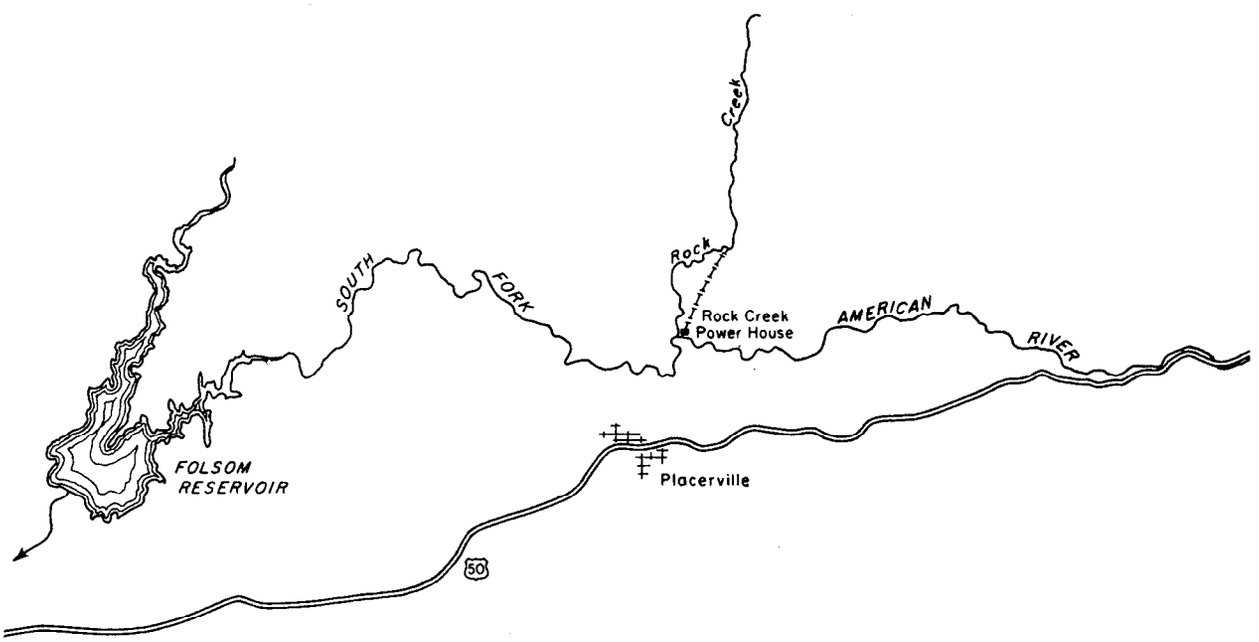
see: Order WR 84-6

ROCK CREEK HYDROELECTRIC PROJECT
APPLICATIONS 26380 AND 27353

Decision 1596



February 1984

STATE WATER RESOURCES CONTROL BOARD

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of Applications 26380 and 27353 JOSEPH M. KEATING, Applicant; CALIFORNIA DEPARTMENT OF FISH AND GAME, Protestant.	DECISION 1596 SOURCE: Rock Creek COUNTY: El Dorado

DECISION APPROVING APPLICATIONS 26380 AND 27353

BY BOARD VICE CHAIRMAN NOTEWARE:

Joseph M. Keating having filed Applications 26380 and 27353 for permits to appropriate unappropriated water from Rock Creek; protests having been received; a hearing having been held on September 14, 1983; the Board having considered all evidence in the record; the Board finds as follows:

1. Scope of Applications

Both Application 26380 and Application 27353 are for permits to appropriate water from Rock Creek by direct diversion for the purpose of power generation. Application 26380 is for diversion of 100 cfs from January 1 through December 31 of each year, and Application 27353 is for diversion of 140 cfs from October 1 through May 31 of each year, for a combined diversion of 100 cfs from June 1 through September 30 and 240 cfs from October 1 through May 31. Under both applications the point of diversion is from Rock Creek

within the NE1/4 of NW1/4 of Section 21, T11N, R11E, MDB&M and the point of return is to Rock Creek at its confluence with the South Fork American River within the SW1/4 of SW1/4 of Section 20, T11N, R11E, MDB&M.

2. Project Description

a. Water will be diverted from Rock Creek approximately one mile upstream of the confluence of Rock Creek with the South Fork American River. The water will be transported through a 500-foot-long, 72-inch-diameter concrete pipe into a 3,200-foot-long, 8-foot x 9-foot horseshoe shaped tunnel, then into three existing 400-foot-long penstocks, then into a powerhouse, and finally returned to the South Fork American River using portions of an existing tailrace. Diversion is proposed to be by a 6-foot-high, 80-foot-long rock and concrete diversion dam which will create a 5.2 acre-foot forebay reservoir with a surface area of 0.36 acre. Alternatively, diversion will be by a 12- to 13-foot high dam which will create a 13.5 acre-foot reservoir with a surface area of 0.85 acre.

b. The powerhouse will be built on the remaining foundation of a prior powerhouse. The project will use two penstocks formerly used in association with the prior powerhouse.

c. A seventy-five foot long transmission line will connect the powerhouse to an existing Pacific Gas and Electric transmission line.

d. The powerhouse will house three mobile turbine/generator units, one with 750 kilowatts capacity and two with 1,125 kilowatts capacity, for a total capacity of 3,000 kilowatts. Together, the three units are capable of generating an average of almost 7,000 megawatt-hours of electricity annually.

3. Protests

a. The California Department of Fish and Game and the Northern California Council of Fly Fishing Clubs (NCCFFC) protested the applications. Both protests are on the grounds that:

(1) The project as proposed will not best preserve the public interest, and

(2) The project as proposed will have an adverse environmental impact.

The Department of Fish and Game alleges that Rock Creek supports a population of resident rainbow trout and serves as a source of fish for the South Fork American River. The Department seeks to have flows retained in Rock Creek to protect the beneficial use of the stream by fish. As authority, it cites Water Code §§1243 and 1257 and Fish and Game Code §§5937 and 16083.

The NCCFFC alleged that Rock Creek provides habitat and riparian vegetation, and sustains wild trout populations and habitat. It sought to have flows retained in Rock Creek to protect the beneficial uses of the stream. As authority, NCCFFC cited Water Code §§100, 1243, and 1257, and Fish and Game Code §5937.

b. With the agreement of the NCCFFC (made by telephone on August 23, 1983) the hearing was scheduled for Septemer 14, 1983. The Board received NCCFFC's Notice of Intent to Appear on September 7, 1983. However, no representative of NCCFFC appeared, and NCCFFC failed to leave messages or communicate to the Board or its staff that it would not appear.

Pursuant to 23 Cal.Admin.Code §731, the Board on September 15, 1983, notified NCCFFC's representative by telegram that he had five days in which to show good cause for NCCFFC's failure to appear. On September 20, 1983, the

representative offered as his showing of good cause statements that (1) he was required to appear in court on September 14, 1983; (2) his witness was not qualified to address the written testimony that had been submitted; (3) he had been unable to reach a Board staff member to give notice NCCFFC would be unrepresented at the hearing. None of these statements constitutes good cause for NCCFFC's failure to appear at the hearing. Consequently, NCCFFC's protest was dismissed by the hearing officer.

4. Need for the Project

The project will have a maximum installed capacity of 3 megawatts (MW) and will generate between 6,400,000 and 6,700,000 kilowatt hours (KWh) in an average year. The applicant expects to sell the project's power to Pacific Gas and Electric (PG&E) under the federal Public Utilities Regulatory Policies Act of 1978 (16 U.S.C. §824a-3). The project will meet approximately 0.2 percent of PG&E's projected need for new capacity and 0.05 percent of PG&E's projected need for new energy supplies in 1994.

The Energy Commission has adopted preferential ranking among technologies for meeting future electricity needs. The ranking places small hydroelectric projects (including this project) in the third of six priority ranks. No evidence was received that sufficient projects will be available to meet all the projected needs of the PG&E service area in 1994 with alternatives listed in the first three priority ranks. Therefore, a need will exist for the capacity and energy to be provided by the project.

5. Economic Feasibility of the Project

a. If this project is not economically feasible, the water allocated to the project by water right permits will not be put to beneficial use. Water

allocated under a water right must be put to beneficial use. Water Code §§1240, 1241, 1375, 1396, 1397, 1410. Issuance of a permit to an infeasible project would make the water unavailable for appropriation by others who might be able to establish a feasible project, resulting in a failure to put the appropriated water to beneficial use. In order to ensure that any water allocated to the applicant under a water right permit is put to beneficial use, the Board must inquire into the project's financial feasibility.

b. Construction cost of the project is estimated at $3,200,000. Annual costs are estimated at $375,000 to $494,000. These costs must be compared to the project's revenues in order to determine whether it is or may be economically feasible. If the project is not economically feasible it is unlikely to receive full financing.

The amount of project revenues will depend upon the price that PG&E will pay for the project's energy and capacity. This in turn depends on (1) the price PG&E must pay for the project's power under the Public Utilities Regulatory Policies Act of 1978, 16 U.S.C. §824a-3, and (2) the type of contract PG&E offers the applicant for this project's power.

Currently PG&E has a short-term standard offer purchase contract approved by the Public Utilities Commission under which it could contract to buy the project's power. The price terms under this contract are adjusted approximately every quarter. Prices vary with the season and time of day. For power generated in the months of October through April PG&E was paying, at the time of the hearing, 6.059¢/KWh, plus 0.12¢/KWh for as-delivered capacity, for a total payment of 6.179¢/KWh.

The Board received evidence that at the time of the hearing, PG&E had a long-term standard purchase contract before the Public Utilities Commission for review. Under the proposed contract prices would be agreed upon in advance, for up to twenty years. One option would in effect average the projected increase, over time, in avoided cost, and pay producers an averaged price. Thus, the producer would be expected to receive more than the avoided cost in the near term and less than the avoided cost in the long term. The amount that PG&E will pay, however, is speculative. The draft contract which the applicant provided to the Board during the hearing lists a price of 7.09¢/KWh for energy delivered under a 20-year contract and 6.19¢/KWh for energy delivered under a 15-year contract. The additional amount payable for as-delivered capacity is not shown. The applicant, however, estimates that PG&E may pay a total of 8.5¢/KWh including capacity. Under the proposed contract this wouuld mean a payment of 1.41-2.31¢/KWh for as-delivered capacity. Since the project will produce the bulk of its power during the October through April period when power is plentiful and capacity is less valuable, this estimated payment for capacity may not be attainable.

c. Based on the amount of electricity the project will generate annually, the project's projected annual costs, and the prices being paid by PG&E currently for power under its approved short-term contract, the project's annual net revenues would range from a loss of $99,000 to a profit of $40,000. Under the proposed long-term contract, assuming a total purchase price of 8.5¢/KWh, the project's annual net revenues would be a profit ranging from $544,000 to $569,000. Thus, the project economically will be marginal under the short-term contract and will be feasible under the long-term contract assuming a price of 8.5¢/KWh.

d. Because the project's economic feasibility and, therefore, its likelihood of putting water to beneficial use, is dependent on the price that PG&E will pay for the project's electricity and capacity, the Board cannot be certain at this time that the project should be contructed. Consequently, it will place terms and conditions on the permits for the project to ensure that it is not constructed unless it will put the appropriated water to beneficial use.

6. Availability of Unappropriated Water

a. Because the only gaging station on Rock Creek was not installed until 1982, the applicant's hydrologist estimated the amount of water available in the Rock Creek watershed based on published data from other watersheds thought to be typical of the Rock Creek watershed. Evidence was presented that high flows may be longer in duration than those estimated in the applicant's hydrology study. This is speculative.

While the stream does not continuously carry a flow as high as the requested diversion rates, and some flows will have to be bypassed for fishery and riparian vegetation protection, sufficient water appears available to justify the requested diversion rates.

b. Upstream development should be protected in the Rock Creek watershed. Such development may arise in the future, and likely will require water for domestic and stockwatering uses. Such uses should, in the public interest, be given higher priority than power uses. Consequently, the permits should be made subject to upstream appropriations for these uses within the watershed.

7. Effect on the Fishery

a. Rock Creek is important because it provides fishery recruitment to the South Fork American River and because it directly provides adult trout for angler harvest. Because Rock Creek provides fishery recruitment for the South Fork American River (a navigable waterway), diversion of water needed for fishery use from Rock Creek may affect fishery uses of the river. Under National Audubon Society v. Superior Court, 33 Cal.3d 419, 189 Cal.Rptr. 346 (1983), fishery uses of the river appear to be protected by the public trust. Consequently, the Board has considered the effect of the applicant's proposed diversion on the uses of the South Fork American River and herein, to the extent feasible and within the standard of reasonableness contained in California Constitution Article X, §2, attempts to avoid or minimize harm to the fishery of the South Fork American River.

b. The Board's objective in mitigating the effects of this project on the fishery of Rock Creek and South Fork American River is to protect the existing resources of Rock Creek at natural, preproject, levels. This objective is in accordance with the policy of the Department of Fish and Game.

c. In order to determine the minimum flows to be bypassed by the project for protection of the fishery and riparian vegetation, the applicant's consultant performed fishery studies on Rock Creek using the U. S. Fish and Wildlife Service's Instream Flow Incremental Methodology three-flow methodology, known as IFG-4, population estimates, and hydrology information. Based on the studies, the Department of Fish and Game, the applicant, and the Federal Energy Regulatory Commission arrived at three different minimum flows for Rock Creek. Evidence was presented that the instream flow study is deficient. The Board finds that it is deficient. Because of the deficiencies, no valid basis exists for the minimum flows proposed by the applicant, the

Federal Energy Regulatory Commission, or the Department of Fish and Game. It is deficient in the following ways.

(1) It modeled less than half of the habitat types to be affected by the project. The types which should have been modeled include spawning habitat and the low gradient riffle habitat in the upper part of the affected reach.

(2) The side channel in the stream segment modeled by the applicant's contractor was not modeled, and should have been modeled.

(3) The upper portion of the reach of the creek affected by the project through inundation or reduced flows should be modeled.

d. The fishery population estimates were made using electroshocking techniques. Evidence was presented that some of the electroshocking data is questionable.

e. Since the bases for setting a minimum bypass for instream flows are deficient, the Department of Fish and Game agrees that the flows may, pending further study, be set at the same levels as the Federal Energy Regulatory Commission has required on an interim basis in the license it issued to the applicant. These flows are 15 cfs during October through April and 11 cfs during May through September. The Department requests that the Board reserve jurisdiction to change the flows after the applicant does a new IFG-4 study or supplements the old one. The Board finds that a new study should be done before the applicant commences any construction in Rock Creek, diverts water from Rock Creek, or otherwise disturbs the natural flow and habitat of Rock Creek except to accomplish the study.

f. A fish screen will be needed at the diversion site to prevent fish from being diverted into the power tunnel and through the power generators.

The size and placement of the screen will depend on its type. The screen should be approved by the Department of Fish and Game.

g. The applicant proposes to stock trout in Rock Creek. Department of Fish and Game has stated that it has no objection to stocking if the project is mitigated to ensure that no net loss of natural trout occurs.

h. The applicant should do the new or supplemental IFG-4 study and develop minimum instream flow requirements in cooperation and consultation with the Department of Fish and Game.

8. Geo-Physical Effect of the Proposed Construction

a. The applicant proposes to excavate a nearly horizontal tunnel, 3,200 feet long. Except in zones of decomposed granite, the applicant plans to leave the tunnel unlined. In areas where decomposed granite is encountered, the applicant will gunite line the tunnel. The water in the tunnel will be lightly pressurized. If it is unlined, excessive water losses may occur in the tunnel. Therefore the applicant should install measuring devices capable of detecting losses in the conveyance system including the tunnel. The maximum loss that should be allowed is eight percent. If losses exceed eight percent, the applicant should take steps to reduce losses to eight percent or less.

b. To ensure that the applicant complies with construction and operating mitigation measures imposed by other agencies, the permit should contain a term which will require all necessary federal, state, and local approvals before commencement of construction.

9. Compliance With the California Environmental Quality Act

The Board as lead agency has prepared and approved a mitigated Negative Declaration for the applicant's project in accordance with the

requirements of the California Environmental Quality Act (Public Resources Code §§21000 et seq.). After the Board adopts this decision it will file a Notice of Determination with the Secretary for Resources. Consideration of the Mitigated Negative Declaration and Initial Study, inclusion of the Negative Declaration's mitigation measures in the water right permits, and filing of the Notice of Determination will satisfy the Board's responsibilities under the California Environmental Quality Act.

10. Right of Access

The applicant has not yet obtained rights of access to all of the lands needed for the project. A question exists whether the applicant will obtain all the necessary rights. Consequently, the Board's standard term 22, Right of Access, should be included in the water right permits issued for this project.

11. Time Limits

Twelve months after the permit is issued is a reasonable time period for the applicant to obtain financing and commence construction. Construction can be completed within three years after the permit is issued. Complete application of the appropriated water to the authorized use can be accomplished by June 1 of the seventh year after construction is completed. Therefore, the permits issued for this project should contain terms and conditions setting these time periods as limits within which the applicant may obtain financing and commence construction, complete construction, and completely apply the appropriated water to the authorized use.

12. Conclusion

Based on the foregoing findings, the Board concludes that Applications 26380 and 27353 should be approved for power purposes and

permits issued to Joseph M. Keating subject to the terms and conditions in the following order.

ORDER

IT IS HEREBY ORDERED that Applications 26380 and 27353 be approved for power purposes and that permits be issued to the applicant subject to vested rights. The permit shall contain standard permit terms 6, 10, 11, 12 and 13 (a copy of the Board's standard permit terms is available upon request) in addition to the following terms and conditions.

1. The water appropriated under the permit issued on Application 26380 shall be limited to the quantity which can be beneficially used and shall not exceed 100 cubic feet per second by direct diversion from Rock Creek, to be diverted from January 1 through December 31 of each year.

The equivalent of the continuous flow allowance for any 14-day period may be diverted in a shorter time, provided there be no interference with other rights.

2. The water appropriated under the permit issued on Application 27353 shall be limited to the quantity which can be beneficially used and shall not exceed 140 cubic feet per second by direct diversion from Rock Creek, to be diverted from October 1 through May 31 of each year.

The equivalent of the continuous flow allowance for any 14-day period may be diverted in a shorter time, provided there be no interference with other rights.

3. Water diverted under this permit is for nonconsumptive uses and is to be released to Rock Creek at its confluence with the South Fork American River within the SW1/4 of SW1/4 of Section 20, T11N, R11E, MDB&M.

4. Permittee shall obtain full project financing and commence construction of the project within two years after the date of this permit and shall thereafter prosecute the project with reasonable diligence. In no event shall permittee commence construction in Rock Creek or divert any water from Rock Creek unless it has financing to completely construct the project.

5. Project construction work shall be completed by December 1 of the fourth year after the date of this permit.

6. Permittee shall make complete application of the water to the authorized use by December 1, 1995.

7. All rights and privileges to appropriate water for power purposes under this permit and any subsequently issued license are subject to depletions resulting from future upstream appropriation for domestic and stockwatering uses within the watershed. Such rights and privileges may also be subject to future upstream appropriations for uses within the watershed other than domestic and stockwatering if and to the extent that the Board determines, pursuant to Water Code §§100 and 275, that the continued exercise of the appropriation for power purposes is unreasonable in light of such proposed uses. Any such determination shall be made only after notice to permittee or licensee of an application for any such future upstream appropriation and the opportunity to be heard; provided that a hearing, if requested, may be consolidated with the hearing on such applications.

8. For the protection of fish, wildlife, and riparian vegetation, permittee shall bypass the following flows:

a. From October 1 through April 30, a minimum of 15 cubic feet per second;

b. From May 1 through September 30, a minimum of 11 cubic feet per second.

The total streamflow shall be bypassed whenever it is less than the amount designated for that period.

No water shall be diverted under this permit until permittee has installed a device, satisfactory to the State Water Resources Control Board, which is capable of measuring these bypass flows.

9. a. Permittee, in consultation and cooperation with the Department of Fish and Game, shall conduct an Instream Flow Incremental Methodology IFG-4 flow study within the reach of Rock Creek from 550 feet upstream of the diversion dam downstream to the point of return of water from the proposed powerhouse at the confluence of Rock Creek with South Fork American River. The study shall evaluate the effects of flow levels on trout life history stages and on habitat needed to support the different life stages.

The study shall model all representative habitats of the affected reach of Rock Creek including the habitats not previously modeled by the applicant's contractor. (These include the spawning habitat, the low gradient riffle habitat in the upper part of the affected reach, and the side channel of the stream segment previously modeled by the permittee's contractor.) To the extent possible, and with the agreement of the Department of Fish and Game, the permittee may use the original IFG-4 study to supplement the new study.

b. All field work elements of the study described in a. shall be completed prior to commencement of any construction work in the channel and overflow areas of Rock Creek within the reach described in a. No diversion of water shall be made from Rock Creek until the study described in a. is completed and the results evaluated.

c. The State Water Resources Control Board reserves jurisdiction over this permit to amend the bypass flows set forth in Term 8 to protect the fishery resources of Rock Creek at natural preproject levels. Action by the Board will be taken only after evaluating the results of the study described in a. and after notice to interested parties and opportunity for hearing.

10. In accordance with Section 1601, Section 1603 and/or Section 6100 of the Fish and Game Code, no work shall be started on the diversion works and no water shall be diverted until permittee has entered into a stream or lake alteration agreement with the Department of Fish and Game and/or the Department has determined that measures to protect fishlife have been incorporated into the plans for construction of such diversion works. Construction, operation, and maintenance costs of any required facility are the responsibility of permittee.

11. No construction shall be commenced and no water shall be used under this permit until all necessary federal, state and local approvals have been obtained, including compliance with any applicable Federal Energy Regulatory Commission requirements.

12. a. Measuring devices shall be installed by permittee that are capable of measuring water losses and gains in the closed conduit system from the point of diversion to the point of return.

b. Loss data shall be tabulated for the period October 1 of one year through September 30 of the succeeding year in daily increments and shall be submitted to the State Water Resources Control Board by October 15 of each year.

c. If the loss exceeds eight percent of the amount of flow being diverted from Rock Creek, permittee shall take whatever steps are necessary to

reduce the loss to eight percent or less. Failure of the permittee to achieve that level of loss within two years after loss in excess of eight percent was first detected shall constitute a violation of this permit term.

13. This permit shall not be construed as conferring upon the permittee right of access to the proposed point of diversion, conveyance facilities or the powerhouse and appurtenant structures.

14. No major construction activities shall occur in the flowing water.

15. Construction activities adjacent to streams and any necessary erosion control measures shall be completed prior to heavy runoff periods.

16. Material from road and other construction work shall not be deposited where it could be eroded and carried to the stream by surface runoff or high stream flows.

17. Where working areas encroach live streams, barriers shall be constructed which are adequate to prevent the flow of turbid water into the stream.

18. During construction, cofferdams shall segregate the zone of construction activity from streamflow. Provisions shall be made to allow streamflow to bypass the construction zone with a temporary diversion conduit.

19. Permittee shall provide automatic emergency shut off gates or valves at the beginning of the penstock capable of discontinuing the flow of water in the event of penstock failure or to dewater the penstock for maintenance purposes.

20. All construction activities required to build the dam, tailrace, and tunnel intake portal shall be scheduled during low flow periods.

21. Provisions shall be made to prevent spillage or disposal of oils, fuels, or associated containers in the construction zone. Disposal shall only be at approved locations.

22. To minimize the opportunity for contamination of the environment from machinery lubricants, and coolants, all electrical generation equipment shall be contained inside a structure.

23. All access roads shall be provided with drainage control measures to prevent erosion of road surfaces.

24. Exposed and unstable soils shall be stabilized by physical means until the soil can be successfully revegetated.

25. A fire protection plan shall be developed between the applicant and the Bureau of Land Management prior to project construction. Among the items to be considered are transmission line safety and protection, a fire hydrant valve on the penstock, and other fire prevention criteria that may be incorporated into the design, construction, and operation of the project.

26. An activities and restoration plan shall be developed, in consultation with the U. S. Bureau of Land Management, to ensure that construction work is accomplished with minimum damage and that appropriate rehabilitation is performed.

27. An acceptable land fill location shall be determined in cooperation with the U. S. Bureau of Land Management and El Dorado County for disposal of dredged or excavated spoil material.

28. Facilities shall be colored where applicable to blend the facilities into the natural setting. This shall be coordinated with the U. S. Bureau of Land Management.

29. For purposes of recreational mitigation, permittee shall:

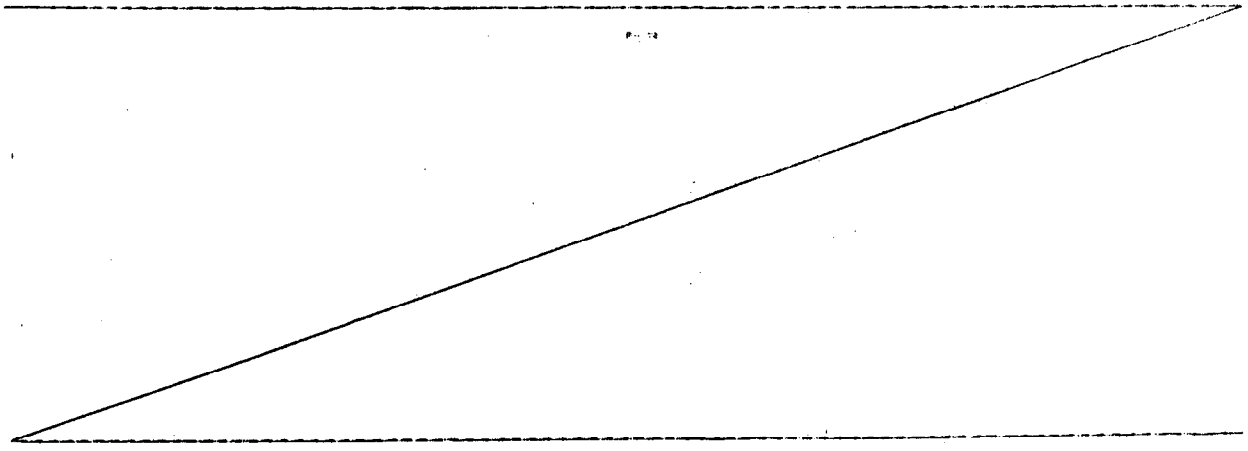
(a) provide for picnicking around the powerhouse area with two picnic tables with designated fire rings. Season of use shall be designated on a posted warning to prevent use during critically dry periods.

(b) provide parking for eight vehicles on the access road before any gate structure.

(c) not restrict foot traffic below the proposed diversion structure.

This term shall not be construed to prevent implementation of security measures to protect the project facilities.

30. A qualified archeologist shall be present during excavations at the tunnel exit, trifurcation section, new penstock location (if a new penstock is proposed) and outside the limits of the existing powerhouse location and tailrace. If any previously unrecorded archeological or historical sites are discovered during the course of construction or development of any project works or other facilities at the project, construction activity in the vicinity shall be halted, a qualified archeologist shall be consulted to determine the significance of the sites, and the Permittee shall consult with the State Historic Preservation Office (SHPO) to develop a mitigation plan for the protection of significant archeological or historical resources.



31. Permittee shall install a fish screen of a type and in the location that is acceptable to the Department of Fish and Game.

Dated: FEB 16 1984

CAROLE A. ONORATO, Chairwoman

WARREN D. NOTEWARE, Vice Chairman

KENNETH W. WILLIS, Member

F. K. ALJIBURY, Member