Pacific Gas and Electric Company

Project No. 175
Order Issuing License (Major)
(Issued April 18, 1980)

*63069 William W. Lindsay, Director, Office of Electric Power Regulation.

Pacific Gas and Electric Co. (PG&E) has filed an application under Part I of the Federal Power Act (Act) for a new major license for its constructed Balch Project No. 175. The project is located on the North Fork Kings River, a navigable waterway of the United States, in Fresno County, California, and affects lands of the United States within the Sierra and Sequoia National Forests.

Public notice of the filing of the application has been given. The Sierra Land Use Committee and the California Department of Fish and Game have been granted intervention. Their concerns are discussed below. Interested Federal, state, and local agencies were asked for their comments on the license application. The substantive comments that were received are discussed below.

History and Description of the Project

The original license for the Balch Project was issued on July 28, 1922, and expired on July 27, 1972. Third Ann. Rpt. of the FPC 260 (1922). Since 1972 the project has been operating under annual licenses.

The project consists of the Balch Diversion Dam which forms the Black Rock Reservoir with a storage capacity of 1260 acre-feet, the Balch Afterbay with a storage capacity of 318 acre-feet, a tunnel, two penstocks, two powerhouses containing three generating units with a total installed capacity of 128,200 kW, a switch-yard, and transmission facilities. In addition PG&E proposes to construct some recreation facilities. These facilities are discussed further below.

Safety and Adequacy

The staff has analyzed the diversion and afterbay dams under appropriate hydrostatic-loading conditions, plus temperature drop and earthquake loading. Staff inspection reports indicate that the dams are maintained in good condition. Based upon the staff's analyses and inspection, it is concluded that the project as licensed would be safe and adequate. Article 50 is included in the license to require PG&E to continue to implement the emergency action plan for the project that was prepared in accordance with the Commission's instructions dated August 15, 1975.

Comprehensive Development

The water resources of the Kings River basin have been developed for flood control, hydroelectric power generation, and irrigation water supply. The major reservoirs in the basin are Pine Flat, Wishon, and Courtright. The Corps of Engineers Pine Flat Reservoir, located downstream from the Balch Project, provides flood control and irrigation water supply. Pine Flat has a storage capacity of 1,000,000 acre-feet. By Order Issuing License, issued September 25, 1979, 8 FERC P —, Kings River Conservation District was authorized to install generating capacity at the Pine Flat Dam. PG&E owns and operates the Wishon and Courtright Reservoirs, located upstream from the project. The two reservoirs have a total storage capacity of approximately 251,900 acre-feet. The reservoirs provide power storage for the benefit of downstream hydroelectric plants and
will also function as the upper and lower reservoirs for the Helms Pumped Storage Project No. 2735. Almost all of the water in the Kings River is used except for excess flood waters.

**The maximum hydraulic capacities of Balch No. 1 and No. 2 powerhouses are 213 cfs and 625 cfs, respectively. The combined discharge of 838 cfs is 13 percent greater than the 741 cfs average flow of the North Fork Kings River.**

The Commission Staff's Planning Status Report for the Kings River (1974) discussed existing water resource developments and potential future developments within the river basin. The report stated that the only economically feasible future development on the North Fork Kings River then foreseeable was the Helms Pumped Storage Project, currently under construction as Project No. 2735. The total head between the Wishon Reservoir at full pool elevation 6,550 feet and the Pine Flat Reservoir at elevation 952 feet (an area that includes Project No. 175) is 5,598 feet. The hydroelectric power plants on the river develop all the available head. The only undeveloped head on the mainstream North Fork Kings River is in the 39 square mile drainage area above Wishon reservoir. The run off from this area is insufficient to sustain storage in Wishon Reservoir. Thus, the waters and head of the North Fork Kings River are fully utilized and any additional hydroelectric power would not be economically feasible at this time.

Continued operation of the project would provide 128,200 kW of installed capacity producing an average annual generation of 613,600 MWh, utilizing a renewable resource that saves the equivalent of about 1,007,500 barrels of oil or 284,100 tons of coal annually. It is concluded that the Balch Project, under the terms and conditions of this license, is best adapted to the comprehensive plan of development of the Kings River Basin for beneficial public uses.

### Recreation

PG&E proposed to develop an eight-unit campground near Black Rock Reservoir and an information area that would describe the project's hydroelectric function as well as the recreation facilities in the vicinity. PG&E proposed for future installation a total of 20 camping units in the Williams Creek and Tailrace areas. PG&E stated that this future development would be coordinated with the construction of a new Forest Service road through this section of the Sierra National Forest.

The Department of the Interior (Interior) stated that the application should specify who would be responsible for paying for operation and maintenance of the recreation facilities once they are constructed. PG&E stated that the responsibility for operation and maintenance is being determined in its negotiations that should lead to a memorandum of agreement with the Forest Service. Article 40 of the license would require PG&E to file an amended Exhibit R (recreation plan) to show who will operate and maintain the recreation facilities.

The Forest Service recommended that a trail be constructed along the north shore of Black Rock Reservoir to provide fishing access between Black Rock Dam and the river as it enters the reservoir.

In its response PG&E stated that its field survey of the proposed trail found the area to be very steep, unsafe and that such a trail would provide little access to the reservoir shoreline. Staff's analysis support PG&E's conclusion. As an alternative, PG&E proposed a trail from the Haas Tailrace to the headwaters of the reservoir. The Forest Service has indicated that this alternative is acceptable, but that the trail is subject to further review as part of the pending memorandum of agreement. Article 40 of the license provides for the inclusion of an alternative trail in the amended Exhibit R.

**The Forest Service also recommended that a log boom or safety cable be installed to keep persons or boats away from the spillway. PG&E stated that it had installed a safety cable with warning devices upstream of the dam. Article 41 of the license provides for the installation of warning and safety devices.**

The Forest Service also requested that PG&E be required to prepare a sign plan that would indicate standards, sizes, materials, and locations of all types of signs within the project boundary. PG&E did not object to the sign plan. Section 8.2 of the
Commission’s Regulations, 18 CFR §8.2 (1979), requires that a licensee erect and maintain appropriate signs concerning recreational facilities at all points of public access to the project.

The Forest Service further recommended that PG&E develop an overlook and interpretive facilities and that PG&E establish a schedule for the initial and ultimate development of the proposed recreation facilities. PG&E had no objection to these recommendations and stated that each would be included in the pending memorandum of agreement. The overlook area and interpretative facilities would enhance the recreational resources at the project. Article 40 would require PG&E to file an amended Exhibit R to include these facilities in the recreation plan.

It is noted that there is also an agreement between PG&E and the California Department of Fish and Game (Fish and Game) containing a provision that PG&E shall allow reasonable public access to project lands and waters for full utilization for recreational purposes, including fishing and hunting, consistent with project operation and safety. Article 18 of the license adequately provides for public access to project lands and waters.

**Project Waters, Minimum Flows, and Temperature Monitoring**

The Resources Agency of California (RAC), Interior, and the Forest Service expressed a need for increased minimum flows and temperature monitoring in the North Fork Kings River below the project reservoirs for the protection and improvement of the fisheries resource. PG&E referred to its agreement with Fish and Game dated December 23, 1976, which specifies a schedule of minimum flows and a program for monitoring the water temperature of the river.

The pertinent provisions of the agreement on minimum flows and temperature monitoring would ensure protection and improvement of fish habitat and resources. Articles 38 and 39 provide for minimum flows and temperature monitoring, respectively.

In its petition to intervene, the Sierra Land Use Committee (Sierra) requested that a provision be included in the license that would establish criteria for the use of project waters for forest purposes. The Forest Service did not express any interest in the appropriation of project waters for its use. The Commission has the authority under Article 12 of the license to require PG&E to release waters for beneficial public uses, including forest purposes, if that should prove advisable in the future. Any proposals of that kind would be evaluated on a case-by-case basis.

**Fish and Wildlife Resources**

Interior claimed that PG&E's discussion of the fish and wildlife resources was not an adequate assessment of the project’s impact on the resources. Interior stated that the assessment should include an analysis of the planned flow releases on aquatic life and habitat, a discussion of the use of the project area by various mammals and birds, and a plan for preserving, enhancing, and mitigating affected fish and wildlife resources. Interior also recommended that PG&E, in consultation with state and federal agencies conduct a survey of the project area to determine the nesting sites of the southern bald eagle and other endangered species and develop and implement a plan to ensure that any sites found would be protected from disturbance.

In its response PG&E noted that a study had been conducted to measure the impacts of the planned flow releases on the aquatic habitat. PG&E stated that since the project had been in existence for more than 45 years (no new construction other than recreational facilities is planned), there is no need for developing a plan to preserve or enhance wildlife and wildlife habitat at this time. PG&E stated that it had conducted raptor studies which surveyed virtually all of the project area in 1973-74, and in 1977 in conjunction with wildlife surveys and studies made for Project No. 2735.

The terms of the agreement between PG&E and Fish and Game (incorporated in part in Articles 38 and 39) are adequate to ensure protection of aquatic fish and habitat. Additionally, Article 42 is included in the license to provide for the development and implementation of a plan for protecting areas used by endangered bird species.
The Forest Service recommended that PG&E be required to consult with Federal, state, and other appropriate environmental agencies to ensure continued protection and development of natural resources in the project area. RAC noted that the agreement between Fish and Game and PG&E is expected to result in the management of project lands and timber to encourage preservation or enhancement of wildlife resources. PG&E agreed to the Forest Service recommendations. The standard articles included in this license provide for the land and timber management measures that were requested by the Forest Service.

Cultural Resources

RAC and Interior stated that the results of the archeological survey indicated that further inquiry is necessary to assess two groups of petroglyphs (drawings on rocks) for possible inclusion in the National Register of Historic Sites. RAC noted that PG&E had not consulted with the State Historic Preservation Officer (SHPO). The Forest Service recommended that PG&E file a plan for approval indicating measures to survey, preserve, analyze, and report cultural resources which might be affected by PG&E activities. PG&E stated that it would comply with any reasonable Commission requirements for protection of cultural resources. Continued operation and maintenance of the project would not affect cultural resources. Article 43 requires PG&E to consult with the SHPO before future construction at the project, to determine if any mitigative measures are necessary to protect cultural resources in the project area. Inclusion of such an article is standard Commission policy in these circumstances. See, S.D. Warren, Project No. 289, Order Denying Rehearing (issued Feb. 19, 1980, 10 FERC P 61,153).

Reservoir Operation and Maintenance

**5 RAC stated that there is a need to minimize adverse impacts of sluicing of silt from the project reservoirs. PG&E has agreed to notify the Regional Manager of Fish and Game two days prior to initiating sluicing operations. Fish and Game agreed to notify the appropriate federal and state agencies of the proposed sluicing operations and to obtain their recommendations. In an emergency the agreement provides that PG&E may start sluicing operations and will immediately notify the Regional Manager. There is a need for control of the sluicing activities at the project in order to eliminate unnecessary disturbance of aquatic resources in the river. Article 44 incorporates into the license the provisions of the agreement relating to sluicing operations.

The Forest Service recommended that the dredging operation plans be reviewed by Fish and Game and that waste water discharges from the project comply with requirements established by the Central Valley Water Quality Control Board. The Forest Service also recommended that lands and water surfaces within the high water line of the reservoirs be kept clear, that hazardous dead trees be removed, and that unneeded material from the clearing operations be disposed of properly and promptly. PG&E agreed to these recommendations of the Forest Service. PG&E entered into an agreement with RAC to review all dredging plans to increase storage or assure operability of reservoir facilities.

The standard license articles would adequately provide for the clearing of project lands and waters, the removal of hazardous dead trees, and disposal of debris. Staff concludes that the agreement between PG&E and RAC adequately provides for consultation concerning dredging. No action is taken on waste water, because there is no indication that waste water results from project operation including recreational facilities.

The Corps requested that during flood periods the project be operated so that flows below Balch Afterbay Dam would not exceed those flows that would occur under natural conditions. PG&E stated that it accepted the Corps request. Article 45 reflects this request.

The Forest Service recommended that a provision be included in the license to ensure adequate management of solid wastes within the project area. PG&E had no objection to such a condition. Article 46 is included in the license to address the Forest Service recommendation.
Environmental Concerns

The Balch Project does not have heavy recreational use because there exist more desirable facilities nearby and because of inhibiting terrain and safety considerations at the project. Brown and rainbow trout are present in Black Rock Reservoir, in the five mile stretch of the North Fork Kings River between the reservoir and Balch Afterbay, in Balch Afterbay, and in the river downstream. Water quality is not altered by the water flowing through the hydroelectric facilities. The California Water Resources Control Board has issued a water quality certificate for the Balch Project.

Minimum flow releases are currently made from Black Rock Reservoir and the Balch Afterbay to benefit the fishery and wildlife resources associated with the project. The two streams (Black Rock Creek and Weir Creek) from which diversions are made between April and November, have generally steep gradients, bedrock bottoms, and are bordered by alternating dense riparian vegetation and open banks. No fish were observed in either stream during recent surveys.

California mule deer, various game birds, and numerous small mammals and birds are found in the project area. Waterfowl make only minor use of the project area. The endangered southern bald eagle has been sighted in the area. Article 42 requires PG&E to develop and implement a plan to protect areas within the project used by endangered species.

No new development is authorized by this license except for recreational facilities. Any environmental disturbance during development of those facilities will be minor and temporary. In light of all these facts, it is concluded that the issuance of this license for Project No. 175 is not a major federal action significantly affecting the quality of the human environment.

Federal Takeover

No federal agency has recommended takeover of the project by the United States government. There appears to be no reason why federal takeover of the project would better serve the public interest than would continued operation and maintenance of the project by PG&E under the terms and conditions of this license. Therefore, federal takeover of the project will not be recommended.

License Term

PG&E does not propose any additional development for the Balch Project. Under that circumstance, Commission policy on relicensing generally provides for a term expiring 30 years from the end of the prior long-term license. Longer terms are afforded for projects involving proposals for redevelopment, in order to encourage more complete development of the available water resources. Here, however, the purpose of that policy is inapplicable because the relevant reach of the river is already fully developed. Moreover, there is another significant consideration in this case relevant to license term.

*63073 The Balch Project is integrated and hydraulically coordinated with both the Kings River Project No. 1988, even sharing its forebay and afterbay with two developments of that project, and the Helms Pumped Storage Project No. 2735, which in turn uses two reservoirs of Project No. 1988. Although separately licensed, the three projects together actually constitute but one “complete unit of development.” See Section 3(11) of the Act. It is generally desirable to synchronize the license terms of closely related licensed projects that are part of one complete unit of development. It is impossible to do that fully here, because the license for Project No. 1988 expires in early 1985 and the license for Project No. 2735 does not expire until 2026. Since the purpose of the usual limit on a new license term is inapplicable here, greater synchronization of the license terms of the complete unit of development is desirable for administrative efficiency, and this license contains adequate open-ended conditions to deal with changing future conditions, the license for Project No. 175 will be made coterminous with that for Project No. 2735.

It is ordered:
(A) This license is issued to Pacific Gas and Electric Company (Licensee) under Part I of the Federal Power Act (Act), effective the first day of the month in which it is issued and terminating April 30, 2026, for the continued operation and maintenance of the Balch Project No. 175, located in Fresno County, California on the North Fork Kings River, a navigable water of the United States, and affecting lands of the United States within the Sierra and Sequoia National Forests. This license is subject to the terms and conditions of the Act, which is incorporated by reference as part of the license, and subject to the Regulations the Commission issued under the provisions of the Act.

**7 (B) The Balch Project No. 175 consists of:

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

Exhibit FERC No. 175- Showing

J 114 General MapBalch Project

K-1 115 Diversion Reservoir and Tunnel

K-2 116 Tunnel and Penstock

K-3 117 Profile of Tunnel

K-4 118 Afterbay, Road and Transmission Line

K-5 119 Transmission Lines

K-6 120 Transmission Lines

K-7 121 Transmission Lines

K-8 122 Transmission Lines

K-9 123 Transmission Lines

K-10 124 Transmission Lines

K-11 125 Transmission Lines

K-12 126 Transmission Lines
(2) Project works consisting of: (a) Balch Diversion Dam, a concrete arch structure with a crest (spillway) length of 376 feet at elevation 4,098 feet (U.S.G.S.) and maximum height of 135 feet which contains (i) a 60-inch and two 30-inch diameter sluice gates and (ii) a 12-inch diameter fish water release pipe; (b) Black Rock Reservoir (formed by Balch Diversion Dam) having gross storage capacity of 1,260 acre-feet with surface area of 35 acres; (c) a tunnel 19,336 feet in length leading from Black Rock Reservoir to the head of the penstocks (flows in the tunnel are supplemented by two 10-inch diameter steel pipe feeders—one from Black Rock Creek and one from Weir Creek); (d) two penstocks, each about 4,900 feet long; (e) Balch No. 1 powerhouse and related facilities, including one 40,000-horsepower turbine connected to a 31,000-kW generator, a 13.2/115 kV transformer bank, and a 22-mile-long, 115-kV transmission line terminating at Piedra Junction; (f) Balch No. 2 powerhouse and related facilities, including two 67,000-horsepower turbines connected to two 48,600 kW generators, two 13.8/230-kV transformers and two short 230-kV tap lines to Licensee's 230-kV Hass transmission line of Project No. 1988; (g) Balch Afterbay Dam, a concrete arch structure with a crest (spillway) length of 238 feet at elevation 1,704 feet and a maximum height of 179 feet containing one 60-inch and one 30-inch sluice gate and two 22-inch needle valve outlets; (h) Balch Afterbay, having a gross storage capacity of 318-acre-feet with a surface area of 7 acres; and (i) appurtenant facilities.

The location, nature and character of these project works are generally shown and described by the previously mentioned exhibits and specifically described by the following exhibits:

Exhibit L FERC No. 175- Showing

1 127 Plan and Section of Balch Diversion Dam

2 128 Intake, Surge Chamber and Tunnel Sections

3 129 Plan, Profile, and Details of Penstocks

4 130 Plan and Section of Power house No. 1

5 131 Plan and Sections of Power house No. 2

6 132 Plan and Section of Balch Afterbay Dam

Exhibit R: Consisting of 11 pages of text and one drawing (FERC No. 175-133) filed February 4, 1975.

Exhibit S: Consisting of 8 pages of text filed February 4, 1975, entitled “Fish and Wildlife”.

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

(C) Exhibits J, L, M, and S, designated and described in Ordering Paragraph (B) are approved and made a part of this license. Exhibit K, designated and described in Ordering Paragraph (B), fails to define the project boundary clearly and show precisely the amount of U.S. lands within the project and is approved only to the extent that it shows the general location of the project facilities. Article 47 requires the filing of revised Exhibit K. Exhibit R, designated and described in Ordering Paragraph (B), is approved subject to Article 40 below.

**8 (D) This license is also subject to Articles 1 through 37 set forth in Form L-5 (Revised October 1975), entitled “Terms and Conditions of License for Constructed Major Project Affecting Navigable Waters and Lands of the United States,” attached to (See 54 FPC 1832) and made a part of the license. This license is also subject to the following special conditions set forth as additional articles:

Article 38. Pending further order by the Commission, on its own motion or at the request of others, the Licensee shall maintain the following continuous minimum regulated flows in the North Fork Kings River:

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<tr>
<th>Normal Years</th>
<th>Dry Years</th>
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<td>(as defined by California Department of Water Resources)</td>
<td></td>
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<tr>
<td>June 1- Dec. 1-</td>
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<td>Source November May 31 Year Round</td>
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<tr>
<td>31</td>
<td></td>
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<tr>
<td>(a) From Black Rock Reservoir, measured at PG&amp;E Gage KI-9 (USGS 11-2162.00) 5 cfs 2.5 cfs 2.5 cfs</td>
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<td>(b) From Balesh After</td>
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Bay, measured at
PG&E Gage KI-21
(USGS 11-2165.00) 15 cfs 10 cfs 10 cfs
(c) River flow, measured
at PG&E Gage KI-22
(USGS 11-2184.00) 30 cfs 30 cfs 20 cfs

*63075 These flows may be modified temporarily during and to the extent required: (1) for performance of required maintenance of the dams and their outlet facilities; (2) by operating emergencies beyond the control of the Licensee; and (3) in the interest of public safety. The licensee shall notify the manager of Region IV of the California Department of Fish and Game, or his authorized representative in Fresno, at least two days prior to any such departure, except during emergencies.

Article 39. Licensee shall, in cooperation with the California Department of Fish and Game, conduct a four-year water temperature monitoring program to determine if the water temperature criteria, as set forth in the agreement between the California Department of Fish and Game and Licensee, can be met with the minimum flows specified in Article 38. Within six months of completion of the study, Licensee shall file for approval, with a copy to the Department of Fish and Game, a final report which shall set forth any recommendations for changing the minimum flows from Balch Afterbay required in Article 38.

Article 40. Licensee shall, within one year from the date of issuance of this license, file for approval an amendment to the Exhibit R that shall include, but need not be limited to: (1) the location of the proposed access trail from the Hass Tailrace to the headwaters of Black Rock Reservoir; (2) the location, type, and number of facilities at the proposed overlook; (3) a schedule for initial and ultimate development of proposed recreational facilities; (4) a statement indicating who will operate and maintain project recreational facilities; and (5) any other proposed changes in Exhibit R that may result from the memorandum of agreement between Licensee and the U.S. Forest Service. Licensee shall at the same time file with the Commission a copy of any signed agreement between the Forest Service and Licensee.

Article 41. The Licensee shall, to the satisfaction of the Commission's authorized representative, install and operate any signs, lights, sirens, barriers, or other devices that may reasonably be needed to warn the public of fluctuations in flow from the project and to protect the public in its recreational use of project lands and waters.

Article 42. Licensee shall consult with the California Department of Fish and Game and the U.S. Fish and Wildlife Service in developing and implementing a plan for protecting areas within the project used by endangered bird species, and within one year from the date of this license, shall file the plan with the Commission.

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

Article 44. The Licensee shall, two days prior to initiating any sluicing operation, notify the Manager of Region IV of the California Department of Fish and Game, or his authorized representative in Fresno, and obtain and follow recommendations to minimize adverse impacts on aquatic resources. In case of emergency, Licensee may start sluicing operations, or take other measures as required, without prior consultation, but shall immediately notify the Manager, or Region IV or his representative.

Article 45. Licensee shall, during flood periods, operate the project to ensure that peak river flow below Balch Afterbay does not exceed that which would have occurred in the absence of the project.

Article 46. Licensee shall, in cooperation with the California State Department of Public Health and in compliance with Federal, State, and local regulations, plan and provide for the collection, storage, and disposal of solid wastes generated through public use of project lands and waters, and shall, within one year from the date of issuance of this order, file with the Commission a solid waste management plan which has been approved by the California State Department of Public Health. This plan shall provide: (a) the location of solid waste receptacles to be provided at public areas, including campgrounds, picnicking areas, and other use areas; (b) schedules for collection for the above receptacles; (c) provisions for including in the subject plan any public use areas as they are developed; and (d) the location of disposal sites and methods of disposal.

Article 47. Licensee shall file for approval, within one year of the date of issuance of this license a revised Exhibit K, showing clearly the project boundary and the amount of U.S. lands occupied by the project.

Article 48. In the interest of protecting and enhancing the scenic, recreational, and other environmental values of the project, Licensee: (1) shall supervise and control the use and occupancy of project lands and waters; (2) shall prohibit, without further Commission approval, the further use and occupancy of project lands and waters other than as specifically authorized by this license; (3) may authorize, without further Commission approval, the use and occupancy of project lands and waters for landscape plantings and the construction, operation, maintenance of access roads, power and telephone distribution lines, piers, landings, boat docks, or similar structures and facilities, and embankments, bulkheads, retaining walls, or other similar structures for erosion control to protect the existing shoreline; (4) shall require, where feasible and desirable, the multiple use and occupancy of facilities for access to project lands and waters; and (5) shall ensure to the satisfaction of the Commission's authorized representative that all authorized uses and occupancies of project lands and waters: (a) are consistent with shoreline aesthetic values, (b) are maintained in good state of repair, and (c) comply with State and local health and safety regulations. Under item (3) of this Article, Licensee may, among other things, institute a program for issuing permits to a reasonable extent for the authorized types of use and occupancy of project lands and waters. Under appropriate circumstances, permits may be subject to the payment of a fee in a reasonable amount. Before authorizing construction of bulkheads or retaining walls, Licensee shall: (a) inspect the site of the proposed construction, (b) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (c) determine that the proposed construction is needed. If an authorized use of occupancy fails to comply with the conditions of this Article, or with any reasonable conditions imposed by the Licensee for the protection of the environmental quality of project lands and waters, Licensee shall take appropriate action to correct the violations, including, if necessary, cancellation of the authorization and removal of any noncomplying structures or facilities. Licensee's consent to an authorized use or occupancy of project lands and waters shall not, without its express agreement, place upon the Licensee any obligation to construct or maintain any associated facilities.

**10 Article 49. The Licensee shall pay the United States the following annual charges, effective the first day of the month in which the 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 annual charge as determined by the Commission in accordance with the provisions of its Regulations in effect from time to time. The authorized installed capacity for that purpose is 170,900 horsepower.
(b) For the purpose of recompensing the United States for the use, occupancy and enjoyment of its lands, exclusive of transmission line rights-of-way, a reasonable annual charge as determined by the Commission in accordance with the provisions of its Regulations in effect from time to time. The amount of those lands will be determined later.

(c) For the purpose of recompensing the United States for the use, occupancy and enjoyment of its lands for transmission line rights of way, a reasonable annual charge as determined by the Commission in accordance with the provisions of its Regulations in effect from time to time. The amount of those lands will be determined later.

Article 50. Licensee shall implement, and modify when appropriate, the emergency action plan on file with the Commission designed to provide an early warning to upstream and downstream inhabitants and property owners if there should be an impending or actual sudden release of water caused by an accident to, or failure of, project works. That plan shall include: instructions to be provided on a continuing basis in event of an emergency; detailed and documented plans for notifying law enforcement agents, appropriate Federal, State, and local agencies, operators of water-related facilities, and those residents and owners of properties that could be endangered; actions that would be taken to reduce the inflow to the reservoir; if possible, by limiting the outflow from upstream dams or control structures; and actions to reduce downstream flows by controlling the outflow from dams located on tributaries to the stream on which the project is located. Licensee shall also maintain on file with the Commission a *63077 summary of the study used as a basis for determining the areas that may be affected by an emergency, including criteria and assumptions used. Licensee shall monitor any changes in upstream or downstream conditions which may influence possible flows or affect areas susceptible to damage, and shall promptly make and file with the Commission appropriate changes in the emergency action plan. The Commission reserves the right to require modifications to the plan.

Article 51. Pursuant to Section 10(d) of the Act, a specified reasonable rate of return upon the net investment of the project shall be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. One-half of the project surplus earnings, if any, accumulated under the license, in excess of the specified rate of return per annum on the net investment, shall be set aside in a project amortization reserve account as of the end of each fiscal year: Provided, that, if to the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year under the license, the amount of such deficiency shall be deducted from the amount of any surplus earnings accumulated thereafter until absorbed, and one-half of the remaining surplus earnings, if any, thus cumulatively computed, shall be set aside in the project amortization reserve account; and the amounts thus established in the project amortization reserve account shall be maintained until further order of the Commission.

**11 The annual specified reasonable rate of return shall be the sum of the weighted cost components of long-term debt, preferred stock, and the cost of common equity, as defined herein. The weighted cost components for each element of the reasonable rate of return is the product of its capital ratios and cost rate. The current ratios for each of the above elements of the rate of return shall be calculated annually based on an average of 13 monthly balances of amounts properly includable in the Licensee's long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rates in 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).

(e) This order is final unless a petition appealing it to the Commission is filed within 30 days from the date of its issuance, as provided in Section 1.7(d) of the Commission's Regulations, 18 CFR 1.7(d) [as amended in Docket No. RM79-59 (July 23, 1979, FERC Statutes and Regulations P 30,068) and Docket No. RM78-19 (August 14, 1978, FERC Statutes and Regulations P 30,016).] The filing of a petition appealing this order to the Commission or an application for rehearing as provided in Section 313(a) of the Act does not operate as a stay of the effective date of this license or of any other date specified in this order, except as specifically ordered by the Commission. The Licensee's failure to file a petition appealing this order to the Commission shall constitute acceptance of this license. In acknowledgment of acceptance of this license and its terms and conditions, it shall be signed for the Licensee and returned to the Commission within 60 days from the date this order is issued.
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Footnotes


2 A more detailed project description is contained in Ordering Paragraph (B).

3 These reservoirs are licensed as Project No. 1988.

4 Sierra also requested that a party be established that would be responsible for providing the water resources necessary to achieve project recreational enhancements. The licensee, of course, is the party responsible for operating and maintaining the project consistent with the approved recreational plan and any changes that may be required under Article 17 for future recreational enhancement.

5 In its petition to intervene, Fish and Game requested license provisions for the protection of fish, wildlife, and recreation resources. Articles 38, 39, 42, and 44 would provide for Fish and Game's recommendations.

6 None of the proposed recreation facilities would affect any cultural resources.