

UNITED STATES OF AMERICA 60 FERC ¶ 62,256
FEDERAL ENERGY REGULATORY COMMISSION

Pacific Gas and Electric Company

Project No. 1061-000
California

ORDER ISSUING NEW LICENSE
(Major Project)

September 30, 1992

The Pacific Gas and Electric Company (PG&E) filed a new license application under Part I of the Federal Power Act (Act) for the continued operation and maintenance of the Phoenix Project, located on the South Fork of the Stanislaus River in Tuolumne County, California.

Notice of the application has been published. No protests were filed in this proceeding, and no agency objected to issuance of this license. Comments received from interested agencies and individuals have been fully considered in determining whether to issue this license. Motions to intervene were filed by the Tuolumne County Regional Water District and the California Department of Fish and Game to be parties to this proceeding.

The staff completed an environmental assessment (EA) for this project on January 10, 1992, which is attached to this order.

Comprehensive Development

Sections 4(e) and 10(a)(1) of the Act require the Commission to give equal consideration to all uses of the waterway on which a project is located. When the Commission reviews a proposed project, the recreational, fish and wildlife, and other nondevelopmental values of the involved waterway are considered equally with power and other developmental values. In determining whether, and under what conditions, a hydropower license should be issued, the Commission must weigh the various

economic and environmental trade-offs involved in the decision.

This order issues a license for the Phoenix Project with the following enhancement measures that were recommended in the EA: (1) measures to protect one archeological site eligible for inclusion in the National Register of Historical Places from erosion and foot and vehicular traffic; (2) investigations to mitigate impacts to one other eligible site and two eligible historic sites affected by annual flooding of Lyons reservoir and recreational use of the area; (3) the filing and implementation of an erosion and sedimentation control plan; (4) release a minimum flow of 2 cfs; and (5) canal fish stocking. The staff evaluated different flow alternatives and concluded that 2 cfs was the most PG&E could release from the Phoenix Project without

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interfering with the Tuolumne County Water System's municipal water use.

With the EA-recommended measures, the project would not have significant effects on the environment and continued operation and maintenance would be economically feasible.

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 for improving, developing, or conserving a waterway or waterways affected by the project.

Under section 10(a)(2), federal and state agencies filed 24 plans that address various resources in California. Of these, the staff identified 5 plans relevant to this project.¹ No conflicts were found.

Based on a review of agency and public comments filed in this proceeding and on the staff's independent analysis, I conclude that the Phoenix Project is best adapted to a comprehensive plan for the South Fork Stanislaus River.

Forest Service Conditions

The Forest Service (FS) filed 12 conditions under the

provisions of section 4(e) of the Act. PG&E appealed these conditions to FS. After reconsideration, FS withdrew conditions 7 through 12, which dealt with land disturbing activities, because the project exists and PG&E proposes no further construction.

The FS conditions still under appeal are:

- ù Condition 1 (Article 101) requires the Licensee to obtain a special use authorization from the FS for the occupancy and use of National Forest Service System lands.
- ù Condition 2 (Article 102) requires the Licensee to consult annually with the FS with regard to measures

1 Recreation outlook in Planning District 2, 1980, California Department of Parks and Recreation; The California Water Plan: projected use and available water supplies to 2010, 1983, California Department of Water Resources; California water: looking to the future, 1987, California Department of Water Resources; Water Quality Control Plan Report, 1975, California State Water Resources Control Board; Recreation needs in California, 1983, California Department of Parks and Recreation.



needed to ensure protection and development of the natural resources in the project area.

- ù Condition 3 (Article 103) requires the Licensee to get written approval from the FS prior to making any project changes.
- ù Condition 4 (Article 104) specifies that before any construction occurs on National Forest System land the Licensee will get written approval from the FS.
- ù Condition 5 (Article 105) sets a minimum flow regime that would require additional releases from the licensed Spring Gap-Stanislaus Project No. 2130.

- ù Condition 6 (Article 106) requires the Licensee to construct, operate and maintain a guaranteed priority stream flow device as part of the diversion/intake structure.

PG&E's appeal of the above conditions is still pending with the Forest Service and is not likely to be resolved soon. However, any changes in these conditions as a result of the appeal would not likely affect project economics to any large degree. Therefore, issuance of this license will not be delayed pending resolution of the appeal of the FS 4(e) conditions.

Condition 5 is inappropriate as it goes beyond the scope of what is currently before the Commission, namely the relicensing of the Phoenix Project. It calls for a change in operation of the upstream Project No. 2130 that is not up for relicensing until 2005.

At the time of relicensing for Project 2130, the FS will have the opportunity to set terms and conditions for that project. In this license, I reserve the right (see Article 407) to reevaluate the comprehensive development of this project upon relicensing of Project No. 2130 and to require any changes found to be in the public interest under section 10(a) of the Act.

Since condition 5 calls for compliance on a voluntary basis and I find the condition to be inappropriate, no action is required by the Licensee under this condition until further order by the Commission.

Section 10(a)(2)(C): Conservation Efforts

The staff reviewed the PG&E's efforts to encourage and help its customers to conserve electricity and find PG&E is making a good-faith effort.



PG&E has made extensive efforts to promote the conservation of electric energy and to reduce the peak demand for generating capacity.

The California Public Utilities Commission, which rated the conservation efforts of the largest California utilities, says PG&E has been a leader in carrying out effective energy conservation programs.

Evaluation of the Project under Section 15

Section 15(a)(2)(A): Complying with the Present License

The staff reviewed PG&E's plans to comply with the conditions of a new license.

PG&E's compliance record shows a good-faith effort to comply with all license conditions.

I conclude PG&E would be able to perform in a competent manner if the Commission issues a new license for the project.

Section 15(a)(2)(B): Safe Operation

The staff reviewed PG&E's plans to manage, operate, and maintain the project safely. PG&E proposes no change in project operation adversely affecting project safety. Based on PG&E's public safety records, the plans are adequate.

PG&E is required to have an emergency action plan (EAP) and engage an independent consultant to inspect the project in accordance with Part 12 of the Commission's regulations. Both of these requirements have been satisfactorily met.

PG&E's project safety record shows staff can expect them to cooperate with the Commission's requests and to comply fully with the terms and conditions of any new license.

Section 15(a)(2)(C): Providing Efficient and Reliable Electric Service

The staff reviewed PG&E's operating plans and its ability to provide efficient and reliable electric service. I conclude PG&E is operating the project in an efficient and reliable manner.

The staff examined PG&E's record of forced outages and found that the outages didn't represent a significant number of occurrences. PG&E wasn't able to calculate the lost generation associated with forced outages.

PG&E operates the Phoenix Project with water released from

storage to meet the downstream water supply requirements of the

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Tuolumne Water System. As such, the operation must be coordinated with those demands as specified by the water supply authority. Any energy they generate at the Phoenix powerhouse, in excess of local needs, is available for interchange with interconnected utilities outside the area system.

Section 15(a)(2)(D): Need for the Power

The staff considered the short- and long-term need for the power the Phoenix Project would generate--and the cost of alternative power if PG&E doesn't get a new license for the project.

Their conclusions:

- o PG&E needs the power from the existing Phoenix Project.
- o Replacing project power would cost PG&E about \$1.32 million annually.

To consider the need for power in California, staff reviewed the California Energy Commission's (CEC) Electricity Reports (ER's) for 1988 and 1990.

In the ER's, CEC projects the state's expected electrical needs for the next 20 years and evaluates: (1) air pollutant emissions; (2) fuel use; (3) diversity and system operating cost; and (4) cost-effectiveness to reduce adverse environmental or social effects.

In the ER's, CEC includes existing hydropower projects as part of the state's "Basic resource system." CEC also says the California Public Utility Commission classifies hydro relicensing improvements as nondeferrable resources.

CEC says existing hydro facilities should continue operating and be improved economically.

CEC's forecasts:

- ∅ With committed resources (those not yet operating, but expected to be successfully built), the Basic system's capacity would meet projected statewide capacity needs only until 1993.
- ∅ With uncommitted resources (future generation options), the Basic system would have enough capacity until 1996 and would meet statewide energy needs until after 1999 --but only if producers continue to use displaceable parts of existing oil-fired and gas-fired power plants to supply energy.

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To estimate the cost of alternative power, the staff assumes PG&E would increase the operation of the present oil and gas-fueled, steam-electric generating units and would expand the existing capacity of these units on a schedule designed by PG&E to maintain a specified reserve capacity in the future.

The staff studied the financial impact on PG&E's ratepayers, considered as one group, which would result from the loss of the output of the project. If the Commission denies a new license or issues a nonpower license, the staff assumes PG&E would replace the project's dependable capacity with combustion turbines and replace the project's energy by generating more with their present oil- and gas-fueled, steam-electric units.

As noted, historically the project produces about 13.0 gigawatthours of energy annually and has a dependable capacity of 1.7 megawatts. If PG&E must replace the capacity and energy the project now produces, the staff estimates the levelized annual impact on PG&E's ratepayers would be \$1.32 million.

Section 15(a)(2)(E): Transmission Line Improvements

There is no transmission line for the project, as output goes directly into the distribution system. PG&E doesn't see any need to change the transmission network affected by project operation.

Section 15(a)(2)(F): Project Modifications

PG&E doesn't propose any modifications at this time.

Recommendations of Federal and State Fish and Wildlife Agencies

Section 10(j)(1) of the Act, requires the Commission to include license conditions based on recommendations of federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act for the protection, mitigation, and enhancement of fish and wildlife.

In the EA, the staff addresses the concerns of the fish and wildlife agencies and this license includes conditions consistent with their recommendations, with three exceptions. The staff did not recommend adopting CDFG's (between 5 and 10 cfs) and FWS's (between 10 and 25 cfs) recommendations for minimum flow releases. The staff concluded that although the recommended flows would substantially enhance fish habitat in the 18.5-mile-long bypass reach, diversions of additional flows would conflict with municipal uses. The staff also did not adopt FWS's recommendation for fish habitat improvement structures because without higher flows, the improvements would be of limited value. FWS's recommendation for a wildlife crossing plan was considered unnecessary because of low levels of mortality. Therefore, the

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staff concluded that CDFG's and FWS's recommendations were inconsistent with the public interest standard of section 4(e) and the comprehensive development standard of section 10(a) of the Act.

Under section 10(j)(2) of the Act, whenever the Commission believes that any recommendations of federal and state fish and wildlife agencies may be inconsistent with the Act or other applicable law, the Commission shall attempt to resolve such inconsistencies.

By letter dated January 16, 1992, the staff requested CDFG and FWS to consider other options that would be agreeable to both

agencies and would adequately protect resident trout habitat consistent with other project purposes. The staff requested that CDFG and FWS submit these options to the Commission within 45 days of the date of our letter.

CDFG responded by letter dated March 4, 1992, stating that its flow recommendation should be an automatic requirement of the Phoenix Project when the upstream Spring Gap-Stanislaus Project, FERC No. 2130, is relicensed. By letter dated March 3, 1992, FWS revised its recommendation, now recommending 5 cfs until 2005, in combination with fish habitat improvement structures, and the reopening of the Phoenix license in 2005. As discussed later in this section, I am requiring PG&E to prepare a fisheries enhancement plan. FWS is no longer recommending a deer crossing plan.

In accordance with section 10(j)(2) of the Act, if the Commission, after attempting to resolve inconsistencies, does not adopt a recommendation of a fish and wildlife agency, the Commission is required to publish findings that: (1) an agency recommendation is inconsistent with the purposes and requirements of Part I of the Act or other applicable law [section 10(j)(2)(A)]; and (2) conditions selected by the Commission comply with the requirements of section 10(j)(1) of the Act (i.e., that the license conditions will adequately and equitably protect, mitigate damages to, and enhance fish and wildlife) [section 10(j)(2)(B)]. Our findings are as follows.

Section 10(j)(2)(A): Finding that agency recommendations are inconsistent with Part I of the Act

The agency recommendations to reopen the Spring Gap-Stanislaus Project license as part of this license are beyond the authority of the Commission as part of the licensing proceeding for the Phoenix Project. During the relicensing proceedings for the Spring Gap-Stanislaus Project, the Commission will review the recreational and fishery benefits and economic consequences of providing flow in the South Fork Stanislaus River downstream of Lyons reservoir.

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As is discussed in the EA, the FWS recommendation to release 5 cfs until 2006 would conflict with existing municipal uses.

In light of the above, I find that FWS's recommendations are inconsistent with the provisions of section 4(e) and 10(a) of the Act.²

Section 10(j)(2)(B): Finding that license conditions are consistent with section 10(j)(1) of the Act

Pursuant to section 10(j)(2)(B), I find that the conditions included in this license comply with the requirements of section 10(j)(1).

This license requires PG&E to release 2 cfs, the maximum flow that can be released for fishery benefits without adversely affecting municipal water supply. Because of the likelihood of the FS requiring additional flows from the upstream Spring Gap-Stanilaus Project when it's license needs renewal, I am including article 407 that would reserve to the Commission the right to require changes in project operation of the Phoenix Project.

Although, due to the need to provide sufficient water for municipal use, it isn't possible to increase flows above 2 cfs at this time, the staff evaluated measures proposed by PG&E that might improve fishing opportunities and fish habitat in the project area. These measures include: (1) providing additional stocking of catchable rainbow trout four times a year in the Main Tuolumne Canal; (2) making some habitat improvements in Lyons Reservoir along the bank nearest the proposed hiking trail for bank fishing; and (3) evaluating some off-site habitat improvements upstream along the South Fork Stanislaus River, such as in the Frazier Flat area near the existing FS campground.

These measures could provide some fisheries benefits until such time as minimum flows may be increased in the bypass reach. Article 408 requires PG&E to develop, after consultation with CDFG, FWS, and FS, a fisheries enhancement plan for the project area.

Thus, I conclude that, in the circumstances of this case, our recommendations adequately and equitably protect, mitigate damage to, and enhance fish and wildlife resources affected by the project.

2 See Comprehensive Development section on page 1 for provisions of sections 4(e) and 10(a) of the Act.



Summary of Findings

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. The EA concluded 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. Further, the EA concluded that issuance of this license is not a major federal action significantly affecting the quality of the human environment. I am issuing this license adopting the staff-recommended alternative.

Term of the License

Section 15 of the Act specifies that any license issued shall be for a term which the Commission determines to be in the public interest, but not less than 30 years, nor more than 50 years. This provision is consistent with the Commission's policy which establishes 30-year terms for those projects which propose no new construction or capacity, 40-year terms for those projects that propose a moderate amount of new development, and 50-year terms for those projects that propose substantial new development.

PG&E does not propose new construction or capacity; therefore, the new license will be issued for 30 years.

The Director orders:

(A) This license is issued to Pacific Gas and Electric Company (Licensee) for a period of 30 years, effective the first day of the month in which this order is issued, to operate and maintain the Phoenix Project. This license is subject to the terms and conditions of the Act, which is incorporated by

reference as part of this license, and 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:

Exhibit G-	FERC Drawing No. 1061-	Showing
1	14	General map
2	15	Lyons reservoir
3	16	Lyons reservoir and main Tuolumne canal
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4	17	Main Tuolumne canal
5	18	(continued)
6	19	(continued)
7	20	(continued)
8	21	(continued)
9	22	Phoenix powerhouse

(2) Project works consisting of: (a) Lyons dam, a 132-foot-high concrete arch dam; (b) Lyons reservoir with a surface area of 184 acres; (c) a 20-foot-high "cushion" dam located 80 feet downstream of Lyons dam; (d) the 15.4-mile-long Main Tuolumne canal; (e) a 1.1-mile-long penstock; (f) a powerhouse containing one generating unit with a rated capacity of 1.8 MW; and (g) other appurtenances.

The project works generally described above are more specifically described in exhibit A of the application, section

3, titled "Turbines-generators", page A-2 and section 5 titled "Additional Equipment", and shown by exhibit F:

Exhibit F-	FERC Drawing No. 1601-	Showing
1	9	Lyons dam and spillway
2	10	Cushion dam, intake and typical canal sections
3	11	Penstock profile and spill pipe
4	12	Header box details
5	13	Phoenix powerhouse

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

(C) Those sections of exhibit A and exhibits F and G described above are approved and made part of the license.

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(D) This license is subject to the articles set forth in Form L-1 (October 1975), entitled "TERMS AND CONDITIONS OF LICENSE FOR CONSTRUCTED MAJOR PROJECT AFFECTING LANDS OF THE UNITED STATES", except article 20, and the following additional articles. Articles 101 through 106 were submitted by the Forest Service 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

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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 the 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 such 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.

Article 102. Each year during the 60 days preceding the anniversary 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 its operation that may be necessary to accomplish natural resource protection.

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

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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 of departure, the Licensee shall file a report with the Commission describing the changes, 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 102 or any article of this license.

Article 104. 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 location 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 procedure of Article 102 of the license. Any changes to the license made for any reason pursuant to Article 102 or Article 103 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 105. During the construction and operation of the facilities authorized by this license, the Licensee shall maintain each year, immediately below the point of diversion for the Philadelphia ditch licensed under the Spring Gap-Stanislaus Project No. 2130, the following minimum streamflows:

October	8 cfs
November through June	10 cfs
July	8 cfs
August through September	5 cfs

In dry water years (as determined by the California Department of Water Resources) a constant release of 5 cfs is required.

These minimum streamflows will be released below Lyons reservoir in accordance with the minimum flows shown above, regardless of the existence of any agreements executed by PG&E providing the diversion of project waters to supply domestic consumption from project facilities. These minimum streamflows below Lyons reservoir will be made in concert with simultaneous



releases made from the Philadelphia ditch of identical flows to meet required fishery habitat requirements.

Such releases from the Philadelphia ditch diversion shall not be made in a manner which diminishes the existing recreational integrity of water levels provided by Pinecrest lake, nor shall they be made in a manner which adversely affects the domestic consumptive demands required by Tuolumne County.

The release of minimum streamflows in accordance with the provisions of this condition shall be voluntary on the Licensee unless otherwise required by the Commission until the date of termination of the Spring Gap-Stanislaus Project 2130 license on 12/31/2005 3. At that time the provisions of this license condition shall become mandatory on the holder of the Phoenix license.

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 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 stream gage, 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 streamgage 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 year. The

report must be filed with the Stanislaus National Forest.

Article 201. The Licensee shall pay the United States the following annual charges as determined by the Commission, effective the first day of the month in which this license is issued for the purposes of:

a. Reimbursing the United States for the cost of administration of Part I of the Act. The authorized installed capacity for that purpose is 2,300 horsepower.

b. Reimbursing the United States for the use, occupancy and enjoyment of 27.59 acres of its lands, other than for transmission line right-of-way.

3 We assume FS intended to make the requirement of this article mandatory upon issuance of a new license for Project 2130, not expiration of the current license.



Article 202. If the Licensee's project was directly benefitted by the construction work of another Licensee, a permittee, or the United States on a storage reservoir or other headwater improvement during the term of the original license (including extensions of that term by annual licenses), and if those headwater benefits were not previously assessed and reimbursed to the owner of the headwater improvement, the Licensee shall reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed. The benefits will be assessed in accordance with Subpart B of the regulations.

Article 203. Pursuant to Section 10(d) of the Act, a specified reasonable rate of return upon the net investment in the project shall be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. The Licensee shall set aside in a project amortization reserve account at the end of each fiscal year one half of the project surplus earnings, if any, in excess of the specified rate

of return per annum on the net investment. To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year, the Licensee shall deduct the amount of that deficiency from the amount of any surplus earnings subsequently accumulated, until absorbed. The Licensee shall set aside one-half of the remaining surplus earnings, if any, cumulatively computed, in the project amortization reserve account. The Licensee shall maintain the amounts established in the project amortization reserved account until further order of the Commission.

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

Article 204. (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 type of use and occupancy of project lands and water for which the Licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 watercraft at a time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancement. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the Licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The Licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the Licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline. To implement this paragraph (b), the Licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the Licensee's costs of administering the permit program. The Commission reserves the right to require the Licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The Licensee may convey easements or rights-of-way across, or leases of, project lands for: (1) replacement, expansion, realignment, or maintenance of bridges or roads where all

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necessary state and federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kV or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir. No later than January 31 of each year, the Licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed.

(d) The Licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 60 days before conveying any interest in project lands under this paragraph (d), the Licensee must

submit a letter to the Director, Office of Hydropower Licensing, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked exhibit G or K map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the Licensee to file an application for prior approval, the Licensee may convey the intended interest at the end of that period.

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

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

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

(3) The instrument of conveyance must include the following covenants running with the land : (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; (ii) the grantee shall take all reasonable precautions to insure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project; and (iii) the grantee shall not unduly restrict public access to project waters.

(4) The Commission reserves the right to require the Licensee to take reasonable remedial action to correct any

violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

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

(g) The authority granted to the Licensee under this article shall not apply to any part of the public lands and

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reservations of the United States included within the project boundary.

Article 401. Within 6 months from issuance of this license, the Licensee shall file with the Commission, for approval, a plan for the design and construction of a system that will automatically detect a conduit or penstock failure and immediately shut off flow in the conduit or penstock at the headworks in the event of such a failure.

The plan, at a minimum, shall include: (1) design drawings; (2) a schedule for installation and testing of the system; (3) a schedule for annual testing of the system for the life of the project; and (4) a description of contingency measures to manually close off the conduit or penstock when the system is not operational.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission.

Article 402. Within 6 months from issuance of this license, the Licensee shall file with the Commission, for approval, a plan to remove and dispose of accumulated sediment from the project reservoir.

Sediment removal may be accomplished by use of flushing flows in the bypass reach during periods of high winter discharge if this can be done without adversely affecting downstream aquatic habitat. The plan should include monitoring to determine the impacts of flushing flows. If monitoring shows that flushing flows degrade downstream aquatic habitat or adversely affect the fishery, the Licensee should modify the plan to use: (1) flushing at higher flows that will not adversely affect aquatic resources; or (2) physical removal of fine sediments (less than .05 inch in diameter) from the diversion area to an upland site.

The Licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service, the Forest Service, and the California Department of Fish and Game. The Licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The Licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations prior to filing the plan with the Commission. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons, based on project-specific information.

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The Commission reserves the right to require changes to the plan. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission.

Any future removal of accumulated sediment from the reservoir that may become necessary during the license term shall be carried out in accordance with the plan.

Article 403. At least 90 days before the start of any land-disturbing or land-clearing activities, the Licensee shall file with the Commission, for approval, a plan to control erosion, to control slope instability, and to minimize the quantity of sediment resulting from project construction (parking lot) and operation.

The plan shall be based on actual-site geological, soil, and groundwater conditions and on project design, and shall include, at a minimum, the following four items:

- (1) a description of the actual site conditions;
- (2) measures proposed to control erosion, to prevent slope instability, and to minimize the quantity of sediment resulting from project construction and operation;
- (3) detailed descriptions, functional design drawings, and specific topographic locations of all control measures; and
- (4) a specific implementation schedule and details for monitoring and maintenance programs for project construction and operation.

The plan shall provide for the reestablishment of the local flora on all areas denuded by new construction activities, except for roadways and other areas occupied by new project facilities. The plan should include measures to prevent erosion of exposed soil as soon as possible following cessation of active construction. The plan should provide for maintaining permanent erosion control measures and taking remedial measures if areas of erosion develop during project operation.

The Licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service, the Forest Service, and the California Department of Fish and Game.

The Licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The Licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations prior to filing the plan with the Commission. If

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the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons, based on geological, soil, and groundwater conditions at the site.

The Commission reserves the right to require changes to the plan. No land-disturbing or land-clearing activities shall begin until the Licensee is notified by the Commission that the plan is approved. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission.

Article 404. The Licensee shall release from the Phoenix Project, into the South Fork Stanislaus River, a minimum flow of 2 cubic feet per second (cfs), as measured immediately downstream of the diversion, or inflow to the project reservoir, whichever is less, for the protection and enhancement of fish and wildlife resources in the bypassed reach of the South Fork Stanislaus River.

This flow may be temporarily modified if required by operating emergencies beyond the control of the Licensee, and for short periods upon agreement between the Licensee and the California Department of Fish and Game. If the flow is so modified, the Licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.

Article 405. The Licensee shall limit the maximum rates of change in river flow (ramping rates) in the bypass reach of the South Fork Stanislaus River so not to exceed 30 percent of existing flow per hour, as measured at the streamflow gage required by article 406.

Article 406. Within 6 months from the date of issuance of this license, the Licensee shall file with the Commission, for approval, a plan to install, operate, and maintain a streamflow gage in the South Fork Stanislaus River to monitor the minimum flows and ramping rates required by articles 404 and 405.

The Licensee shall prepare the plan after consultation with the U.S. Geological Survey, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game. The plan shall include provisions for providing data to the agencies within 30 days of a request for the data.

The Licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The Licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission.

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

The Commission reserves the right to require changes to the plan. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission.

Article 407. The Commission reserves the right to require changes in project operation to ensure the best comprehensive development of the South Fork Stanislaus River basin.

Article 408. Within 6 months from the date of issuance of this license, the Licensee shall file with the Commission, for approval, a plan to enhance fishery habitat and fishing opportunities in the project area.

The plan, at a minimum, shall include:

- (1) detailed descriptions of the fisheries enhancement measures, including consideration of the following measures: (a) providing additional stocking of catchable rainbow trout four times a year in the Main Tuolumne Canal; (b) making some habitat improvements in Lyons Reservoir along the bank nearest the proposed hiking trail for bank fishing; and (c) evaluating some off-site habitat improvements upstream along the South Fork Stanislaus River, such as in the Frazier Flat area near the existing Forest Service

campground;

- (2) design drawings and map locations of the enhancement measures; and
- (3) schedules for implementing the fisheries enhancement measures.

The Licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service, the California Department of Fish and Game, and the Forest Service. The Licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The Licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons, based on project-specific information.



The Commission reserves the right to require changes to the plan. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission.

Article 409. At least 90 days before the start of any land-disturbing or land-clearing activities at the project, the Licensee shall file with the Commission, for approval, a plan to protect the candidate plant species Stebbins' lomatium (*Lomatium stebbinsii*). The plan shall include, but not be limited to, the following:

- (1) the results of a preconstruction survey by a professional botanist of all areas to be disturbed by development of project recreational facilities;
- (2) measures, including protective fencing, to protect the candidate species; and

- (3) an implementation schedule for the protective measures.

The Licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service, the Forest Service, and the California Department of Fish and Game. The Licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments and recommendations are accommodated by the plan. The Licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. No land-disturbing or land-clearing activities shall begin until the Licensee is notified by the Commission that the plan is approved. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission.

Article 410. The Licensee shall implement the Report on Recreational Resources, filed on March 9, 1990, consisting of five pages of text and two drawings. The plan includes the following measures to meet recreation needs and protect the reservoir watershed: (1) closing to motorized use all access roads to Lyons reservoir except Lyons Dam Road; (2) allowing motorized access on Lyons Dam Road during the recreation season (May through October) by opening the existing locked gate; (3) constructing a gravel parking area with 10 to 15 spaces at the end of Lyons Dam Road near the site of the old resort; (4) providing one single vault toilet, drinking water, and trash containers at the parking lot; (5) installing barriers around the



parking area precluding motorized access to the reservoir shoreline; and (6) improving public access to the main Tuolumne canal, downstream from Lyons dam, by removing the existing barriers at Section 4 Ditch and providing a parking area for 5 to 10 cars.

Within 90 days of the construction and installation of these improvements, the Licensee shall file, with the Commission, maps showing their locations and details.

Article 411. The Licensee, after consultation with the Forest Service, the National Park Service, the California Department of Parks and Recreation, and Tuolumne County, shall monitor recreational use in the project area to determine whether existing recreation facilities are meeting recreation needs. Monitoring studies shall begin within 6 years of the issuance date of this license. Monitoring studies, at a minimum, shall include the collection of annual recreation use data.

Every 6 years during the term of the license, the Licensee shall file a report with the Commission on the monitoring results (Form 80 can be filed concurrently with this report). This report shall include:

- (1) annual recreation use figures;
- (2) a discussion of the adequacy of the Licensee's recreation facilities at the project site to meet recreation demand;
- (3) a description of the methodology used to collect all study data;
- (4) if there is a need for additional facilities, a recreation plan proposed by the Licensee to accommodate recreation needs in the project area;
- (5) documentation of agency consultation and agency comments on the report after it has been prepared and provided to the agencies; and
- (6) specific descriptions of how the agencies' comments are accommodated by the report.

The Licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations prior to filing the report with the Commission.

Article 412. The Licensee, after consultation with the California State Historic Preservation Officer (SHPO) and the Forest Service, Stanislaus National Forest (FS), and before beginning any land-disturbing, land-clearing, or spoil-producing

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activities associated with continued operation of the project, shall implement the cultural resources management plan filed with the Commission on March 9, 1990, to avoid and mitigate impacts to archeological and historic sites CA-TUO-935, 1409H, 2111, and 2112H. Within 3 years after the date of this license, the Licensee shall file copies of (1) reports prepared on excavations and other activities identified in the plan to mitigate and avoid impacts to these sites, and (2) letters from the SHPO and the FS commenting on the adequacy of the reports and on-going activities to ensure avoidance and protection of these sites. The plan shall be implemented in a manner satisfactory to the SHPO and the FS, and adhere to the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation.

The Licensee shall make funds available in a reasonable amount for implementing the cultural resources management plan, conducting avoidance and mitigative work, and documenting these activities in reports. If the Licensee, the SHPO, and the FS cannot agree on the amount of money to be spent for these activities, the Director, Office of Hydropower Licensing, reserves the right to require the Licensee to conduct the necessary work at the Licensee's own expense.

Article 413. The Licensee, before starting any future land-clearing, land-disturbing, or spoil-producing activities associated with the project, shall consult with the California State Historic Preservation Officer (SHPO) and the Forest Service, Stanislaus National Forest (FS), and shall conduct a cultural resources survey of the affected areas. Further, the Licensee shall file for Commission approval a report containing the survey results and a cultural resources management plan to avoid or mitigate impacts to any significant archeological or historic sites identified during the survey, and the written comments of the SHPO and the FS on the report. The survey and the plan shall be based on the recommendations of the SHPO and the FS, shall be conducted and prepared by a qualified cultural resources specialist, and shall adhere to the Secretary of the Interior's Guidelines for Archeology and Historic Preservation.

The report shall contain the following:

- (1) a description of each discovered site, indicating whether it is listed or eligible to be listed on the National Register of Historic Places;
- (2) a description of the potential effect on each discovered site;
- (3) proposed measures for avoiding or mitigating the effects;

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- (4) documentation of the nature and extent of consultation with the SHPO and the FS; and
- (5) a schedule for mitigating effects and conducting additional studies.

The Commission may require changes to the plan or the report.

The Licensee shall not implement a cultural resources management plan or begin any land-clearing, land-disturbing, or spoil-producing activities until informed by the Commission that the requirements of this article have been fulfilled.

(E) The Licensee shall serve copies of any Commission filing required by this order on any entity specified in this order to be consulted on matters related to that filing. Proof of service on these entities must accompany the filing with the Commission.

(F) This order is issued under authority delegated to the Director and constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days from the issuance date of this order, pursuant to 18 C.F.R. 385.713.

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Fred E. Springer
Director, Office of
Hydropower Licensing

