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APR 24 1979

Decision No. 90211

ORIGINAL

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

In the Matter of the Application of)
 PACIFIC GAS AND ELECTRIC COMPANY for)
 a certificate of public convenience)
 and necessity to construct, install,)
 operate, maintain, and use Kerckhoff 2)
 Power Plant, together with transmission)
 lines and related facilities.)
 (Electric))

Application No. 57735
(Filed December 9, 1977)

- Malcolm H. Furbush, Robert Ohlback, and Kermit R. Kubitz, by Kermit R. Kubitz, Attorney at Law, for Pacific Gas and Electric Company, applicant.
- Denis Smaage, Deputy Attorney General, for California Department of Fish and Game; and John H. Missirlian Attorney at Law, for Sierra Association for Environment, protestants.
- Lewis E. Carpenter, for Sportsmen's Council of Central California, Intervenor.
- Bob Scott, for United Brotherhood of Carpenters and the Fresno, Kings, Madera, Tulare Counties Building and Construction Trades Council;
- Henry Doddridge, for Fresno County Sportsmen's Club; Julian Paul Hoffman, for U.S. Fish and Wildlife Service-Division of Ecological Services;
- Glenn Dorfmeier, for Sierra Land Use Committee; and J. Carl Motschieder, Attorney at Law, for Charles E. Laird; interested parties.
- Steven Weissman, Attorney at Law, and David H. Weiss, for the Commission staff.

O P I N I O N

By this application filed December 9, 1977, Pacific Gas and Electric Company (PG&E) seeks a certificate of public convenience and necessity under Public Utilities Code Section 1001 for the construction, operation, and maintenance of a hydroelectric power plant and related facilities to be known as Kerckhoff 2. The proposed project would be in the vicinity of PG&E's Kerckhoff 1 hydroelectric facility.

Kerckhoff 1 is located on the San Joaquin River downstream from PG&E's Crane Valley hydroelectric development and Southern California Edison Company's Big Creek hydro system. Water available and released from these upstream systems is currently impounded by Kerckhoff Dam and conveyed by a tunnel to the Kerckhoff 1 powerhouse. From the powerhouse the water returns to the San Joaquin River and flows downstream approximately 1-1/2 miles where it is impounded by the U.S. Bureau of Reclamation's Friant Dam to form Millerton Lake.

The Project Application

PG&E proposes to construct a new generating facility which would divert water through a new tunnel and powerhouse and return the water 1-1/2 miles further downstream into the headwaters of Millerton Lake. Construction of the new facilities will increase the verticle drop, or head by between 58 and 92 feet, increase the maximum flow from 1,700 cfs to 4,800 cfs, and increase the dependable capacity of the project from 38 megawatts to 151 megawatts. Although no new dam will be required, the project will necessitate the construction of new access roads, a powerhouse, intake structure, tunnel, surge tank, underground penstock, switchyard, discharge structure, communication facilities, and two 115 kV transmission taps of approximately 200 feet in length. In addition, PG&E proposes to reconstruct and reconductor the existing Kerckhoff-Sanger 115 kV transmission line. Once constructed, Kerckhoff 2 will be the primary project powerhouse instead of Kerckhoff 1. The existing plant would, however, be operated when flows in the river exceed the maximum amount usable by Kerckhoff 2, and during periods of time Kerckhoff 2 is out of operation for one reason or another.

The project is estimated to have a capital cost of \$112,427,000. Based upon 536 million kWh of production, the unit cost is estimated to be 3.3 cents per kWh. This compares with presented costs for alternative sources of equal capacity of 9.6 cents per kWh for gas turbines and 8.1 cents per kWh for combined cycle units.

PG&E estimated that Kerckhoff 2 could save 750,000 barrels of oil per year.

Commercial operation is scheduled for December 1, 1982 assuming all necessary permits and licenses are obtained in time to begin construction on July 1, 1979.

The project is subject to the licensing authority of the Federal Energy Regulatory Commission (FERC) as well as the jurisdiction of the PUC. The original federal license for Kerckhoff 1 expired December 1, 1972, but has been renewed on an annual basis since, pending final decision on relicensing. PG&E first applied for a new federal license for the existing Kerckhoff 1 project on August 28, 1970, but amended the application on June 10, 1977 to include Kerckhoff 2. FERC has reached no decision as yet on the amended application.

Application was made to this Commission on December 9, 1977. The application was accepted as complete on January 5, 1978. On February 22, 1978, the Commission staff filed a Notice of Preparation and Initial Study for the project which found a potential for significant environmental impact and recommended that an Environmental Impact Report (EIR) be prepared. The staff indicated that environmental review would be coordinated with FERC to minimize duplication of effort. FERC issued its Draft Environmental Impact Statement (EIS) on August 17, 1978, which was subsequently adopted by our staff as its Draft EIR.

By Decision No. 89784 dated December 19, 1978, we granted the request of PG&E to waive the applicable time limits for completing and certifying the EIR and for approving or disapproving the project.

After notice and publication, four days of public hearing were held before Administrative Law Judge J. J. Doran in Fresno commencing January 30, 1979. The matter was submitted upon the filing of briefs February 20, 1979. FERC issued its Final EIS March 1, 1979. By Exhibit 20, late filed on March 16, 1979, the Commission staff adopted the Final EIS as a final combined EIR-EIS for the project.

The Affected Environment

The project area comprising approximately 1,096 acres is located 25 miles northeast of the Fresno-Clovis Metropolitan Area in the foothills of the Sierra Nevada. The area is dominated by the San Joaquin River and river gorge, Kerckhoff and Millerton Lakes, and other features of the Squaw Leap Management Area.

The terrain is rugged and relatively undisturbed. From Kerckhoff Lake the river flows through a steep-walled gorge 10 miles to Millerton Lake. The gorge drops as much as 1,700 verticle feet from the highest point on the canyon rim. The river is virtually inaccessible through the length of the gorge and is subject to dangerous fluctuations below Kerckhoff 1 powerhouse. The 4,000-acre Squaw Leap Management Area administered by the United States Bureau of Land Management (BLM) is bisected by the gorge. Prior to 1969 this area was managed entirely for wildlife purposes. Since that time BLM has encouraged limited recreational use oriented around the natural landscape and wildlife features of the region. Only basic conveniences such as portable toilets and garbage cans are provided.

Vegetation is rather typical of the foothills consisting of open grassy areas interspersed with stands of oaks, pines, and shrubs, with denser riparian growth occurring along intermittent streams and in the vicinity of several springs.

Average annual precipitation in the project area ranges from 10 to 24 inches, with approximately 90 percent of that amount occurring between November and April. Summers are hot and dry. Available water appears to be the limiting factor to both habitat and wildlife production.

Golden eagles and southern bald eagles, the latter an endangered species, migrate into the project region and hold over during the winter. The eagles utilize the Kerckhoff area and nearby reservoirs for feeding purposes and occasionally for nesting. The California condor, also an endangered species, has also been reported to occur in the vicinity of the project.

The San Joaquin River between Kerckhoff 1 powerhouse and Millerton Lake supports a variety of aquatic life and reportedly serves as a spawning area for landlocked populations of striped bass and American shad. Although neither threatened nor endangered, the shad population is the only known reproducing landlocked population in the world. Landlocked populations of striped bass are known to exist elsewhere, but are uncommon.

Ethnographic literature and field studies have revealed the existence of a considerable number of archeological sites in the Kerckhoff area. Northern Hill Yokuts and the Western (or North Fork) Mono Indians apparently once occupied the lands encompassed by the project. Other Indian groups may also have made use of the area. Reconnaissance surveys recently carried out by PG&E, BLM, and personnel from the Laboratory of Archaeology/Cultural Resource Facility, California State University, Fresno, relocated 13 known sites and identified 24 new ones. Several of the sites have been determined to contain significant cultural resources. Four have already been determined eligible for listing in the National Register of Historic Places. BLM has submitted additional information on cultural resources in the Squaw Leap Management Area and nearby Millerton Lake State Recreation Area for nomination to the National Register as an archaeological district. The district, to be known as Squaw Leap Archaeological District would comprise over 2,000 acres and would include sites identified during surveys for the Kerckhoff project as well as sites in other portions of Squaw Leap.

The California Natural Area Coordinating Council (a private, non-profit organization) has designated Millerton Lake State Recreation Area, Squaw Leap, Table Mountain, and the San Joaquin River Gorge as critical natural areas. The San Joaquin River Gorge has also been proposed as a Landscape Preservation Area by the California Department of Parks and Recreation.

Positions of the Parties

BLM, the administering agency for the Squaw Leap Management Area where many of the impacts of the project will occur has indicated that most areas of concern have been resolved through meetings with PG&E. Written comments on these concerns and agreements were submitted in response to the Draft EIS. Agreement was reached between BLM and PG&E with respect to a variety of mitigation measures covering recreation, wildlife habitat, archaeology, scenic values, and threatened and endangered plants. BLM stated that access roads will entail the greatest impact of resources in the management area, but nevertheless felt PG&E's preferred access route consisting of an extension of Wellbarn Road into the management area could be permitted. Once construction is completed, BLM would require PG&E to install a locked gate and fencing to limit access into Squaw Leap to authorized vehicles. The potential impacts on vegetation associated with deposition of tunnel spoil in riparian areas was also an important area of concern to BLM because of the relative scarcity and high productivity of this habitat type. BLM expressed concern that revegetation of native species may not be successful on highly permeable piles of aggregate spoil. To the extent that revegetation is unsuccessful in compensating for project related losses in wildlife habitat, BLM felt wildlife losses would be permanent rather than temporary.

The U.S. Fish and Wildlife Service was also concerned about the impacts on fish and wildlife and suggested that PG&E make a firm commitment to develop and implement plans to reduce losses to the maximum extent practicable and compensate for unavoidable losses prior to project authorization.

The California Department of Fish and Game (DFG) went considerably beyond the U.S. Fish and Wildlife Service's suggestions, and proposed a series of conditions to protect fish, wildlife, and their habitats. DFG was particularly concerned about insuring adequate river flows for the spawning population of shad and bass. According to DFG, reduced flows could increase water temperatures by as much as 10^oF. which could have as significant an effect upon fish populations as eliminating the downstream flow entirely. The potential loss of spring systems and associated riparian vegetation was also cited by DFG as an impact of significance. DFG concurred with BLM that deposition of spoil on top of springs and riparian vegetation would result in loss of the water resource, related habitat, and the wildlife dependent upon the area. The certificate conditions recommended by DFG to mitigate impacts of their concern are attached as Appendix A to this decision.

The California Energy Conservation and Development Commission (Energy Commission) expressed general support for the project, noting that it would have lasting environmental benefits by reducing air pollution from the use of fossil fuels and by reducing dependence on non-renewable resources. The Energy Commission observed that maintaining flows to insure sufficient water to permit spawning could entail some loss of energy production during the spring months. These months are not, however, months of high demand for the PG&E system. The Energy Commission suggested that adverse impacts on fisheries could be mitigated while minimizing the reduction in energy production by utilizing the full capacity of Kerckhoff 1 and partial use of Kerckhoff 2 during the spawning season.

PG&E views the project as an inexpensive source of clean, renewable power and has vigorously pursued their application. They feel that agreements which have been reached and those still in the process of negotiation will result in reasonable mitigation of all adverse environmental impacts.

The Sierra Association for Environment has argued that too little information has been presented to allow an intelligent choice of access roads. They further contend that the evidence which has been developed should preclude the use of the proposed Wellbarn Road extension. In their opinion access can and should be obtained over the presently existing Smalley Road. This alternative access route would minimize impacts in the Squaw Leap area.

The Sportsmen's Council of Central California expressed concern about a number of potential impacts and recommended that: (1) adequate flows be guaranteed below Kerckhoff Reservoir to maintain a temperature of 27 degrees centigrade between Kerckhoff and Millerton Lakes, (2) spoil piles be thoroughly reclaimed with soil and native grasses, forbs and shrubs, and (3) if springs are destroyed, an equal amount of water be furnished in the area of the lost source.

The Fresno County Sportsmen's Club expressed essentially the same concerns as the Sportsmen's Council, but, in addition, stated a preference for Wellbarn Road over the alternative of using Smalley Road for project access.

The Sierra Land Use Committee considered the Draft EIR deficient with respect to recreational issues.

Charles Laird, an owner of property on Kerckhoff Lake, suggested that the proposed recreation plan be revised to eliminate the provisions for boating and overnight camping, except camping by organized groups on a reservation basis. He did not find picnic facilities or hiking trails objectionable.

The PUC staff felt the principal environmental issues of concern were: (1) necessary mitigation measures to protect the fishery, and (2) the choice of access roads to the project construction sites. The staff is of the opinion that adequate information has been provided and discussed in the EIR to permit resolution of these issues, but left their resolution entirely to the considered judgement of the Commission without recommendation.

Discussion

This project will provide a highly desirable, clean, inexpensive source of power and will decrease to a small, but significant degree, our dependence upon nonrenewable forms of energy. It has far less environmental impact than most hydroelectric projects since no new dam construction is required. There are, however, several areas of impact which are of significance.

Impacts upon the Fishery

A considerable amount of attention was given by DFG and others in this proceeding to the impact of the proposed project on the striped bass and American shad populations in Millerton Lake. Both species normally spend part of their life cycles in marine waters, and ascend fresh water streams and rivers to spawn. For unknown reasons both have apparently been reproducing under landlocked conditions in the stretch of the San Joaquin River between Millerton Lake and the Kerckhoff 1 powerhouse. The shad population is the only known reproducing landlocked population in the world. Reproducing landlocked populations of striped bass are uncommon. We agree with DFG that mitigation measures are appropriate under these unusual conditions. The unique character of the fishery in this portion of the project area is not, however, the sole or even the primary reason we feel mitigation is necessary. A wide variety of aquatic species, in addition to bass and shad, inhabit the river between Kerckhoff Dam and Millerton Lake. Some are game species important for recreational purposes, others are simply elements of the environment important in no special or unique respect. Where reasonably feasible, impacts upon such natural communities should be mitigated to the greatest extent possible. Natural features of the environment such as these aquatic resources need not be unique to warrant preservation; the unusual qualities of this environment simply make mitigation more important than under less exceptional circumstances.

Diverting flows through Kerckhoff 2 may, under some conditions, deplete the river below Kerckhoff 1 to such an extent that aquatic resources in the area may be lost and the fish unable to spawn. PG&E and DFG are discussing a range of measures to avoid these impacts. Additional study is necessary to fully document the timing, location, duration, and physical factors associated with spawning activity, and to evaluate the adequacy and necessity of the measures under discussion. Until such evaluation is completed we find the conditions recommended by the DFG to be reasonable and appropriate mitigation measures.

Implementation of these measures will impact energy production at the project to some extent. Historic data indicates sufficient river flow in 9 years out of 20 to fully power Kerckhoff 2 and provide the necessary stream flow. There exists some potential for energy production losses in 11 years out of 20. During these years flow could be maintained during the critical spring spawning period in any of three different methods: (1) Kerckhoff 2 could be shutdown allowing all available water to flow the length of the river between the reservoir and Millerton Lake unimpaired, (2) water could be diverted through Kerckhoff 1 to its capacity during this period, assuring flow in the river and below Kerckhoff 1, and (3) Kerckhoff 1 could be utilized to full capacity with flow in excess of such capacity diverted through Kerckhoff 2. PG&E presented estimates of production losses under each of these alternatives in terms of oil equivalent. Assuming water is allowed to flow the length of the river unimpaired for a period of 45 days, the loss is estimated as equivalent to 176,000 barrels of oil. If operation of Kerckhoff 1 were continued, the loss would drop to 127,000 barrels, and if Kerckhoff 2 was operated to utilize flows in excess of the capacity of Kerckhoff 1, the loss would approximate only 15,900 barrels. Estimates for a 14 day period of production curtailment under each scenario were 56,000, 40,000, and 4,900 barrels, respectively.

These statistics indicate that, while it may be necessary to lose some energy production in order to mitigate impacts on aquatic resources, the extent of the loss can be substantially reduced by prudent plant operation. In years when necessary, such releases will be required for periods during the spring; normally a period of high water flow and low PG&E system power needs.

Project Access Route

PG&E proposed that access be obtained to the project area by reconstruction and extension of Wellbarn Road. Approximately 2.5 miles of existing road would have to be widened and improved, and 2.6 miles of new road would have to be constructed. Use of Smalley Road, the existing access route to Kerckhoff 1, was considered as an alternate. 5.7 miles of Smalley Road would have to be realigned and 4.2 miles resurfaced. PG&E preferred use of Wellbarn Road because this route to the site would be shorter, and according to PG&E, less expensive. The company estimated the cost of improving Smalley Road to be between \$1.6 and \$1.9 million compared \$1.3 million for Wellbarn Road.

Either alternative will involve significant environmental impacts including disruption of vegetation, wildlife and scenic values. The extension of Wellbarn Road into a roadless area would, however,

entail far greater impacts than improvement of presently existing Smalley Road. The Wellbarn Road extension would be visible from hiking trails in the Squaw Leap Management Area and would severely disrupt that natural character of the landscape. It would improve access to a presently isolated area and thereby facilitate increased use and the potential for damage to plants, wildlife, and sensitive archaeological sites. Construction of a new road into such a sensitive area cannot be justified, particularly in view of the availability of Smalley Road as an alternative.

PG&E will be required to take all necessary measures to minimize the impacts of reconstruction along Smalley Road. Clearing should be kept to the minimum necessary for road construction activities. Revegetation should begin immediately after grading activities are completed. These areas should be seeded with native grasses and forbs and planted with native woody species to blend disturbed areas with existing communities. Access to BLM must be limited both during and after construction activities by construction, operation and maintenance of gate structures as required to protect BLM management objectives. Roads not necessary for project operation and maintenance must be removed and the land restored after construction is completed.

Spoil Areas

Permanent loss of environmental quality would result from the disposal of spoil composed of tunnel excavation material. PG&E proposes to employ three sites for spoil disposal. If the tunnel is constructed using a tunnel boring machine, the main spoil area would be located at the switchyard; if conventional methods are utilized, the main area would be at the mid-tunnel adit. In either case, disposal areas would be located at the intake structure and along the south bank of the tailrace channel. Approximately 530,000 cubic yards of material will have to be disposed.

Spoil areas will effect irreversible changes in the land features and environment of the area. Approximately 30 acres of existing wildlife habitat, including both foothill woodland and aquatic riparian habitats, will be eliminated. Fresh rock spoil and altered contours will contrast sharply with the surrounding weathered granite and vegetated areas creating lasting visual impacts. PG&E has proposed careful pocket planting to help reduce these impacts, but only limited success can be expected.

Some of these impacts are unavoidable. To the extent possible they should, however, be mitigated. PG&E will be required to grade necessary disposal areas to blend to the greatest extent possible with the existing contours of the land. Topsoil shall be stockpiled in spoil areas to facilitate pocket planting and to provide more favorable soil for natural revegetation. If insufficient topsoils are present, topsoils shall be brought in from other areas.

Of major concern to all parties is the adverse impact on watercourses, existing springs, and associated riparian vegetation. The relative scarcity and high productivity of these habitats make their preservation particularly important. PG&E feels that disposal of spoil in the tailrace channel and on the watercourse of a spring in the vicinity of the switchyard is unavoidable. We are not convinced of the necessity of these areas for disposal. In view of their importance, we feel riparian vegetation and natural watercourses should be avoided to the greatest extent feasible. Sale of excavated material as aggregate has been considered as an alternative to reduce the impact of spoil disposal in the area. PG&E should aggressively pursue this alternative in order that impacts on riparian areas be minimized. If excavated material cannot be disposed of in this manner, the tailrace site may be used for disposal as proposed. In no event, however, should the riparian vegetation and watercourse in the switchyard area be covered. From the evidence before us, alternatives which would avoid substantial disruption of this area appear reasonable and feasible.

Wildlife

Two golden eagle nests were reported to be located on the south side of Squaw Leap. One nest was active during the nesting seasons of 1977 and 1978 and succeeded in fledging two young each year. The impacts of project construction on these nesting golden eagles would be limited by the fact that the closest project feature will be more than three-quarters of a mile from the nearest known nest and cannot be seen from the nest site. DFG does not foresee any substantial direct impact to the eagles in the area. The potential for harassment exists, but enforcement of existing laws and education of project workers could reduce this threat.

Wintering bald eagles have been sighted in the vicinity of the project area at the existing Kerckhoff reservoir and Millerton Lake. There is no evidence of a bald eagle nest on the project site nor in the vicinity. The nearest known active bald eagle nest is at Lake Pillsbury in Mendocino County.

In order to mitigate and partially compensate for anticipated wildlife and habitat losses in the project area, PG&E developed a wildlife management plan. The draft plan, submitted to DFG and BLM, requires PG&E to construct ponds and install a guzzler plus thin and pile brush. The number of ponds constructed and acres of brush thinned and piled will depend on the tunneling method employed. DFG has reviewed the draft and has discussed its concerns with PG&E. The plan appears to meet the objectives of the Squaw Leap Management Plan prepared by BLM in 1971. We foresee no difficulty developing an adequate final wildlife plan.

Findings

1. PG&E proposes to construct, operate, and maintain a hydroelectric facility to be known as Kerckhoff 2 which will have a dependable capacity of 151,000 kW and will produce 536 million kWh in an average year.
2. The project will require construction of new access roads, a powerhouse, intake structure, tunnel, surge tank, underground penstock, switchyard, discharge structure, communication facilities, and two 115 kV transmission taps of approximately 200 feet in length.
3. No new dam construction will be required.
4. Once constructed, Kerckhoff 2 will be the primary project powerhouse, replacing existing Kerckhoff 1.
5. PG&E will, however, continue operation and maintenance of Kerckhoff 1 until such time as it becomes unserviceable.
6. The project is estimated to have a capital cost of \$112,427,000 and a unit cost of 3.3 cents per kWh.

7. Costs for alternative sources of equal capacity are estimated to be 9.6 cents per kWh for gas turbines and 8.1 cents per kWh for combined cycle units.

8. Commercial operation is scheduled for December 1, 1982.

9. The project will be located in the foothills of the Sierra Nevada, 25 miles northeast of Fresno.

10. Terrain in the area is rugged and relatively undisturbed.

11. It is managed by BLM for wildlife and limited recreational use oriented around the natural features of the area.

12. The area contains sensitive wildlife, wildlife habitats, and numerous archaeological sites of importance.

13. The San Joaquin River Gorge has been proposed as a Landscape Preservation Area by the California Department of Parks and Recreation.

14. The only known landlocked population of reproducing American shad inhabits the San Joaquin River in the vicinity of the project.

15. Diverting flows through Kerckhoff 2 may, under some conditions, deplete the river below Kerckhoff 1 to such an extent that aquatic resources in the area may be lost and the fish unable to spawn.

16. DFG and PG&E are in substantial agreement on the provision for fish flows from Kerckhoff Dam to sustain the aquatic resources.

17. Certificate conditions recommended by DFG to mitigate project impacts on aquatic resources appear adequate and appropriate until further studies are completed.

18. Implementation of the DFG recommended conditions will impact energy production at the project; however, historic data indicate virtually no impact on energy production in 9 years out of 20.

19. During 11 years out of 20 lost energy production may range from the equivalent of 176,000 barrels of oil to approximately 4,900 barrels.

20. The energy loss due to required fish flow releases can be substantially influenced and significantly reduced by prudent plant operation.

21. Use of either the proposed Wellbarn Road extension or the alternative Smalley Road would involve significant environmental impacts including disruption of vegetation, wildlife, and scenic values.

22. The cost of reconstructing Smalley Road to provide access to the project area is estimated to be between \$1.6 and \$1.9 million.

23. The estimated cost of reconstructing and extending Wellbarn Road is \$1.3 million.

24. The extension of Wellbarn Road into a roadless area would have far greater impacts than improvement of presently existing Smalley Road.

25. Permanent loss of environmental quality would result from the disposal of spoil in the project area.

26. Watercourses, existing springs, and associated riparian vegetation are scarce and highly productive environmental habitats.

27. We are not convinced of the necessity for use of these riparian areas as disposal sites.

28. Sale of excavated material as aggregate appears to be a feasible measure which could mitigate impacts of spoil disposal on riparian areas.

29. PG&E's wildlife management plan appears adequate to meet the objectives of the Squaw Leap Management Plan prepared by BLM, and mitigate the project impacts on wildlife.

30. BLM and DFG should obtain final agreement on satisfactory mitigation measures prior to project construction.

31. The proposed project is essential to meet the future public convenience and necessity.

32. The project will provide a highly desirable, clean, inexpensive source of power and will decrease our dependence upon nonrenewable forms of energy.

33. Alternatives are more polluting, more expensive, and would deplete nonrenewable resources.

34. The proposed project could have a significant effect upon the environment.

Conclusions

1. The certificate conditions recommended by DFG to mitigate project impacts on aquatic resources as indicated in Appendix A should be adopted until further studies are completed.

2. Smalley Road shall be used for access to the project area in lieu of PG&E's proposed extension of Wellbarn Road.

3. Road reconstruction and access along Smalley Road should be mitigated as discussed in this opinion.

4. PG&E should aggressively pursue the sale of aggregate in mitigation of impacts associated with proposed spoil disposal at the project site.

5. Use of the tailrace channel area for spoil disposal should be avoided or minimized to the greatest extent feasible.

6. Riparian vegetation, springs, and natural watercourses in the proposed switchyard area should not be disturbed by the deposition of spoil.

7. The Commission hereby certifies that the Final EIR has been completed in compliance with the California Environmental Quality Act and the EIR Guidelines, and that it has reviewed and considered the information contained therein in reaching this decision.

8. Potential environmental impacts of significance have been adequately mitigated by project design, construction and operation methods, modifications to the project during this proceeding, and by conditions imposed in this opinion.

9. Any remaining environmental impacts are outweighed by the beneficial effects of the project referred to in Finding 32.

10. A certificate of public convenience and necessity should be issued for the construction, operation, and maintenance of PG&E's Kerckhoff 2 Project.

11. The Commission should review and reconsider, as necessary, modifications to the adopted conditions for mitigation of impacts to aquatic resources and impacts associated with spoil disposal.

O R D E R

IT IS ORDERED that:

1. A certificate of public convenience and necessity is granted to Pacific Gas and Electric Company to construct, operate, and maintain Kerckhoff 2 power plant, together with transmission lines and related facilities as proposed by Pacific Gas and Electric Company subject to the mitigation measures recommended in the Final Environmental Impact Report, and in this opinion.

2. Pacific Gas and Electric Company shall submit periodical reports to the Commission summarizing (1) efforts to arrange for the sale of spoil material as aggregate and (2) results of studies on aquatic resources in the project area.

A.57735 dz

The Executive Director of the Commission is directed to file a Notice of Determination for the project as set forth in Appendix B to this decision with the Secretary of Resources.

The effective date of this order shall be thirty days after the date hereof.

Dated at San Francisco, California, this 24th day of APRIL, 1979.

John E. Bayne
President
Henry L. Stinson
Richard W. Howell
Robert T. ...
...
Commissioners

APPENDIX A
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Conditions Recommended by California Department of
Fish and Game to Mitigate Aquatic Impacts

1. Preoperational and full operational studies should be conducted on the impacts to American shad and striped bass followed by modification of project operations if studies demonstrate a need.

The preoperational studies should include, but need not be limited to:

- (a) Investigation into egg and larval transport and residence in the San Joaquin River above Millerton Lake.
- (b) Study of migration of American shad and striped bass.
- (c) Study of river and lake temperature as it relates to spawning and migration of American shad and striped bass.
- (d) Field sampling for eggs and larvae of American shad and striped bass.
- (e) Investigation into possible impacts of project construction and operation on areas within the San Joaquin River and Millerton Lake which are important habitat for American shad and striped bass.

Full operational studies will be necessary to further define project impacts and to identify means for mitigation and compensation. These studies should include, but need not be limited to:

- (a) A continuation of those preoperational studies deemed necessary to establish project impacts and to test the adequacy of mitigation or compensation efforts.
- (b) A series of post project operation studies with modification of the proposed operation schedule to include discharge of flow through Kerckhoff 1 powerhouse. Flows tested should range from 600 cfs up to 1,700 cfs, and duration of test flows should be as deemed appropriate up to a maximum of 45 days. No less than three such flow studies should be conducted during the first 10 years of project operation.

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2. A PG&E biologist, with responsibility for inspection and identification of project impacts to fish and wildlife, should be assigned to the project during the period of construction.

3. Mitigation for impacts to the resident fisheries of the San Joaquin River should include the following:

- (a) A year-round flow release from Kerckhoff Dam of not less than 25 cfs.
- (b) Release of additional water, up to 50 cfs, as necessary to maintain stream temperature at 27°C. or below. These supplemental releases should be made whenever the stream temperature exceeds 27°C. for four hours in any five consecutive days in a 30-day period.
- (c) A year-round flow release from Kerckhoff Dam of not less than 15 cfs whenever the California Department of Water Resources April 1 forecast of inflow to Millerton Lake is less than 500,000 acre-feet. The maintenance of 27°C. stream temperature will remain in effect.
- (d) Provision for flow release sufficient to remove undesirable sediment which may accumulate in the stream bed.

A.57735 /dz

APPENDIX B

NOTICE OF DETERMINATION

TO: Secretary for Resources
1416 Ninth Street, Room 1312
Sacramento, California 93814

FROM: California Public
Utilities Commission
350 McAllister Street
San Francisco, Calif. 94102

SUBJECT: Filing of Notice of Determination in compliance with
Section 21108 or 21152 of the Public Resources Code.

Project Title Kerckhoff 2 Hydroelectric Project

State Clearinghouse Number (If submitted to State Clearinghouse)
78091214

Contact Person Telephone Number
D. B. Steger 415/557-0442

Project Location
Fresno and Madera Counties, California

Project Description The project consists of an underground hydroelectric generator, above ground switchyard and transmission line, and associated tunneling for said generator.

This is to advise that the California Public Utilities Commission as lead agency has made the following determination regarding the above described project:

1. The project has been approved by the Lead Agency.
 disapproved
2. The project will have a significant effect on the environment.
 will not
3. An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
 A Negative Declaration was prepared for this project pursuant to the provisions of CEQA. A copy of the Negative Declaration is attached.

Date Received for Filing

Executive Director

Date