/19/82.

Waived; section 401 certification is waived if not acted upon by the certifying agency within 1 year from the date of the certifying agency's receipt of the request (See Commission **Order** No. 464, issued February 11, 1987) [**FERC Statutes and Regulations** ¶30,730].

4. Cultural resource consultation (Historic Preservation Act).

- a. State Historic Preservation Officer (SHPO): Yes.
- b. National Park Service (NPS): Yes.
- c. *National Register* status: Eligible or listed.
- d. Council: Completed: 12/3/87.
- e. Further consultation: Not required.

Remarks: Three historic sites in the project vicinity are eligible (letter from Paul F. Barker, Regional Forester, Forest Service, Pacific Southwest Region, San Francisco, California, December 9, 1987).

5. Recreational consultation (Federal Power Act).

- a. U.S. Owners: Yes.
- b. NPS: Yes.
- c. State(s): No.

6. Wild and scenic rivers (Wild and Scenic Rivers Act).

Status: None.

7. LWCFA lands and facilities (Land and Water Conservation Fund Act).

Status: None.

E. Comments

- 1. The following agencies and entities provided comments on the application or filed a motion to intervene in response to the public notice dated 3/15/83.

Commenting agencies and other entities—Date of letter

The Resources Agency of California— 5/17/83

Department of the Interior—5/23/83

Forest Service—7/15/83

Sierra Club, Mother-Lode Chapter, and Northern California Council of Fly Fishing Clubs—5/12/83

California Department of Game and Fish— 2/25/87

Forest Service—12/9/87 Sierra Club, Mother-Lode Chapter, and Northern California Council of Fly Fishing Clubs—9/17/87

Motions to intervene—Date of motion

Pit River Tribe of Indians—5/19/83

2. The applicant responded to the comments or motion(s) to intervene by letter(s) dated 8/15/83, and 10/17/83.

F. Affected Environment

1. General description of the locale.

The proposed project is located within the Lassen National Forest on Lost Creek 15 miles southwest of Burney and 18 miles south of Fall River Mills in Shasta County in northern California.

2. Descriptions of the resources in the project impact area (Source: Lost Creek No. 1 Hydroelectric Project, filed 9/13/82, application, exhibit E, unless otherwise indicated).

a. *Geology and soils*: The proposed project would be located at the western edge of a large, uplifted fault block of lava flow bedrock. The western edge of the block is characterized by a prominent north-south trending cliff, with the fault that bounds the western edge of the block also extending north and south along the base of the cliff. The proposed project facilities would be constructed in a steep, rugged canyon cut by Lost Creek into the western edge of the fault block. The canyon walls consist of steep, blocky talus slopes. The canyon floor, including the diversion dam and intake sites, is also covered by large blocks of the talus rock. Most of the proposed penstock would follow a moderate to gently sloping blocky bench that lies along the base of the steeper talus. The materials in the bench are commonly large blocks with little or no interblock matrix. The lower section of the penstock would pass out of the mouth of the canyon and traverse the relatively flat canyon-mouth alluvial fan to the powerhouse. The fan deposits consist typically of boulders in a sand and gravel matrix (Source: Northern Geotechnical Incorporated, 1986).

****15** b. *Streamflow*: Lost Creek originates from lava tube springs rising from the floor of Lost Creek canyon. After flowing on the surface for 8 miles, the creek enters the porous lava deposits.

***63285** low flow: 33.5 cfs; flow parameter: average flow for dry years

high flow: 80.7 cfs; flow parameter: average flow for wet years

average flow: 57.2 cfs.

c. *Water quality*: The water in Lost Creek is of excellent quality, as would be expected in a high-gradient mountain stream. Water temperatures are very cold, consistently ranging from 40 to 45 degrees Fahrenheit.

d. *Fisheries*:

Anadromous: Absent.

Resident: Present.

e. *Vegetation*: (Source: Floyd N. Bidwell, 1987).

Cover type—Dominant species

Northern Sierra yellow pine forest—Over story-western juniper, Jeffrey pine, digger pine, California black oak; Understory-manzanita, antelope bitterbrush, mountain mahogany, squaw bush, poison oak, sagebrush, ceanothus

riparian—willow, white alder, black cotton wood, choke cherry, aspen, incense cedar, white fir

f. *Wildlife*: Game species present in the project area which are important for their recreational value are mule deer, black bear, western gray squirrel, mountain quail, and mourning dove. Common furbearers are coyote, raccoon, bobcat, long-tailed weasel, striped skunk, and gray fox. Other species are California ground squirrel, yellow pine chipmunk, red-tailed hawk, cooper's hawk, western rattlesnake, and western toad (Source: Floyd N. Bidwell, 1987).

g. *Cultural*:

There are properties listed, or eligible for listing, on the *National Register of Historic Places* in the area of the project's potential environmental impact.

Description: The three eligible sites are significant because of their religious significance to local residents of the Pit River Indian Tribe. The sites which are a waterfall, a cave, and a spring, are natural features of the environment. No other eligible or listed sites would be affected. A cultural resources survey has been completed for the project area (letter from Paul F. Barker, Regional Forester, Forest Service, Pacific Southwest Region, San Francisco, California, December 9, 1987).

h. *Visual quality*: The characteristic land scape of the proposed project is a Northern Sierra yellow pine forest mixed with open grazing lands. Lost Creek is a rough and tumbling stream falling through an escarpment of dark colored lava rocks and talus slopes. Rainbow Falls is immediately upstream of the proposed diversion and intake structure and is an attractive waterfall over lava rock formations.

i. *Recreation*: Recreation use of the proposed project area is limited to occasional hiking and a small amount of angling in Lost Creek.

j. *Land use*: The lands immediately adjacent to Lost Creek, throughout the proposed project's zone of influence, are chiefly used for limited recreational purposes. Recent land use of the more level terrain consists of open pasture for cattle grazing.

k. *Socioeconomics*: The total resident population of Shasta County increased as follows: 77,640 in 1970; 115,613 in 1980; and an estimated 133,100 as of July 1, 1986. The county's economy is based upon farming; lumbering and the manufacture of lumber, wood products, and paper; the production of household chemicals, boats, medical instruments, communication equipment,

and other products; outdoor recreation and tourism; and the provision of retail commodities, financial services, insurance, and personal services to residents of Lassen, Tehama, Trinity, Modoc, and Siskiyou Counties by business establishments in the Redding area (personal communication, Linda Kehm, Statistical Information Assistant, and Gerald Foyer, Statistician, Bureau of the Census, Suitland, Maryland, December 4, 1987).

G. Environmental Issues and Proposed Resolutions

****16** Mitigative measures recommended by the staff are in addition to those proposed by the applicant, section C(2), and any conditions identified in section C(3). There are 7 issues addressed below.

1. Erosion, sedimentation, and slope stability control: Removal of protective vegetation, excavation of unconsolidated deposits, disposal of spoil materials, and other land-clearing and land-disturbing activities during site access and project construction would cause increased erosion and sedimentation. The areas most susceptible to erosion would be the diversion weir- intake area and the tailrace area. Excavation of the unconsolidated deposits, particularly during access and burial of the penstock along the base of the steep canyon wall talus slopes, could cause localized slope instability.

The California Department of Fish and Game (DFG) is concerned that construction of the penstock along the base of the talus slope might constitute a safety hazard, resulting in a slide of the talus slope overlooking the conduit route (letter to the applicant from A.E. Naylor, Regional Manager, Region 1, California Department of Fish and Game, Redding, California, May 19, 1987). The DFG, by letter dated May 19, 1987, is also concerned that the project construction might open a fissure in the streambed and cause a potentially catastrophic loss of streamflow. The Resources Agency of California (RAC) recommends that the applicant utilize the California Department of Conservation's "Erosion and Sediment Control Handbook." The Forest Service (FS) comments that the new proposed penstock route on the north side of the canyon offers a bench-like area below the toe of the talus slopes, and that this "bench" area could act as a more stable working area with lower potential for erosion than would be found on the south side of the creek. The FS also comments that since the proposed penstock route has been relocated to the north side of the canyon, the need for an intense geotechnical survey of the project has been eliminated, but that the applicant still wants to determine the stability of localized areas along the penstock route prior to construction.

As noted by the FS, the applicant has already precluded the large bulk of the potential erosion, sediment, and slope stability impacts of the proposed project by having relocated the penstock route. The applicant proposes protective covering and revegetation of soils and denuded areas. In responding to a Commission staff request, the applicant reports that the affected project reach of the creek appears to be a flow-gaining reach with springs visible at several locations in the project area, that need for bedrock excavation is anticipated at the proposed intake site, and that any exposed bedrock cracks or holes encountered during excavation of materials overlying the bedrock would be grouted before construction of the intake box (Mega Renewables, 1987).

In **order** to mitigate the potential adverse effects that could result from moving large amounts of material when burying the penstock on steep unstable slopes, the FS' 4(e) conditions 7 and 9 would require the licensee to file FS-approved plans for the control of erosion, stream sedimentation, dust, and soil mass movement, and for the storage and disposal of excess spoil and slide material, including contouring, stabilizing, and rehabilitation of spoil and borrow sites.

****17** Careful planning and implementation of a final control plan, based on final project design and site-specific conditions and control needs, could minimize erosion, sedimentation, and slope stability impacts at the project. However, the applicant has not filed such a plan. Further, the FS' 4(e) condition-required plans would pertain only to FS lands, and would not necessarily take into account the concerns of the fish, wildlife, or other resource agencies. Therefore, to ensure that project-related erosion, sedimentation, and slope stability impacts would be kept to minimum levels, the licensee, after consulting with appropriate resource agencies and prior to commencing land-clearing and land-disturbing activities at the project, should file for Commission approval, a final erosion, sedimentation, and slope stability control plan based on the final project design and actual-site conditions.

2. *Continuous minimum flow*: Project operation would reduce the amount of water passing through the approximately 2,700-foot-long bypassed reach of Lost Creek. Although the quality of the habitat is fair and low water temperatures limit trout growth, Lost Creek supports a naturally reproducing rainbow trout population in the project area.

To protect trout in Lost Creek immediately downstream of the project diversion, the applicant proposes to release at the point of diversion a year-round, continuous minimum flow of 15 cfs, or inflow to the project, whichever is less. The 15 cfs minimum flow would provide sufficient flow through the bypassed reach to minimize the loss of pocket water and pool habitat necessary for juvenile rearing. Further, the FS' 4(e) condition 5 would require the licensee to maintain a continuous minimum flow of 15 cfs, or natural flow, whichever is less, below the point of diversion. Adherence to the FS' 4(e) condition would minimize the loss of trout habitat caused by reduced flows in the bypassed reach.

3. *Maintenance of minimum flow in the bypassed reach*: The applicant proposes to maintain a minimum flow release of 15 cfs. To protect aquatic resources in the bypassed reach of Lost Creek, the FS' 4(e) condition 6 would require the licensee to construct, operate, and maintain a guaranteed priority streamflow device as part of the diversion-intake structure, and to automatically release the required minimum flow before any flow is diverted into the conduit. The FS would also require the licensee to install a continuously recording streamgauge in the bypassed reach to measure the bypass flow. Adherence to the FS' 4(e) condition would ensure that the licensee is providing the required minimum flow release to the bypassed reach.

4. *Fish screening*: Rainbow trout moving downstream and entering the project intake would be subject to turbine-induced injury and mortality. To protect trout in Lost Creek, the applicant proposes to construct a fish screening system according to criteria outlined by the DFG. Juvenile trout may be entrained at the intake unless the licensee incorporates into the intake structure a screen with spacing sufficiently small to exclude the fish. Further, the approach velocity of the intake should be sufficiently low to allow the escape of the various *63287 life stages of trout. Such a fish screen would adequately protect trout in Lost Creek. Therefore, the licensee should consult with the DFG in developing the design of a fish screen and should file for Commission approval functional design drawings for a fish screening structure. The licensee should construct the approved screening structure before beginning operation.

**18 5. *Raptor electrocution*: The 2,000-foot-long, 12-kV transmission line has the potential to pose an electrocution hazard to large raptors if not properly designed and constructed. The applicant proposes to design and construct the project transmission line according to the 1981 guidelines and design recommendations of the Raptor Research Foundation, Inc. The design and construction of the project transmission line according to these guidelines and recommendations would provide for adequate protection of large raptors and should be required of the licensee.

6. *Avoiding impacts to the three historic sites identified as eligible for inclusion in the National Register of Historic Places*: The project facilities would avoid any physical encroachment on the three sites. However, the close proximity of the facilities to the sites, and the improved access to the area afforded by project access roads, would create the potential for adverse impacts to the sites. Potential impacts could take several forms. Physical alterations of the sites could occur through accidental use of the site areas by construction personnel, use of the areas for camping activities, and acts of vandalism. Visual impacts could also occur. The project facilities could be constructed in a manner which would detract from the natural setting of the sites. Further, improved accessibility would create the potential for increased numbers of people in the area thus detracting from the private settings of the sites. All such and similar kinds of changes would detract from the religious significance of the sites for members of the Pit River Indian Tribe.

To minimize the potential for impacts, the applicant has consulted and entered into a Memorandum of Agreement with the State Historic Preservation Officer (SHPO), the FS, The Pit River Tribal Council, and the Advisory Council on Historic Preservation to reduce accessibility to the project by the general public, to design project facilities so as to blend their appearance with the natural environment, to restrict the location of construction work and activities associated with project operation, and to have construction work monitored by members of the Pit River Tribal Council (letter from Paul F. Barker, Regional Forester, Forest

Service, Pacific Southwest Region, San Francisco, California, December 9, 1987). The staff concurs with the SHPO, the FS, the Pit River Tribal Council, and the Advisory Council that these mitigative measures should be implemented to protect the *National Register* eligible sites, and recommends that these measures be implemented as a condition of any license issued for the project.

7. *Potential impact of the project on National Register sites discovered during construction or operation of the project, or impacted as a result of a change in the location of project facilities:* The results of the survey conducted for the proposed project area, as well as the SHPO's and the FS' comments on the results of the survey and on the proposed project, are based on the premise that the project would be constructed as described in the application without significant changes. Changes to the project, especially changes in the proposed location and design of a project, are occasionally found to be necessary after a license has been issued, and may require a licensee to amend a license. Under these circumstances, whether or not an amendment of license is required, the survey results and the SHPO's and the FS' comments would no longer reliably depict the cultural resource impacts that would result from developing the project. Therefore, before beginning land-clearing or land-disturbing activities within the project boundaries, other than those specifically authorized in the license and previously commented on by the SHPO and the FS, the licensee should consult with the SHPO and the FS about the need to conduct an additional archeological or historical survey and to implement further avoidance or mitigative measures.

****19** Land-clearing and land-disturbing activities could adversely affect archeological and historic properties not identified in the cultural resources survey. Therefore, if the licensee encounters such sites or properties during the development of project works or related facilities, the licensee should cease land-clearing and land-disturbing activities in the vicinity of the sites or properties, should consult with the SHPO and the FS on the eligibility of the properties, and should carry out any necessary measures to avoid or to mitigate effects on the properties.

Before starting any land-clearing or land-disturbing activities associated with any changes to the project, both proposed and necessitated, and before resuming land-clearing and land-disturbing activities in the vicinity of the sites or properties discovered, the licensee should file a plan and a schedule for conducting the appropriate studies, along with a copy of the SHPO's and the FS' written comments concerning the plan and the schedule. The licensee should not start or resume land-clearing or ***63288** land-disturbing activities, other than those specifically authorized in the license and commented on by the SHPO and the FS, or resume such activities in the vicinity of an archeological or historic property discovered during construction, until informed by the Commission that the requirements discussed above have been fulfilled.

H. Environmental Impacts

1. Assessment of adverse and beneficial impacts expected from the project as proposed by the applicant (P) (section C(2)); the proposed project with the staff's recommended mitigation (Ps) (section G); and any other alternative considered (A) (section C(4)).*

a. Geology-Soils—P: 2AS; Ps: 1AS

Remarks: a. Planning and implementation of a final control plan based on final design and actual-site conditions would reduce the potential for erosion, sedimentation, and unstable slopes to minor levels.

b. Streamflow—P: 2AL

Remarks: b. Project operation would divert 74 percent of Lost Creek from the 2,700-foot-long bypassed reach.

c. Water quality: Temperature—P: 0; Dissolved oxygen—P: 0; Turbidity and sedimentation—P: 1AS

Remarks: c. Project construction would cause minor, short-term increases in turbidity and sedimentation in the creek.

d. Fisheries: Anadromous—P: 0; Resident— P: 1AL

Remarks: d. Project-induced flow reductions would result in a minor, long-term reduction in the quantity of habitat available in the bypassed reach.

e. Vegetation—P: 1AS

Remarks: e. Project development would require the removal or disturbance of about 4.5 acres of forest and less than 0.5 acres of riparian vegetation.

f. Wildlife—P: 1AS

Remarks: f. Wildlife would be disturbed during project construction. A permanent loss of about 2 acres of wildlife habitat would occur.

g. Cultural: Archeological—P: 0; Historical—P: 2AL; Ps: 1AL

h. Visual quality—P: 1AL

Remarks: h. Reduced flows in the bypassed reach would reduce visual quality for anglers and hikers. The transmission line would be a minor, long-term visual impact.

****20** i. Recreation—P: 0

Remarks: i. Construction of the project would require an access road to a marginally accessible area, which could increase recreational fishing opportunities.

j. Land use—P: 0

k. Socioeconomics—P: 1BL

Remarks: k. The earnings of construction personnel who are residents of Shasta County and the spending of all workers at retail and service establishments in Shasta County would represent a short-term economic benefit. The completed project would produce yearly local property taxes.

* The assessment reflects the adoption of any terms and conditions set by the fish and wild life agencies, in addition to the applicant's pro posed mitigation. Assessment symbols indicate the following impact levels:

O = No impact; 1 = Minor impact; 2 = Moderate impact; 3 = Major impact; A = Adverse; B = Beneficial;
L = Long-term impact; S = Short-term impact. 2. Impacts of the no-action alternative.

Under the no-action alternative, there would be no construction of project facilities or changes to the existing physical, biological, or cultural components of the area. Electrical power that would be generated by the proposed hydroelectric project would have to be generated from other available sources or offset by conservation measures.

3. Recommended alternative (including pro posed, required, and recommended mitigative measures): Proposed project.

4. Reason(s) for selecting the preferred alter native.

The proposed project is the preferred alternative because the generation of electricity from a renewable resource would reduce the use of fossil-fueled plants and because the applicant could adequately mitigate the environmental effects of building and operating the project.

I. Unavoidable Adverse Environmental Impacts of the Recommended Alternative

About 5 acres of wildlife habitat would be removed or disturbed with project development. Wildlife would be disturbed and would avoid the project site during the construction period. About 2 acres of wildlife habitat would be eliminated by project structures.

Project construction activities would result in minor, short-term erosion, sedimentation, and slope stability impacts.

During project construction, onsite machinery and project related vehicles would produce noise, dust, and exhaust emissions, which would disturb visitors at Rainbow Falls.

***63289** *J. Conclusion*

Finding of No Significant Impact. Approval of the recommended alternative [H(3)] would not constitute a major federal action significantly affecting the quality of the human environment; therefore, an environmental impact statement (EIS) will not be prepared.

K. Literature Cited

Bidwell, Floyd N. 1987. Supplement to the application for license for the Lost Creek No. 1 Hydroelectric Project, **FERC** Project No. **3863**, California. June 1, 1987.

repeatf—,48, 1982. Application for license for Lost Creek No. 1 Hydroelectric Project, a minor project of 1.1 MW or less, **FERC** Project No. **3863**, California. September 2, 1982.

Mega Renewables. 1987. Additional information for the application for license for the Lost Creek No. 1 Hydroelectric Project, a minor project of 1.1 MW or less, **FERC** Project No. **3863**, California. November 20, 1987.

****21** Northern Geotechnical Incorporated. 1986. Preliminary engineering geology evaluation of the Lost Creek No. 1 Hydroelectric Project, Shasta County, California. May 7, 1986. 5 pg.

L. List of Preparers (Name—Position title)

Thomas Camp—Landscape Architect (Coordinator)

Spencer Gakner—Ecologist

James Haimes—Economist

Robert Kirby—Environmental Protection Specialist

Peter Leitzke—Geologist

Patrick Murphy—Wildlife Biologist

Mary Nowak—Writer-Editor

Edwin Slatter—Archeologist

Safety and Design Assessment

Lost Creek No. 1 Hydroelectric Project

FERC Project No. **3863**-001

Dam Safety

The grout-filled rock diversion dam would be 6-feet high and 26 feet wide, impounding less than 1-acre-foot of storage. Failure of the dam and appurtenant structures would not pose a hazard to downstream property or human life.

Water Resource Planning

The proposed project would have one generating unit with an installed capacity of 1,100 kW. The powerplant would operate run-of-river under a design head of 222 feet and a total hydraulic capacity of 65 cfs. The probability of occurrence of available streamflows 65 cfs or greater is approximately 0.20.

The applicant estimates that the project would generate about 5,760,000 kWh annually, based on a proposed minimum bypass flow of 15 cfs. The staff finds this estimate of annual generation reasonable for the proposed minimum flow.

The staff has reviewed the California Water Plan-Sacramento Hydrologic Study Area. Based on review of the Plan and federal and state agency comments, the proposed project would not conflict with any existing or planned water resource developments in the basin. No specific comments or recommendations were made addressing flood control, water supply, or irrigation requirements for Lost Creek.

The staff's Upper Sacramento River Basin Planning Status Report includes no hydroelectric projects, whether proposed or constructed in the Pit River Basin, that this project would impact, and the project would not conflict with any pending applications for exemption, license, or preliminary permit. Mega Renewables, the applicant's consultant, has the exempted Bidwell Ditch project and the licensed Lost Creek No. 2 project; both are downstream from and do not conflict with the Lost Creek No. 1 project. There are no pending applications for license, exemption, or preliminary permit in the Lost Creek drainage. Several miles downstream of the Bidwell Ditch project, Lost Creek drops underground through porous lava deposits, and is therefore isolated from other projects in the Pit River Basin. In addition, the staff's Pit River Basin Water Resources Appraisal Report shows no existing or potential flood control or irrigation projects in close proximity to the project site.

In summary, the staff's analysis shows that the proposed project is properly designed to develop the hydropower potential of Lost Creek.

Economic Feasibility

A proposed project is economically feasible so long as its levelized cost is less than the long-term levelized cost of alternative energy to any utility in the region that can be served by the project.

The staff has calculated the projected levelized alternative energy cost in the region to be 112.2 mills/kWh. This cost is based upon the EIA service report on regional projections of end-use consumption prices through 1995, dated April 1986. The

estimated levelized cost of energy from the proposed project is 67 mills/kWh. Since this cost is less than the levelized alternative energy cost, the project is economically feasible.

****22 *63290** The applicant plans to sell the project's power to Pacific Gas and Electric Company (PG&E). Alternatively, the applicant could sell the power to other utilities in the region. Recent contracts signed by PG&E have established levelized power values ranging from 124.6 to 133.33 mills/kWh. Since the levelized cost of energy from the Lost Creek No. 1 Hydroelectric Project is significantly less than the avoided levelized cost to PG&E, the project would be potentially financially feasible. Any further determination on financial feasibility must be governed by the applicant's efforts to secure a power sales contract and project financing.

Exhibits

The following parts of Exhibit A and following Exhibit F drawings conform to the Commission's rules and regulations and should be included in the license:

Exhibit A: Table A-1.

Exhibit F-	FERC No.	Title
1	7	Intake Structures, Site Plan, and Details
2	8	Pipeline Plan and Profile
3	9	Pipeline Plan and Profile
4	10	Pipeline Plan and Profile
5	11	Powerhouse Site Plan and Details

Federal Energy Regulatory Commission

Footnotes

- 1 **Order** No. 481, 52 Fed. Reg. 39,905 (October 26, 1987). **FERC** Statutes and Regulations ¶30,773 (1987).
- 2 Interpretation of Comprehensive Plans Under Section 3 of the Electric Consumers Protection Act, Docket No. RM87-36-001 *et al.*, issued April 27, 1988 [43 **FERC** ¶61,120].
- 3 Elements of the California Recreation Plan (1984-85 California Recreation Action Program Report, Recreation Needs in California, March 1983; Recreation Activity in California: 1980, with projections to 2000, September 1982; Recreation outlook in Planning District 2, April 1980; and Recreation in California: Issues and Actions, 1981-85), California Department of Parks and Recreation; California Water Plan, May 1975, California Department of Water Resources; California and Forests: Trends, Problems, and Opportunities, August 1980, Forest Service; and Pit River Basin, September 1980, Federal Energy Regulatory Commission
- 1 Figures and attachments in the text are omitted from this document due to reproduction requirements.

43 FERC P 62191 (F.E.R.C.), 1988 WL 244562