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**UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE**

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FEDERAL ENERGY
REGULATORY COMMISSION

Southwest Region
777 Sonoma Avenue, Room 325
Santa Rosa, California 95404

In Response Reply To:

July 29, 2003 150304SWR03SR8649:SE

Ms. Angela Risdon, Project Manager
Pacific Gas & Electric Company
Mail Code N11C
P.O. Box 770000
San Francisco, California 94177

Dear Ms. Risdon:

This concerns the National Marine Fisheries Service's (NOAA Fisheries) comments on proposed studies in support of relicensing the Kilarc-Cow Creek Hydroelectric Project (FERC #606). The Pacific Gas & Electric Company (PG&E) has elected an "enhanced" traditional licensing process that follows the current Federal Energy Regulatory Commission's "traditional" regulations to relicense the project. The premise of an "enhanced" traditional licensing process is that it allows for greater collaboration and consultation from stakeholders.

NOAA Fisheries, the State Water Resources Control Board, and the California Department of Fish and Game (CDFG), (Agencies) are cooperating with PG&E in developing studies to characterize background conditions and assess the impact of Project facilities and operations on aquatic resources. NOAA Fisheries appreciates this opportunity for consultation, and believes that the enhanced traditional licensing process should ensure a more open and efficient process than a strictly traditional process. However, even though the Agencies have provided PG&E with clear direction regarding our information needs, the study methodologies proposed by PG&E will not provide a complete administrative record upon which to base our prescriptions and recommendations within statutory filing deadlines.¹ Without the additional information that such studies would produce, NOAA Fisheries will apply the precautionary principle and recommend conservative measures in order to ensure adequate protections are prescribed as part of the licensing process. We are also concerned that delay in developing study plans not compromise the quality or availability of information necessary to form the basis for our prescriptions and recommendations or result in an inordinate delay in issuing a new license. A lengthy delay in issuing a new license may result in irreparable harm to sensitive resources through the ongoing impacts of current project facilities and operations.

¹ 18CFR16.8



Need for Studies

The Federal Power Act (FPA), Endangered Species Act (ESA), Magnuson-Stevens Fishery Conservation and Management Act, Fish and Wildlife Coordination Act, and National Environmental Policy Act (NEPA) require FERC to consult with resource agencies and the public when processing applications for hydroelectric projects. In order to meet these obligations FERC has developed regulations that require applicants to consult with resource agencies and affected Indian Tribes on project design, the impact of the proposed project, reasonable hydropower alternatives, and the studies needed to be done. The same consultation rules apply to existing licensee's filing for relicense and potential applicants filing for an original license (underlined for emphasis).

Regarding the need to fully evaluate the range of potential changes to Project structures and operations, under NEPA, FERC must disclose and analyze a full range of alternatives. According to the Council on Environmental Quality (CEQ) guidelines, section 1502.14 requires that FERC examine all reasonable alternatives to the proposed action. In determining the scope of alternatives to be considered, the emphasis is on what is "reasonable" rather than on whether the applicant likes or is itself capable of carrying it out. Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant. Regarding integrating potential future actions outside of FERC's jurisdiction, (i.e. future restoration actions), under NEPA an alternative that is outside the legal jurisdiction of the lead agency must still be analyzed if it is reasonable. A potential conflict with local or Federal law does not necessarily render an alternative unreasonable, although such conflicts must be considered (section 1506.2(d)).² In order to compare the relative impacts of each alternative, the degree of analysis devoted to each alternative should be substantially similar to that devoted to the "proposed action." Section 1502.14 (b) of the CEQ's NEPA regulations specifically requires "substantial treatment" of each alternative including the proposed action. Accordingly, monitoring and modeling must be adequate to develop a full range of reasonable alternatives and compare the relative impacts of each. These alternatives include the various dam removal and re-operation scenarios repeatedly proposed by NOAA Fisheries and other stakeholders. The reasonableness of these scenarios should be viewed in light of the various planned and current restoration actions occurring in the basin.

Regarding the need to conduct comprehensive project impact studies, the Code of Federal Regulations (CFR) at 18 CFR 16.8(b)(4) directs interested resource agencies to provide a potential applicant with written comments on needed studies. The NOAA Fisheries has identified studies that are necessary to assess the environmental consequences of the proposed relicensing. The legislative history of the FPA supports a detailed and comprehensive environmental evaluation. The Electric Consumers Protection Act conference report notes that "in exercising its responsibilities in relicensing, the conferees expect FERC to take into account existing structures

² Alternatives that are outside the scope of what Congress has approved or funded must still be evaluated if they are reasonable, because NEPA may serve as the basis for modifying the Congressional approval or funding in light of NEPA's goals and policies (Section 1500.1(a)).

and facilities in providing for these nonpower and nondevelopmental values." Consistent with this legislative imperative, FERC must also fully evaluate the environmental harms caused by these structures and facilities, in order to give "equal consideration" of non-power values as mandated by FPA section 4(e) and must evaluate relicensing issues "in light of today's standards and concerns," and that "procedures and substance applicable to original licenses, including the treatment of non-developmental values, apply fully in relicensing." H.R.Rep. No. 99-507, at 33-34 (1986), reprinted in 1986 U.S.C.C.A.N. 2496, 2521

Regarding the need to conduct studies in a timely fashion, as you know, FERC cannot issue its License for this project (relicense) absent an adequate evaluation of potential project impacts. Interpreting the FPA, the 9th Circuit Court of Appeals ruled that FERC cannot issue a hydroelectric license while deferring consideration and implementation of fishery protection measures. The court noted that, under §§ 14 and 15 of the FPA, FERC must make the same inquiries in a relicensing proceeding as in an initial licensing determination, and there is no question that fishery protection is among the licensing issues that must be addressed when evaluating all beneficial water uses as required by § 10(a) of the FPA.^{3 4}

Outstanding Studies

Study 1: Stream Flow Monitoring and Study 2: Estimate Available Flow

Characterization of the existing and natural background hydrology within project streams will be essential in determining the effects of flow modifications on aquatic resources. An accurate depiction of the hydrology of the Kilarc-Cow Creek system will be necessary for PHABSIM and temperature modeling, and instrumental in identifying any potential resource problems. The "standard" gaging article (or L form article) for this license requires you to:

"install and thereafter maintain gages and stream-gaging stations for the purpose of determining the stage and flow of the stream or streams on which the project is located, the amount of water held in and withdrawn from storage, and the effective head on the turbines; shall provide for the required reading of such gages and for the adequate rating of such stations; The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may be mutually agreed upon....."

³ Confederated Tribes and Bands of the Yakima Indian Nation *et al.* V. FERC, Nos. 82-7561 *et al.* (9th Cir. June 7, 1984).

⁴ *Id.* At 11-12 (citing 16 U.S.C. § 803 (a) and Udall v. FPC, 387 U.S. 428, 440, 450 (1967)).

Both historic and current hydrologic data are sparse for streams in the Kilarc-Cow Creek project area. The Licensee intends to solve this problem by developing a synthesized hydrograph. The synthesized data will be checked against summarized flow recorded for less than one year in biweekly or continuous time steps. However, only two flow-monitoring stations will be recording data continuously. NOAA Fisheries is concerned that the proposed measurements and flow calculations will not be adequate to validate the synthesized impaired and unimpaired hydrology of the Kilarc-Cow Creek Project. In addition, to the inadequate period of record for the project, water supply is difficult to determine for project streams because of contributions from a number of large springs and withdrawals through numerous diversions throughout the project area. NOAA Fisheries cannot support the use of the limited existing data to evaluate project effects on habitat. Therefore, in order to collect data adequate to characterize flow conditions and evaluate project impacts you should install and operate continuous flow monitoring stations that will record data for at least one year at the following locations:

- North Canyon Creek above the North Canyon Creek Canal
- South Canyon Creek above the South Canyon Creek Canal
- Old Cow Creek above the Kilarc Main Canal
- Mill Creek above the Mill Creek-South Cow Creek Canal
- South Cow Creek above the South Cow Creek Main Canal
- Hooten Gulch below the Abbott Diversion and upstream of the confluence with South Cow Creek
- All operating project diversions at the point of diversion

In addition, because seepage from unlined canals may influence hydrology and habitat quality, conveyance losses through project canals should be determined to the greatest extent practicable.

Study 5: Sediment Study

The qualitative evaluations proposed by PG&E are inadequate to evaluate project impacts on sediment transport. The qualitative nature of the proposed sediment study is not sufficiently rigorous to determine whether project-impaired channel maintenance flows protect aquatic habitats. The stated objectives of the sediment study are to determine project effects on sediment transport characteristics and stream stability. This study should also evaluate how altered sediment transport caused by the project affects substrate sizes critical for freshwater habitat, and describe the overall sediment transport regime for the project. PG&E should conduct Wolman pebble counts during their Rosgen stream characterization in both impaired and unimpaired streams to determine whether project streams are spawning gravel limited, and the size classes of substrates that are available in project streams. These reaches potentially support several anadromous fish species, and the proposed qualitative surveys may miss project-caused differences in embeddedness between impaired and unimpaired reaches in mesohabitats where spawning sized gravels exist. Therefore, fine deposition in spawning habitat located in pools, riffles, and pocket water should not be visually estimated, but instead calculated according to accepted protocols in those mesohabitats that may be used for spawning. This may include sampling for particle size distribution, tracer gravel studies

to determine substrate response to varying flows, suspended sediment sampling, or measuring bed scour and deposition with a scour chain. In addition, spawning gravels may be trapped by project structures, as indicated by the frequency of dredging that occurs in the Kilarc and Cow Creek Forebays. The placement of sediment spoils piles should be identified to determine whether they are contributing sediments to project reaches. Finally, project spillways should be assessed to determine whether they are contributing sediment to project streams.

Study 9: Aquatic Habitat Survey

PG&E should conduct habitat mapping at flows of at least 30 cfs for the Old Cow bypass reach and at least 50 cfs in the South Cow Creek bypass reach. The habitat mapping should include a record of conditions at the time of mapping, and any data gaps caused by lack of visibility or an inability to access sections of streams safely should be recorded. If such data gaps occur, the Licensee should supplement the mapping with habitat mapping at lower flows.

Study 10: Passage Barrier Study

Studies to determine whether obstructions in the project reaches are barriers to fish passage should be conducted quantitatively, and should include diversion dams, as well as waterfalls and critical riffles. The barriers should be observed to determine the flow level at which the potential barrier may become an obstruction to fish. In addition, the flow level at which the studies are conducted should be obtained using a flow meter.

Study 11: Instream Flow Study

The lack of unimpaired and impaired hydrology data for project streams, in addition to the inability of the Licensee to complete habitat mapping prior to mesohabitat sampling, may have a significant affect on the validity of the instream habitat modeling. NOAA Fisheries does not support the Instream Flow Study proposed by PG&E on May 21, 2003, for two reasons: 1) it does not adequately address between and within mesohabitat variability, and 2) habitat mapping was not complete on South Cow Creek and Old Cow Creek. As an alternative PG&E should employ the CDFG's proposed mesohabitat sampling protocol. NOAA Fisheries does not agree that the selection of at most 18 – 20 transects per project reach, “ randomly based on the most limiting habitat type within a reasonable distance from an access point and that could be safely reached at the high calibration flow” will adequately represent mesohabitats in project streams, particularly when mesohabitat type frequency and distribution data have not been collected for the entire project area.

Study 12: Fish Habitat and Population Studies

Fish habitat and populations in all unscreened canals must be characterized via the same survey methods being used to characterize fish habitat and fish populations in the bypass reaches. Unscreened canals may be providing additional habitat for fish, and data must be collected to determine whether minimum flows, fish exclusion, and/or habitat enhancement are necessary.

Study 13: Potential Effects of Entrainment on Fish

Mill Creek Canal, North Canyon Creek Canal, South Canyon Creek Canal, Kilarc Canal, South Cow Creek Canal, and the two powerhouse tailraces should be evaluated to determine whether they are providing false attraction flows. Fish may be utilizing some or all of the canals, depending on the quality and extent of fish screening, so habitat should be assessed for each canal to determine whether the habitat should be maintained or fish need to be excluded.

Study 14: Project Operation

A description of the frequency and duration of spill from Kilarc and Cow Creek Forebays records about the frequency of dredging quantity and composition of material that has been dredged during previous maintenance operations, and records of the frequency of debris removal from diversions and the screens and ladders at South Cow Creek diversion should be provided.

Thank you for your cooperation. NOAA Fisheries looks forward to assisting you in meeting your informational requirements under the FPA and ESA. If you have any questions, please contact Steve Edmondson at (707) 575-6080.

Sincerely,



Miles M. Croom
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(cc's continued on next page)

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