STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of Water Quality Certification For
PACIFIC GAS AND ELECTRIC COMPANY
PIT 1 HYDROELECTRIC PROJECT

FEDERAL ENERGY REGULATORY COMMISSION PROJECT NO. 2687

SOURCES: Fall River tributary to the Pit River

COUNTY: Shasta County

WATER QUALITY CERTIFICATION FOR FEDERAL PERMIT OR LICENSE

BY THE EXECUTIVE DIRECTOR:

1. The **PACIFIC GAS AND ELECTRIC COMPANY** (PG&E) proposes to relicense the Pit 1 Hydroelectric Project (Pit 1 Project) with the Federal Energy Regulatory Commission (FERC).

2. The Federal Clean Water Act (33 U.S.C. §1251 et seq.) was enacted "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters" (33 U.S.C. §1251(a)). Section 101(g) of the Clean Water Act (33 U.S.C. §1251(g)) requires federal agencies to "cooperate with state and local agencies to develop comprehensive solutions to prevent, reduce and eliminate pollution in concert with programs for managing water resources". Section 401 of the Clean Water Act (33 U.S.C. §1341) requires every applicant for a federal license or permit to provide the responsible federal agency with certification that the project will be in compliance with specified provisions of the Clean Water Act, including section 303 ("Water Quality Standards and Implementation Plans," 33 U.S.C. §1313); directs the state agency responsible for certification to prescribe effluent limitations and other limitations necessary to ensure compliance with the Clean Water Act and with any other appropriate requirement of state law; and provides that state certification conditions shall become conditions of any federal license or permit for the project.

3. The State Water Resources Control Board (SWRCB) is the agency responsible for water quality certification in California (Wat. Code, § 13160); and has delegated this function to the Executive Director by regulation (Cal. Code Regs., tit. 23, § 3838, subd. (a).)

4. The California Regional Water Quality Control Boards have adopted, and the State Board has approved, Water Quality Control Plans (Basin Plans) for each watershed basin in

accordance with provisions of section 303 of the Clean Water Act, related to the establishment of water quality standards and planning (33 USC §§1313). Basin Plans identify beneficial uses of the waters within each Region.

The Pit 1 Hydroelectric Project is located on the Fall River tributary of the Pit River thence the Sacramento River. Upstream of the Fall River, the primary sources of flow to the Pit River are rainfall and snowmelt. River volume is supplemented by groundwater inflow from springs issuing from water bearing volcanic formations throughout the drainage. It is recognized that throughout the upper portions of the Pit River watershed water is diverted for agriculture. The low summer flows in the Pit River can be attributed to low seasonal runoff and extensive diversions for agriculture upstream of the confluence with the Fall River.

The California Regional Water Quality Control Board, Central Valley Region, (CVRWQCB) in its Water Quality Control Plan for the Central Valley Region, Sacramento River and San Joaquin River Basins has identified the beneficial uses of the Fall River and the Pit River as Municipal and Domestic Supply, Irrigation, Stock Watering, Hydropower Generation, Contact and Non-Contact Recreation, Canoeing and Rafting, Cold Freshwater Habitat, Warm Freshwater Habitat and Wildlife Habitat. In addition, the Spawning beneficial use is designated only in the Pit River.

Protection of the chemical, physical, and biological integrity of waters of the state for instream beneficial uses identified in the Basin Plans requires maintenance of adequate stream flows as well as effluent limitations and other limitation on discharges of pollutants from point and nonpoint sources to navigable waters and their tributaries.

5. The SWRCB staff have reviewed the final FERC License Application, comments to the final FERC License Application by agencies and interested parties, PG&E responses to additional information requests from FERC, the final Pit 1 Water Quality Management Plan, the McArthur Swamp Management Plan and the FERC Final Environmental Assessment pursuant to the National Environmental Policy Act for the Pit 1 Hydroelectric Project.

6. The SWRCB staff has reviewed the proposed project (water quality certification) pursuant to the California Environmental Quality Act (CEQA). The baseline conditions for water quality certification are the existing conditions. If the SWRCB issues water quality certification to allow the continued operation of a project with negligible or no expansion of use, and any changes required by the SWRCB in project operations have no significant adverse impacts or only beneficial impacts, the project is exempt from CEQA as an existing facility. Therefore, based on the review by the SWRCB, the certification of the Pit 1 Project with the SWRCB conditions is Categorically Exempt from the requirements of CEQA pursuant to Title 14, California Code of Regulations, Section 15301(b). The SWRCB has prepared a Notice of Exemption for this project.

ACCORDINGLY, BASED ON ITSINDEPENDENT REVIEW OF THE PROJECT, THE SWRCB CERTIFIES THAT THE PIT 1 HYDROELECTRIC PROJECT OPERATED BY PACIFIC GAS AND ELECTRIC COMPANY (PG&E) will comply with sections 301, 302, 303, 306 and 307 of the Clean Water Act, and with applicable provisions of state law provided PG&E complies with the following terms and conditions during the operation of the project certified herein.

1. This certification is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to section 13330 of the Water Code and Article 6 (commencing with §3867) of Chapter 28 of Division 3 of title 23 of the California Code of Regulations.

2. The SWRCB may add to or modify the conditions of this certification as appropriate to implement any new or revised water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or Section 303 of the Clean Water Act.

3. Notwithstanding any more specific conditions in this certification, the project shall be operated in a manner consistent with all water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or Section 303 of the Clean Water Act.

4. The SWRCB may add to or modify the conditions of this certification as appropriate to coordinate the operations of this project with (1) water quality objectives adopted to protect the beneficial uses of the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Estuary) or (2) water right decisions or orders implementing the objectives. The SWRCB will make such additions or modifications to this certification only when reasonably necessary to achieve the water quality objectives or protect the beneficial uses of water in the Bay-Delta Estuary.

5. In the event of any violation or threatened violation of the conditions of this certification, the violation or threatened violation shall be subject to any remedies, penalties, process or sanctions as provided for under state law. For the purposes of section 401(d) of the Clean Water Act, the applicability of any state law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this certification. In response to a suspected violation of any condition of this certification, the SWRCB may require the holder of any permit or license subject to this certification to furnish, under penalty of perjury, any technical or monitoring reports the SWRCB deems appropriate, provided that the burden, including costs, of the reports shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In response to any violation of the conditions of this certification, the SWRCB may add to or modify the conditions of this certification as appropriate to ensure compliance.

6. In order to protect the beneficial use designations identified in the Basin Plan, the operation of the project shall not add the following substances to surface waters:

- Taste or odor-producing substances to impart undesirable tastes to domestic and municipal water supplies or odors to fish flesh or other edible products of aquatic origin or to cause nuisance or adversely affect beneficial uses;

- Perceptible floating material including, but not limited to, solids, liquids, foams or scums which could result in degradation of water quality;

- Suspended or settleable material in concentrations that cause a nuisance or adversely affect beneficial uses;

- Oil, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water;

- Toxic pollutants present in the water column, sediments, or biota in concentrations that adversely affect beneficial uses; that produce detrimental response in human, plant, animal, or aquatic life; or that bioaccumulate in aquatic resources at levels which are harmful to human health; and,

- Coliform organisms attributable to human wastes.

7. The Licensee shall provide funding up to $113,800 (1996 dollars), adjusted annually according to the US Government's published annual inflation factor, for the relocation of the Fall River Mills Community Services District's (FRMCSD) domestic water supply intake to a location upstream of the Fall River Diversion Dam. The FRMCSD will be allowed to increase its water consumption from 200 to 350 gallons per minute, if the FRMCSD acquires the necessary water rights for the diversion of water for consumptive purposes. Details of the relocation and increased water consumption are contained in an agreement between Licensee and the FRMCSD, dated. December 9, 1997. Any changes in the configuration of the dam are subject to FERC and the California Department of Water Resources, Division of Safety of Dams approvals. Additional consumptive water rights are subject to approval of the SWRCB Division of Water Rights.

   The FRMCSD shall have the option to develop a ground water well in lieu of relocating the intake to the upstream side of the Fall River Diversion Dam. The Licensee's requirement to provide funding shall be limited to whichever option the FRMCSD chooses and shall not exceed the amount specified above.

8. The Licensee shall make continuous flow releases from the Pit 1 Forebay into the Lower Fall River thence the Pit River and maintain the following instantaneous flows downstream of the Fall River Pond as measured at the Fall River Weir:

November 1 to November 15	75 cubic feet per second (cfs)
November 16 to May 15	50 cfs
May 16 to May 31	75 cfs
June 1 to October 31	150 cfs

Due to the combination of physical constraints imposed by the release facilities at the Pit 1 Forebay, the Licensee is granted an allowable deviation of minus 10% flow variability in the instantaneous release requirements. This will allow daily flows to vary occasionally below the required 50-150 cfs instantaneous flow requirement. However, the monthly average daily flow shall meet or exceed the minimum flow requirement. At no time shall the Licensee intentionally release less than the proposed flow except for public safety or other emergencies.

9. For the life of the license, the Licensee shall monitor the flow releases at the Fall River Weir in accordance with United States Geological Survey (USGS) standards. Flows should be continuously monitored at or below the weir at the downstream end of the Fall River Pond using a rated spillway, overpour section weir, or other flow measuring method of equal accuracy.

   Licensee shall submit a streamflow measuring plan to the Chief of the Division of Water Rights for approval within 6 months of the issuance of the FERC license. The plan shall include a schedule for implementation of the streamflow measuring program. The plan should also include a process for the notification of the Chief of the Division of Water Rights and the Department of Fish and Game if the monthly average daily flow does not meet or exceed the minimum flow requirements or if any single event occurs where the streamflow releases have been continuously less than minus 10% deviation for 48 continuous hours.

10. In addition to the stream flow releases from the Fall River Forebay, the Licensee shall continue to provide releases at the Fall River Weir to meet the existing senior water right for irrigation at the Knock Ranch.

11. During normal operations of the Pit 1 Powerhouse, licensee shall maintain the combined flow of the Pit River and the Pit 1 Powerhouse so the average daily flow meets or exceeds 500 cfs, with an allowable instantaneous deviation of minus 10% (450 cfs instantaneous minimum and 500 cfs average daily flow minimum) as recorded at USGS gauge # 11-3550.10, located on the Pit River downstream of the Pit 1 Powerhouse tailrace.

    In preparation for planned outages of the Pit 1 Powerhouse, Licensee shall release sufficient water in advance from the Pit 1 Forebay, maintaining the above described minimum flow requirement at USGS Gauge #11-3550.10 at all times. The Licensee shall provide the SWRCB the annual gauging records from USGS gauge # 11-3550.10 to document compliance with this condition.

Unplanned outages of the Pit 1 Powerhouse may result in temporary flows of less than minimum flow required. Upon determining that such an event has occurred and is expected to exceed eight hours in duration, licensee shall promptly release sufficient water from Pit 1 Forebay to restore the required minimum flows.

12. As a matter of public safety, the Licensee shall implement operating procedures that limit the generator-loading rate to a maximum of 2 MW/min. This equates to a loading period of approximately 32 minutes.

    To reduce the potential for stranding aquatic organisms the Licensee shall implement operating procedures that limit generator-unloading rate to approximately 0.5 MW/min. This equates to an unloading period of approximately 120 minutes.

    These proposed loading rates will apply during the periods of normal powerhouse operations. Unplanned conditions such as mechanical or electrical failures may occasionally result in a rate of change other than those proposed.

13. The Licensee shall control growth of aquatic vegetation and mosquito production in the Fall River Pond by releasing a continuous minimum fish/aquatic habitat release as described in Condition 6 and by releasing flushing flows through Fall River Pond for two consecutive days (Saturday and Sunday) three times per year. Flushing flows are defined as 1,250 cfs or the natural flow to the Pit 1 Forebay, which ever is less. The flushing flow will be released in May or June when warranted by vegetation growth in the Fall River Pond. The second flushing flow will be released in July, and the third flushing flow will be released at the end of August, prior to the Labor Day weekend. The releases will be made from approximately 2 a.m. Saturday morning and continue until approximately 3 p.m. the following Sunday afternoon and then be ramped down over a period of time. PG&E shall develop a vegetation flushing flow ramping plan in consultation with the Department of Fish and Game and the SWRCB and obtain written approval of the plan by the Chief of the Division of Water Rights. The Licensee shall implement the flushing program as soon as practicable after issuance of the new license.

    The Licensee shall provide as much advanced public notice as possible of a proposed flushing flow release but no less than 48 hours through a boat-a-phone or existing PG&E website.

14. The Licensee shall monitor the effectiveness of releasing flushing flows to control aquatic vegetation and mosquito production in Fall River Pond. The initial monitoring shall be for 5 years after the issuance of the new license. The Licensee shall develop a vegetation flushing monitoring program in consultation with the Fall River Mills Community Services District, Fall River Chamber of Commerce, the Pine Grove Mosquito Abatement District, and the Department of Fish and Game, and obtain written approval of the program by the Chief of the Division of Water Rights. The Chief of the Division of Water Rights may modify or terminate the flushing flow monitoring program after review of the 5-year monitoring report prepared by the licensee.

15. For the life of the new license, the Licensee shall provide the Chief of the Division of Water Rights by December 31 of each year, a report containing the flow records from the previous water year. The report shall document the required instantaneous flow releases from the Fall River Weir; the releases made to maintain the minimum flows below the Pit 1 Powerhouse; and the vegetation flushing releases. The report shall include other streamflow data collected by the Licensee from the Pit River as identified in the streamflow measuring plan required in condition 9. The report shall be provided to the Department of Fish and Game upon its request. The report shall identify any events where the minimum flow requirements were not met, the circumstances for the violation and what measures were taken by the Licensee to correct the problem.

16. The Licensee shall prepare a water quality monitoring plan to be submitted to the Chief of the Division of Water Rights for written approval within 6 months of the issuance of the FERC license and shall implement the water quality monitoring plan in the first full summer monitoring season following approval of the monitoring plan. The water quality monitoring program shall be instituted for a term of no less than 5 years. The monitoring shall be used to determine the benefits/effects on water quality of the proposed flow releases outlined in terms 8 and 13. The monitoring shall include but not be limited to water temperature and dissolved oxygen (DO).

Water quality shall be monitored at eight locations:

- Fall River just downstream of Pit 1 Forebay.
- Fall River Pond
- Lower Fall River just downstream of Fall River Pond.
- Pit River at McArthur
- Pit River just downstream of Big Eddy
- Pit River just below Pit River Falls
- Pit River at the footbridge upstream of the Pit 1 powerhouse
- Pit River downstream of the Pit 1 powerhouse

Water quality shall be monitored from May 16 to October 31 of each year. Water temperature will be monitored continuously at each of the monitoring locations. The Licensee should use redundant temperature recorders to avoid a loss of temperature data. DO, pH, turbidity, and conductivity will be sampled twice per month. Sampling methods and analyses will be as described in the water quality monitoring plan.

To monitor seasonal and short-term changes in flow, which can affect temperature and water quality, flow shall be measured continuously during the monitoring period with pressure transducers installed at the lower end of Big Eddy and at the footbridge upstream of the Pit 1 powerhouse. The transducers will be calibrated against staff gage readings and periodic flow measurements at each location. These flow measuring sites shall be maintained for the term of the water quality monitoring program and are not intended to meet the rigorous requirements established by the USGS for USGS gages. Compliance with stream flow requirements will be monitored using USGS approved methods at a gage that will be constructed at the Fall River Weir.

The water quality data collected above will be supplemented with meteorological data collected at the Pit 1 Forebay and Pit 3 Intake.

17. The Licensee shall provide the Chief of the Division of Water Rights the results of the water quality monitoring program by December 31 of each year. At the end of the 5th year of monitoring, the Licensee shall provide the Chief of the Division of Water Rights a report summarizing the 5 years of water quality monitoring. The Licensee shall meet with the Chief of the Division of Water Rights or a designated representative within 60 days of the submittal of the summary report. The purpose of the meeting will be to review the monitoring results and to determine if the beneficial uses identified in the Basin Plan for the Pit River are reasonably protected. Reasonable protection of beneficial uses shall be measured by and limited to factors controllable by and related to the Pit 1 Hydroelectric Project operations in the lower Fall River below the Pit 1 Forebay and the Pit River and from the confluence with the Fall River to the confluence with the Pit 1 tailrace. The Chief of the Division of Water Rights in writing may modify or terminate the water quality monitoring program after review of the 5-year monitoring report prepared by the Licensee.

If, based on the water quality data, the initial streamflow releases are not reasonably protective of the beneficial uses of the Fall River and Pit River as identified in the Basin Plan, the SWRCB reserves the authority to require the Licensee to make additional flow releases or other actions as required to protect the beneficial uses identified in the Basin Plan.

If the Chief of the Division of Water Rights determines that additional flow releases are necessary to protect water quality within the diverted reach of the Fall and Pit River they shall be adaptively implemented in increments of 50 cfs and limited to the period in which the beneficial uses are affected. The 50 cfs shall be in addition to the initial flow requirements identified in condition 8. Water quality based on the new flow release schedule shall be monitored for three years.

The results of the additional three years of monitoring shall be summarized and submitted to the Chief of the Division of Water Rights by December 31 of the year in which the third year of monitoring is completed. The Licensee can request to meet with the Chief of the Division of Water Rights or designated representative to discuss the monitoring results to determine if the beneficial uses of the Pit River are reasonably protected as described above.

If, at the end of first three year adaptive water quality management period, the Chief of the Division of Water Rights determines in writing that water quality in the Pit River is still not being reasonably protected for any season or part of the season, the Licensee shall release an additional 50 cfs from Fall River Weir in addition to the existing adaptive flow releases. The new flow schedule shall be monitored for three years. If at the end of the second three year adaptive water quality management period, the Chief of the Division of Water Rights determines in writing that water quality in the Pit River is still

not being reasonably protected for any season or part of the season, the Licensee shall release an additional 50 cfs from Fall River Pond in addition to the existing adaptive flow releases. This adaptive approach to protecting water quality shall continue until the water quality flow releases have reached the following limits:

- The final adaptive water quality instantaneous flow releases shall not exceed a maximum of 200 cfs for the May 16 to May 31 period:
- The final adaptive water quality instantaneous flow releases shall not exceed a maximum release of 400 cfs for the June 1 to October 31 period:
- The instreamflow release for November 1 to November 15 shall not exceed a maximum of 150 cfs: and
- The November 16 to April 30th period releases shall remain 50 cfs for the life of the new license.

18. The Licensee shall monitor eagle populations and eagle use of the Pit River bypassed reach and the Pit River reach from the tailrace to Lake Britton for 5 years after issuance of the new license. The monitoring program shall be consistent with the eagle monitoring protocols previously used by the Licensee for eagle monitoring unless changes are required by the Department of Fish and Game, the U.S. Fish and Wildlife Service or FERC. At the end of 5 years, the Licensee shall provide a monitoring report to the Department of Fish and Game, the U.S. Fish and Wildlife Service, FERC and the SWRCB. The Licensee shall make recommendations regarding changes in project operations based on the results of the eagle monitoring program. The Licensee shall develop a fish monitoring program to be conducted concurrent with the eagle monitoring program. The fish monitoring plan shall be developed in consultation with the Department of Fish and Game and the U.S. Fish and Wildlife Service. Results of the fish monitoring program shall be included in the eagle monitoring report that is to be provided to the agencies.

19. The Licensee shall comply with any FERC license conditions for the Pit 1 Hydroelectric Project resulting from a Biological Opinion issued by the U.S. Fish and Wildlife Service pursuant to the Endangered Species Act of 1973 (16 USC 1361 et. Seq.) as amended.

Celeste Cantú
Executive Director

Date: DEC 0 4 2001