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State of California - The Resources Agency  
DEPARTMENT OF FISH AND GAME  
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October 10, 2005

Mr. Arthur Hagood  
Synergics Energy Services, LLC  
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FILED  
OFFICE OF THE  
SECRETARY  
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FEDERAL ENERGY  
REGULATORY COMMISSION

Dear Mr. Hagood:

**Initial Information Package, Kilarc-Cow Creek Project  
Federal Energy Regulatory Commission (FERC) No. 606 - 022  
Old and South Cow Creeks, Shasta County**

The Department of Fish and Game (DFG) received a copy of the initial information package (IIP) filed by Synergics Energy Services (SES) on behalf of Cow Creek Hydro, LLC, in July 2005. Representatives of the DFG also attended the joint agency and public meetings hosted by SES in mid-September 2005. Based on the information provided in the IIP and at the recent meetings, we offer the following comments.

**Chronology**

As SES indicates in their notice of joint agency and public meetings, they intend to build upon the work performed by Pacific Gas and Electric Company (PG&E) in the watershed over the past few years. As a result, the recent history of relicensing activities involving the Kilarc-Cow Project (Project) is integral to future consultation. Below is a summary of several relevant dates and actions from the past 3.5 years.

- In Spring 2002, PG&E initiated first stage consultation with the DFG and other interested parties as part of a traditional licensing process (TLP) for the Project.
- By Summer 2003, PG&E had prepared and implemented several study plans to gather information necessary to support an application for a new license. However, several important study plans involving fundamental issues such as hydrology and aquatic habitat were not complete. In June 2003, DFG submitted a letter outlining agency concerns with the adequacy of certain proposed studies and recommending additional study plan revisions. A copy of this letter is included for reference.

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- In early 2004, there was a significant shift in the consultation process with PG&E initiating exploratory discussions on a potential decommissioning alternative for the Project.
- In March 2005, PG&E, the DFG, the State Water Resources Control Board (SWRCB), the National Marine Fisheries Service (NMFS), the US Fish and Wildlife Service (USFWS), the National Park Service (NPS), Trout Unlimited and Friends of the River signed an agreement that stated PG&E would not seek a new license. In the agreement, PG&E referred to their extensive analysis of the complex and competing resource issues associated with the Project. Based on this analysis, PG&E was committed to supporting decommissioning as a viable and cost effective alternative to relicensing the Project. An attachment to the agreement outlined a good faith effort by the signatories to scope out the issues and desired conditions that should be addressed in a future decommissioning plan for the Project. The DFG reiterates our support of the agreement and PG&E's commitment to implement a responsible and reasonable decommissioning plan if allowed by the FERC. Copies of these documents are also included for reference.
- In April 2005, the FERC issued a notice soliciting applications for the "orphaned" Project.
- In June 2005, the Redding City Council elected not to file a notice of intent for the Project. The City of Redding decision was based on a staff report finding that adjustment of the instream flow requirements to levels commensurate with other recent FERC orders would significantly reduce the Project's power production. The anticipated power production of a newly licensed Project would be unable to cover the costs of upgrading, *maintaining and operating the facilities, even in a high cost power market.* The staff report concluded that initiating a relicensing process would be "the first step in a multiyear effort costing anywhere from several hundred thousand dollars to several million dollars without a guaranteed positive outcome at the end of the process." A copy of the City of Redding's Electrical Utility staff report is included for reference.
- In June 2005, SES gave notice of their intent to file an application within 18 months under the TLP.

#### DFG Goals

In an August 18, 2005, letter, SES requested the agencies to identify resource goals and issues. Given our work of the last year and half with PG&E and other interested parties, our preference is implementation of the decommissioning alternative described in the 2005 agreement. Our goals for the

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decommissioning alternative are included in the attachment to the agreement. Therefore we refer SES to these documents and emphasize our view that the agreement and attachment constitute the benchmark for any future licensee that opts to abandon the Project. Given the economic decisions of both PG&E and the City of Redding, we consider it possible that any new licensee will eventually determine the Project is not economically viable. If this Project is once again abandoned, we would request the FERC to order the new licensee to implement a surrender license which meets the desired conditions identified by the agreement signatories in early 2005.

If SES chooses to pursue the relicensing process, the DFG will participate as a trustee agency, an agency with special expertise with regard to the State of California's fish and wildlife resources<sup>a</sup> (Fish and Game Code §1802). Two statutory authorities applicable to this Project are the California Endangered Species Act (CESA) (Fish and Game Code §2050 et seq.), and the Salmon, Steelhead Trout, and Anadromous Fisheries Program Act (AFPA) (Fish and Game Code §6900 et seq.). The directives of the CSEA and AFPA are consistent with the mission of the DFG to ensure that fish and wildlife are preserved for use and enjoyment by the people of the State now and in the future.

Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any State listed endangered or threatened species may be present in the project area and determine whether the proposed project will have a potentially significant impact on such species. Chinook salmon and steelhead rainbow trout (steelhead) have been documented in the Project area. Steelhead are listed as threatened under the Federal Endangered Species Act (FESA). Additionally, fall and late-fall Chinook salmon are a candidate species under the FESA.

The AFPA requires the DFG to undertake major efforts to restore the State's salmon, steelhead trout, and anadromous fisheries. Specifically, the AFPA directs the DFG to develop a plan and program to double the current natural production of salmon and steelhead trout resources in the State (Fish and Game Code §6902, subdivision (a)), and to consult with public agencies whose policies or decisions affect the goals of such a program to determine if there are feasible means for those public agencies to assist the DFG in achieving the goals of the program [Fish and Game Code §6920, subdivision (b)]. The AFPA also

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<sup>a</sup> As used in this response "fish and wildlife resources" include all wild animals, birds, plants, fish, amphibians, and related ecological communities including the habitat upon which these species depend for their continued viability. (Fish and Game Code §711.2, 1802).

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declares, as the policy of the State, that existing natural salmon and steelhead habitat shall not be diminished further without offsetting the impacts of lost habitat (Fish and Game Code §6902, subdivision (c)). Pursuant to the AFPA, the DFG assisted in the preparation of four planning documents: the Upper Sacramento River Fisheries and Riparian Habitat Management Plan (1989), the Central Valley Salmon and Steelhead Restoration and Enhancement Plan (1990), the Restoring Central Valley Streams: A Plan for Action (1993) and the Steelhead Restoration and Management Plan for California (1996). In an October 5, 1998, letter, the FERC accepted these four documents as comprehensive plans for the Sacramento River system below Shasta Dam under Section 10(a)(2)(A) of the Federal Power Act. The project footprint includes land and water resources which are part of the DFG's comprehensive effort to maintain and restore anadromous fish populations in California's Central Valley. Central Valley fall-run Chinook, a State species of special concern, and Federal candidate species, and steelhead trout, a species listed as threatened under the Federal Endangered Species Act (16 U.S. Code Section 1530 et seq.) have been documented in the Project area. As a result, the most recent update to the comprehensive plans, the 2001 Restoration Plan for the Anadromous Fish Restoration Program (USFWS) includes the Project area within the watersheds targeted for high priority restoration actions.

The Project's FERC boundary includes two major branches of Cow Creek with approximately four miles of stream bypassed in both Old Cow and South Cow creeks. The portion of South Cow Creek within the Project boundary is managed for anadromous and resident fish including fall-run and late fall-run Chinook salmon and steelhead. It is important to note a relatively recent revision of the DFG's management objectives resulting from the reassessment of Whitmore Falls located approximately seven miles below the Project on Old Cow Creek. Based on DFG experience with steelhead distribution above similar falls elsewhere in the State, Whitmore Falls is not an absolute barrier to anadromous fish. Contrary to the characterization on page 36 of the IIP, DFG fishery biologists and fish passage specialists consider Whitmore Falls passable for steelhead under both normal and wet water year flow conditions. The current extent of anadromy in Old Cow Creek is unknown at this time. Until such time that appropriate data indicate otherwise, the DFG will manage the portion of Old Cow Creek within the Project boundary for both anadromous and resident fish including steelhead. Further, given the apparent lack of absolute physical barriers between known steelhead habitat in Old Cow Creek and the Project, regardless of fish survey results, the DFG intends to manage the subject area as restorable steelhead habitat for the foreseeable future.

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### Specific Resource Issues and Recommended Studies

The August 18, 2005, SES letter requested the agencies to identify any additional studies or information considered necessary to support an application for the Project. SES also requested explanations for why additional studies are "more appropriate than the studies already agreed upon during PG&E's relicensing process." This statement fails to acknowledge several studies that PG&E and the agencies did not reach agreement on; namely the stream flow monitoring study, the aquatic habitat study and the instream flow study. Again we refer to our June 2003 letter to Ms. Angela Risdon, who was at that time PG&E's Killarc-Cow Relicensing Project Manager.

We also note that the IIP is a summary prepared by SES of information compiled by PG&E, much of which is not part of the administrative record or available for our review. (For example, of the 20 listed on-going studies, only the Red-Legged Frog Survey report has been finalized and submitted into the public record). As such, the IIP is not a stand alone document. We understand that SES is still in the process of obtaining data from PG&E and completing studies. This will undoubtedly create some discontinuity and delay in sharing information. However, in several instances the IIP presents data that is limited in scope and/or not tied to Project operations. Based on the IIP, it is not clear to us to what extent SES intends to develop and disseminate additional data. There are also conclusions within the IIP that erroneously suggest a comprehensive set of data has been submitted and analyzed. In an effort to facilitate development of a more complete second stage consultation document, we will highlight several significant areas that require additional information.

The discussion of existing water use (Section 4.2.2) provides a brief narrative including a few summary statistics (e.g., monthly average maximums and average minimums), and refers to Figure 4.2-3 as depicting the 20 and 80 percentiles (page 20). However, we cannot find Figure 4.2-3 in the IIP, and the few isolated quantities presented do not provide a meaningful basis for interpretation. Similarly, the "Existing Water Quality" (Section 4.2.3) references a table of multiple parameters (page 23) but this table is not within the IIP. The temperature section on page 24 presents over a dozen water temperature values in a narrative format from locations throughout the watershed without a table/graph to facilitate interpretation. The narrative does not provide insight into the relationship of water temperature to Project operations (e.g., flow). These data gaps involve important "existing" water quality conditions. The conclusion on page 25: "the relatively short diversions are not believed to have negative impacts on water quality in the Project Area" is not supported by information

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within the IIP and appears to be conjecture. The IIP should highlight the areas lacking documentation, propose methods to collect information and refrain from making unsupported statements about Project impacts.

The first paragraph of the Fish Abundance and Distribution in the Project area (Section 4.4.2.1) reads, in part; "there are many passage barriers in the Cow Creek drainage caused by falls or steep streambed conditions which limit the extent of anadromous fish" (page 35). However there is no accompanying description of the location or dimensions of these barriers and steep conditions. We anticipate that SES's #10 proposed study, Passage Barrier Survey, will provide the data necessary to put this statement into context and allow assessment of Project impacts. Until the relevant information is collected and presented, a statement that barriers exist within the watershed is too vague to be helpful in identifying Project impacts or designing appropriate mitigation measures. We would add that the statement "fish distribution and abundance are also affected by the low summer flow and high water temperatures typical of the Cow Creek drainage" (page 35) is most applicable to elevations below 1,000 feet. As the Project area occurs from 820 to 3,940 feet, we consider the majority of the aquatic habitat within the Project to be suitable for trout and salmon unless SES provides additional site specific information to the contrary.

The fish resources section provides some estimates of fish densities in Old Cow Creek downstream of the bypass reach but does not include information on the fish resources within the bypass reach. Beyond fish density, we recommend length frequency and condition factor be examined in both full flow and bypassed reaches to quantify impacts on fish resources.

Determining appropriate instream flows will be an important element of future consultation with the resource agencies. In the "Project Impacts" section the IIP notes past studies in the watershed such as the "Waters Method" in South Cow from 1978 and a 1985 "instream flow assessment" from a portion of Old Cow upstream of the Project. Actual methods are not presented, nor any results such as "Weighted Usable Area" curves, just broad statements such as the general frequency of spill events under current operations. Identification of the impacts of the Project on the aquatic resources of both Old Cow and South Cow creeks will require an up-to-date and rigorous analysis of the relationship of flow to habitat. The analysis should be based on site specific field data obtained at flows representative of the unimpaired hydrograph. The minimum requirements of an acceptable instream flow study for this Project are outlined in the additional study portion of this letter.

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The Project Impacts on stream temperature section echoes the IIP's existing conditions presentation. Limited data from isolated times and places is summarized without graphs, tables or clear correlation with Project operations. The IIP notes that water temperature data collected during "lower flow releases" in the South Cow reach are "too high to provide suitable rearing habitat for steelhead or resident trout" (page 47). Such statements require much greater detail and context to enable resource agencies to develop appropriate mitigation measures.

The Project Impacts on passage/entrainment section references an evaluation from 1984 that showed the South Cow facilities provided adequate passage and protection for anadromous fish. Actual methods and data from the study performed over 20 years ago are not provided in support of this statement. Similar to the field of instream flow assessment, salmonid fishway criteria have changed dramatically in the past two decades and this issue should be revisited using modern technologies.

Beyond the PG&E studies referenced in the IIP, we recommend SES conduct additional field work and analyses in the areas of (1) hydrology and aquatic habitat, (2) water quality and (3) fish passage. In the following paragraphs we provide the relevant authority and rationale for these recommendations. We also describe appropriate methodologies for addressing each resource area.

#### Hydrology – Aquatic Habitat

Fish and Game Code Section 5937 reads in part, "The owner of any dam shall allow sufficient water at all times to pass through a fishway or, in the absence of a fishway, allow sufficient water to pass over, around, or through the dam, to keep in good condition any fish that may be planted or exist below the dam." The Fish and Game Code defines "fish" as "wild fish, mollusks, crustaceans, invertebrates, or amphibians, including any part, spawn or ova thereof." (Fish and Game Code §45).

The bypassed reaches of the Project are not currently gauged. Existing flow data is limited to the amount which is diverted and the amount required to be bypassed. In the case of the Old Cow (or Kilarc) diversion, the main canal can handle up to 52 cubic feet per second (cfs). Over the past 20 years, the canal diverted an average of 32 cfs from Old Cow Creek as measured below the current required bypass release of 2 cfs. The amount released back to the creek is less than 6 percent of the average amount diverted for power production. In the case of the South Cow Creek Diversion, the main canal can handle 50 cfs

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and, over the past 20 years, diverted an average of 32 cfs, again measured downstream of the bypass release. The bypass requirement on South Cow Creek, through the fish ladder, varies from 2 to 4 cfs (depending on water year type) or from 6 to 11 percent of the average amount diverted for power production.

The scientific rationale for the current bypass requirements is not provided in the IIP. Given our current understanding of the ecological processes tied to hydrology, we cannot concur that flows of 2 to 4 cfs are protective of aquatic resources. Flows influence a wide range of fish habitat conditions including thermal refugia in critically hot months, the availability of edge habitat for newly emerged fry, and the timing of spawning activities. Hydrology also influences the composition of riparian vegetation and streambed substrate. The DFG maintains that, given the magnitude of the Project's diversions, such bypass flows have had and will continue to have significant impacts on the aquatic resources of Old and South Cow creeks. The DFG requests that SES establish the relationship between Project operations that influence stream hydrology and downstream aquatic and riparian habitat conditions (e.g., water quality, fish distribution and abundance, fluvial geomorphology, and vegetation distribution and abundance) utilizing current ecological principles and theory. An understanding of the relationships between flow and the natural resources will be an essential component of any new license application, which must include a bypass flow regime adequate to maintain and enhance the aquatic and riparian resources of Old and South Cow creeks.

The first step in determining an adequate bypass flow regime is synthesizing an unimpaired hydrograph to provide the ecological foundation for management decisions. The DFG supports implementing a flow regime with seasonal variations patterned after the unimpaired hydrograph to help restore normative habitat conditions in a regulated system (see Stanford, et al., 1996). Determining the unimpaired hydrograph is a challenging task on this system, given the lack of gauges in bypassed channels and the added complexity of an adjudicated system. Actual flow measurements should be taken. Such field data will be essential to calibrate estimates of flow from existing records. Year-round flow measurements are particularly relevant in the bypassed reaches since, from a hydrologic perspective, these are both the most heavily impacted portions of the Project and currently the least quantified.

Specifically, we recommend installation of a U.S. Geological Survey approved gauge in the bypassed reach of South Cow Creek as soon as feasible. It is our understanding that the gradient and sediment load of Old Cow Creek preclude installation of a permanent gauge in that reach. We would accept

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weekly use of handheld flow meters for as much of the 2005-06 water year as can be monitored without exposing field staff to hazardous conditions. Flow should also be measured at stations that bracket all significant diversions (such as the two project canals) and inputs (such as North Canyon and Mill creeks and powerhouse discharges). Beyond the two locations proposed in PG&E's May 2003 Study Plan document (the Kilarc powerhouse on Old Cow Creek and above the diversion dam on South Cow Creek), we recommend that flow monitoring stations also be placed above the Kilarc diversion dam and below the confluence with North Canyon Creek on Old Cow Creek and below Mill Creek and upstream of the confluence with Hooten Gulch in South Cow Creek. Information from these added stations will facilitate extrapolation from the synthesized hydrology as well as providing a means of verifying estimated flows.

Once created, the unimpaired hydrograph will provide a basis for determining the impacts of the Project on the hydrology of Old and South Cow creeks as well as informing additional studies such as instream flow, aquatic habitat, and water quality. To facilitate the first objective of understanding hydrologic Project impacts, the basic Project hydrology should be presented as the daily average flow (both unimpaired and actual) and segregated into the three standard water year classifications of wet, normal, and dry. Water years should be classified with an unimpaired flow of 125 percent or greater equaling a "wet" year; an unimpaired flow greater than 75 percent and less than 125 percent equaling a "normal" year; and an unimpaired flow of 75 percent or less equaling a "dry" year. To help understand the project effects on the magnitude, duration, and timing of flow, we recommend utilization of the "Indicators of Hydrologic Alterations" (IHA) method developed by Brian Richter of the Nature Conservancy. The IHA program should be run using the synthesized unimpaired and actual hydrology.

Once the unimpaired hydrograph is synthesized it should provide the range of flows to be addressed in the proposed "Physical Habitat Simulation" (PHABSIM) of the instream flow study. We also recommend that the PHABSIM study include collection of at least two sets of velocity data. While a middle calibration flow may be used to reliably predict habitat available at lower flows, based on our experience, we question the reliability of using such flow data to extrapolate habitat estimates upwards.

The transect selection protocol for the instream flow study is not provided in the IIP but it should be representative of the variability both between and within different mesohabitat types (e.g., run, riffle, pool) to be statistically valid. This will require habitat mapping of the Project area. The most useful habitat information would be acquired during moderate unimpaired flows. Based on the preliminary

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flow estimates provided at the back of PG&E's May 2003 document, the average unimpaired low flow during the past 50 years in September and October ranged between 25 and 35 cubic feet per second (cfs) in Old Cow Creek and between 55 and 65 cfs in South Cow Creek. Under current operations, the base flows in the bypass reaches are between 2 and 4 cfs. While flows of less than 5 cfs facilitate stream access and observation of substrate, we do not expect mapping conducted under such extreme flow conditions to provide representative habitat types. We recommend that aquatic habitat mapping be performed at flows of at least 30 cfs in the Old Cow bypass reach and at least 50 cfs in the South Cow Creek bypass reach (i.e., at the lower end of the unimpaired hydrograph) in order to capture a more representative assessment of habitat type distribution. Any data gaps resulting from constraints created by moderate flows, such as impaired water clarity or researcher safety issues, could later be addressed with a supplemental mapping effort at the base flow.

The instream flow study should model available habitat for the two resident trout species and "anadromous salmonids" on both Old Cow and South Cow creeks. As presented previously, until appropriate fish sampling data reasonably establish the absence of steelhead in the Project area, the DFG considers Old Cow Creek to be potential steelhead habitat. Given their special status (i.e., federally threatened), Central Valley steelhead trout habitat requirements will be an important factor in future flow management decisions not only in the currently occupied Project habitat (i.e., South Cow Creek) but also in the potential/restorable Project habitat (i.e., Old Cow Creek). Therefore, we reiterate our recommendation for modeling weighted usable area for anadromous salmonids in all portions of the Project, not just South Cow Creek.

### Water Quality

The California Fish and Game Commission's policy on water provides, "The quantity and quality of the waters of the state should be apportioned and maintained respectively so as to produce and sustain maximum numbers of fish and wildlife." (Policies adopted by the California Fish and Game Commission Pursuant to Section 703 of the Fish and Game Code, Water.) Based on the information provided in the IIP, weekly water temperature maximums within the Project boundaries on Old Cow Creek can exceed 20° Celsius (C), well above the preferred range for steelhead (Bjornn, T.C., and Reiser, D.W., 1991, and Raleigh, R.F., et al., 1984). Water temperatures in South Cow Creek are even more compromised with maximum summer water temperatures approaching the lethal threshold for steelhead (24°C). Given the range of temperatures documented in both drainages over the past several years, determination of Project impacts on summertime water temperature will be essential.

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To implement a water temperature monitoring program we recommend temperature recorders be spaced at least every mile along the bypass reaches to provide an estimated rate of change in temperature per mile as well as absolute values. To be able to isolate Project impacts, it will be necessary to monitor water temperatures immediately above Project diversions as well as below the mixing zones created by Project discharges.

Once SES establishes the existing rate of change in water temperature and isolates the impacts of the various diversions and tributaries, we recommend combining the data with the hydraulic information to be collected to allow modeling of the daily water temperature minima, maxima, and means under a range of flows. The range of flows modeled should include, at a minimum, both those provided under current operations as well as those that would exist without the Project in order to be able to quantify Project impacts on water temperature.

#### Fish Passage

Fish and Game Section 5900 et seq. sets forth the provisions enacted by the State to provide safe, timely and effective fish passage. In particular, §5931 requires owners of dams to construct a suitable fishway that meets the DFG's satisfaction to provide free passage over or around any dam. Fish and Game §5980 et seq. further requires installation of screens that meet DFG criteria on any conduit that diverts water for hydroelectric generation.

As mentioned previously, PG&E's Passage Barrier Study should provide an inventory and catalog of potential fish passage barriers within the bypass reaches to complement the general aquatic habitat study. The geographic scope of the proposed study is too narrow. This Project provides fish passage facilities at only one of the five diversions, namely the South Cow Creek diversion. The other four diversions represent potentially significant barriers and need to be evaluated for purposes of designing appropriate mitigation measures. The effectiveness of the South Cow ladder installed in 1984 has not been reevaluated since the initial study. The current effectiveness of the passage facilities at the South Cow Creek diversion should be assessed for both anadromous and resident species under a range of flows including when the diversion is just beginning to spill.

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**Summary**

This completes our comments on the IIP prepared by SES. We appreciate the opportunity to comment on the studies necessary for relicensing of the Kilarc-Cow Creek Hydroelectric Project. My staff are available to consult with SES regarding design and review of specific studies. If you have any questions regarding the above comments and recommendations, please contact Staff Environmental Scientist Annie Manji at the letterhead address or telephone (530) 225-3846.

Sincerely,

  
for **DONALD B. KOCH**  
Regional Manager

Enclosures

cc: See page fourteen

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**References:**

Bjornn, T.C., and D.W. Reiser (1991). Habitat requirements of salmonids in streams. Chapter 4 in *Influences of Forest and Rangeland Management on Salmonid Fishes and Their Habitats*, Meehan, W.R. (ed.) American Fisheries Society Special Publication 19, Bethesda, Maryland. Pp 83-138.

California Fish and Game Code (2002). LawTech Publishing Co. Ltd., San Clemente, California. 560 pp.

Richter, B.D., J.V. Baumgartner, J. Powell, and D.P. Braun (1996). A method for assessing hydrologic alteration within ecosystems. *Conservation Biology*, 10. Pp 1163-1174.

Raleigh, R.F., T. Hickman, R.C. Solomon, and P.C. Nelson (1984). Habitat suitability information: Rainbow trout. U.S. Fish and Wildlife Service. FWS/OBS-82/10.60. 64 pp.

Stanford, J.A., J.V. Ward, W.J. Liss, C.A. Frissell, R.N. Williams, J.A. Lichatowich, and C.C. Coutant (1996). A General Protocol for Restoration of Regulated Rivers. *Regulated Rivers, Research, & Management*, Vol. 12. Pp. 391-413.

U.S. Fish and Wildlife Service. (2001). Final Restoration Plan for the Anadromous Fish Restoration Program, A Plan to Increase Natural Production of Anadromous Fish in the Central Valley of California, U.S. Fish and Wildlife Service, Sacramento, California.

California Department of Fish and Game (1990). Central Valley Salmon and Steelhead Restoration and Enhancement Plan. Sacramento, California. 115 pp.

California Department of Fish and Game (1993). Restoring Central Valley Streams: A Plan for Action. Sacramento, California. 129 pp.

California Department of Fish and Game (1996). Steelhead Restoration and Management Plan for California. Sacramento, California. 234 pp.

Resources Agency, State of California (1989). Upper Sacramento River Fisheries and Riparian Habitat Management Plan. Sacramento, California. 158 pp.

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State of California - The Resources Agency

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June 18, 2003

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Dear Ms. Risdon:

**Comments on Revised Study Plans, Pacific Gas and Electric Company's  
 Kilarc-Cow Creek Hydroelectric Project (Project)  
 Federal Energy Regulatory Commission (FERC) No. 606**

The Department of Fish and Game has received the May 2003 revised study plan document distributed by Pacific Gas and Electric Company (Licensee) for the subject Project. We appreciate the opportunity to review and comment on the study plans the Licensee proposes to implement as part of their relicensing effort. In general, the study plans appear to present a comprehensive approach to documenting the impacts of the Project on fish and wildlife resources in the Old and South Cow Creek drainages. However, for three interrelated studies involving hydrology, aquatic habitat, and instream flow, we have concerns about the adequacy of the proposed methodologies. Given the accelerated schedule for this relicensing, we understand that field work is underway and that you anticipate completing all studies this year. In an effort to provide timely input, we offer the following brief comments on three studies-in particular.

Understanding unimpaired hydrology is fundamental to interpreting impacts of flow regulation on natural resources. This Project is handicapped by the lack of historic flow information and will be relying heavily on a synthesized hydrograph. The stream flow monitoring study (Study #1) proposes to place two continuous flow monitoring stations within the Project boundary at the Kilarc powerhouse on Old Cow Creek and above the diversion dam on South Cow Creek. These stations, along with biweekly measurements by Licensee personnel and powerhouse production information, will be used to calibrate and ground truth the synthesized hydrograph. The study is already limited temporally by having less than one year's worth of empirical flow measurements within the natural creek channels. To also limit the study geographically by monitoring only two continuous stations exacerbates an already data limited situation. Ideally the study should measure flow at stations that bracket all significant diversions (such as the two project canals) and inputs (such as North Canyon and Mill creeks and powerhouse discharges). Beyond the two locations proposed in your May 2003 document, we recommend that continuous flow monitoring stations also be placed above the Kilarc diversion dam and below the confluence with North Canyon Creek on Old Cow Creek

*Conserving California's Wildlife Since 1870*



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Ms. Angela Risdon  
June 18, 2003  
Page Three

Thank you for the opportunity to review and comment on the proposed study plans for the Kilarc-Cow Hydroelectric Project. We look forward to working with you and the other stakeholders to develop a balanced and complete license application. If you have any questions regarding these comments, please contact Environmental Scientist Annie Manji at (530) 225-3846.

Sincerely,

A handwritten signature in black ink that reads "Donald Koch". The signature is written in a cursive style with a large initial "D" and a long horizontal stroke extending to the right.

**DONALD B. KOCH**  
Regional Manager

Enclosure

Ms. Angela Risdon  
June 18, 2003  
Page Four

cc: Ms. Magalie Salas, Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, DC 20426

Mr. Gary Smith  
Department of Fish and Game  
1416 Ninth Street, Room 1280  
Sacramento, CA 95814

Mr. Steve Edmondson  
National Marine Fisheries Service  
777 Sonoma Avenue, Suite 325  
Santa Rosa, CA 95403-6528

Messrs. Mark Stopher, Randal C. Benthin,  
Steve Turek, Harry Rectenwald,  
and Ms. Annie Manji  
Department of Fish and Game  
601 Locust Street  
Redding, CA 96001

Ms. Debbie Giglio  
U.S. Fish and Wildlife Service  
2800 Cottage Way, Room W-2605  
Sacramento, CA 95821-6340

Mr. Harry Williamson  
National Park Service  
600 Harrison Avenue, Suite 600  
San Francisco, CA 94107

Ms. Britt Fecko  
Division of Water Rights  
State Water Resources Control Board  
P.O. Box 2000  
Sacramento, CA 95812-2000

Mr. Dennis Heiman  
Central Valley Regional Water  
Quality Control Board  
415 Knollcrest Drive, Suite 100  
Redding, CA 96002

Ms. Jean Baldrige  
ENTRIX, Inc.  
590 Ygnacio Valley Road, Suite 200  
Walnut Creek, CA 94596

Ms. Nancee Murray  
Department of Fish and Game  
1416 Ninth Street, 12th Floor  
Sacramento, CA 95814

# DRAFT

## Basic Sampling Design - Rule of Three Protocol Instream Flow Incremental Methodology Physical Habitat Simulation Model

The applicability and utility of instream flow incremental methodology/physical habitat simulation model (IFIM/PHABSIM) weighted usable area (WUA)/discharge models and relationships is dependent upon adequately sampling mesohabitats present within specific river or stream (river) reaches, and the hydraulic and physical conditions within those mesohabitats. WUA/discharge relationships may be developed via one and two dimensional PHABSIM models. Basic sample size needs and study design(s) for one dimensional models are considered here. Two dimensional models and habitat suitability criteria, key components of PHABSIM analyses, are not considered here.

PHABSIM analyses involve sampling hydraulic and physical variables present in a river reach, simulation of these conditions at various river discharges, and interpretation of the sampling characteristics and simulation(s) results. It is virtually impossible to measure 100% of the hydraulic and physical variables at specific discharges. Thus, it was necessary to sample subsets of such variables. For most one dimensional PHABSIM analyses, this is usually accomplished by partitioning the river under consideration into generally homologous reaches, delineating available mesohabitats within each reach, and sampling specific mesohabitat units available within the homologous river reach. Hydraulic and physical conditions within these mesohabitat units are generally measured along cross-sectional transects established within the units.

Determining the number of mesohabitats and transects per specific mesohabitat to sample within specific river/stream reaches is of critical importance. Mesohabitat and transect sample sizes necessary to develop representative WUA/discharge relationships within prescribed statistical limits may be statistically determined. This approach involves developing preliminary estimates of population variance and applying formulas such as the following:

$$N = \frac{(t^2)(S^2)}{(ay)^2}$$

- Where:
- N = required sample size
  - t = tabular t-value
  - S<sup>2</sup> = estimated variance
  - a = accuracy desired in describing the population parameters
  - y = mean in a group of n samples

## DRAFT

To use such a statistical approach effectively, it would be necessary to identify sample size needs regarding the number of mesohabitats and types within each homologous reach as well as number of transects within each mesohabitat type and unit. Mesohabitat parameters such as type, length, width, water depth, and velocity (e.g., range, average, etc.), slope, edge type, etc., would need to be considered to statistically determine needed mesohabitat sample size(s). Parameters such as water depth and velocity, substrate, vegetation, cover type, distance to escape cover, distance to shear zones, etc. at specific stations along transects within each mesohabitat type would need to be considered to statistically determine transect sample size(s)

A statistical approach to mesohabitat and transect sample sizes, while providing a statistically valid approach to determining sample size needs, could become lengthy and costly due to the complexity, frequency, and distribution of various habitat parameters being incorporated into PHABSIM habitat modeling and due to the requirement that estimates of population variances and sample means be determined before beginning actual sampling to form the foundation of sample needs.

The Basic Sampling Design Rule of Three Protocol was developed to provide an acceptable approach to determining sample size needs for PHABSIM streamflow assessments while minimizing assessment costs. The Rule of Three Protocol is intended to incorporate effective consideration of mesohabitat and hydraulic and physical parameters occurrence and variability in the basic sample design. It is a systematic decision tree that provides stepwise decisions to determining sample size needs. It is intended to provide effective and adequate consideration of microhabitat parameters and variability within and between mesohabitats and transects to ensure these parameters are adequately sampled and to avoid high costs associated with a purely statistical approach (e.g., developing preliminary estimates of variance and other population information).

The protocol is not a statistical approach to determining sample size needs. It is intended as an alternative to a statistical approach but also intended to be an approach that takes parameter variability into consideration. The protocol approaches sample size needs from the perspective that a sample of one does not allow for within or between mesohabitat and/or transect variability to be introduced into a model. A sample size of two would allow for some variability to be introduced, but results could be biased and/or misleading if a sample unit data were somehow not representative of the overall reach. A minimum sample size of three is required to develop an estimate of variance and would minimize the potential effects of including biased/misleading sample units in the model. The protocol is intended to be applied in a collaborative manner. A minimum sample size of three mesohabitat units within each homologous reach, and three transects per mesohabitat unit is the default sample size if agreement regarding

## DRAFT

sample size(s) cannot be reached. In specific cases, it may be appropriate to use less than or more than three habitat units and/or transects per unit. If the party conducting an IFIM/PHABSIM stream needs assessment disagrees with the protocol, use of a statistical approach to determining sample size needs and subsequent sampling is acceptable.

Pursuant to the Rule of Three Protocol, the number of mesohabitat units and transects within each unit necessarily sampled for PHABSIM model development is dependent upon river reach homogeneity, and mesohabitat frequency, distribution, and variability. Protocol procedures are:

- Partition the river segment in question into generally homologous reaches.
- Delineate all mesohabitat types (e.g., run, riffle, pool, etc.) throughout each reach at an unimpaired, moderate river discharge. Extremely low and high flows should be avoided for mesohabitat delineation
- Prepare a frequency distribution of available habitat types per river reach.
- Evaluate specific mesohabitat types that may be hazardous to sample and/or that may be exceedingly difficult/impossible to model. If all interested parties agree that specific mesohabitats should be deleted from subsequent PHABSIM sampling and modeling, determine how these mesohabitat types will be considered during stream needs assessment(s). Alternatives include interested parties agreeing upon a different assessment method if the type comprises a significant amount of a river reach, and/or if the mesohabitat includes an important function for target species; deleting these mesohabitat types from sampling, model development, and stream needs assessment(s); and assuming results of assessment evaluations for other mesohabitats will be applicable to mesohabitats that may be hazardous and/or may not be modeled. Document the decision making process, and conclusions.
- Evaluate the biological importance of each mesohabitat that comprises less than 5% of the total linear distance of the homologous reach. Include biological significant mesohabitat types in subsequent sampling, WUA/discharge development, and streamflow needs assessment(s).
- Prepare a sampling design for all samplable mesohabitats comprising 5% or greater of the total linear distance of each homologous reach and biologically important mesohabitat types comprising less than 5% of the total linear distance.

## DRAFT

- **Ground truth each transect selected for sampling to determine whether the transect represents the mesohabitat unit, and samples the hydraulic and physical microhabitats available within the unit. Randomly select additional transects within the mesohabitat unit as needed with ground truthing. Document the decision making process.**
- **Hydraulic and physical microhabitat conditions should be measured along each transect at three distinct river discharges (e.g., low, moderate, and high). It is appropriate to evaluate whether it is necessary to sample three discharges. This determination shall be based on the hydraulic and physical microhabitat variability present within mesohabitat at the three flows, and shall be made collaboratively. If all parties cannot agree whether less than three flows should be sampled, three flows remains the default sample size. Document the decision making process.**
- **Proceed with hydraulic and physical habitat sampling, PHABSIM model development, and streamflow needs assessment(s).**

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**OFFICE OF THE**  
**SECRETARY**

**MAILING ADDRESS**  
P.O. Box 7442  
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Annela Feraglia  
Attorney at Law

**785 MAR 31 P 3 27**

**ORIGINAL**

**FEDERAL ENERGY**  
**REGULATORY COMMISSION**



March 30, 2005

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**FEDERAL ENERGY**  
**REGULATORY COMMISSION**

**Megale R. Sains, Secretary**  
**FEDERAL ENERGY REGULATORY COMMISSION**  
**888 1<sup>st</sup> Street, NE, Docket Room 1A-East**  
**Washington D.C. 20426-0002**

**Re: Kilare-Cow Creek, FERC Project No. 686**

Dear Ms. Sains:

Enclosed please find an original and eight (8) copies of the executed Kilare-Cow Creek Project Agreement ("Agreement") by and between Pacific Gas and Electric Company ("PG&E"), U.S. Fish and Wildlife Service, California Department of Fish and Game, National Park Service, California State Water Resources Control Board, NOAA Fisheries, Trout Unlimited, and Friends of the River in regard to the above referenced Kilare-Cow Creek Project ("Project"). Under the Agreement, PG&E will not seek a new FERC license for the Project but will continue operating it until the current license expires on March 27, 2007 and on annual licenses thereafter until the Project is: (1) acquired by another license applicant; or (2) decommissioned by FERC order.

PG&E extensively analyzed anticipated new license conditions and determined that such conditions would make the Project an uneconomic source of power. This determination led to the development and execution of the Agreement. In the event FERC orders the Project to be decommissioned, the Agreement identifies what the signatory parties believe are the subjects that would need to be addressed and the desired condition of each of these subjects after decommissioning. PG&E used this indication of decommissioning scope along with other considerations in reaching its decision to enter into the Agreement and not file an application for new license. Specific actions necessary to achieve the desired conditions would be determined in the future. The Agreement also addresses the transferring of water rights, upon decommissioning, to a resource agency or other entity to support spring run Chinook salmon and steelhead trout.

On August 17, 2004 FERC representatives participated in a meeting, via conference call, with the signatory parties to discuss the possibility of PG&E not filing a relicensing application. Prior to and after that call, Steve Nevers, PG&E's Project Manager for the



**Margie R. Sales, Secretary**  
**FEDERAL ENERGY REGULATORY COMMISSION**  
**March 30, 2005**  
**Page Two**

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**Kilare-Cow Creek Relicensing Project, has been in contact with FERC staff regarding developments. Most recently, on January 19, 2005, Mr. Novarus updated FERC's Tim Walsh, Emily Carter, and Alan Mitchnick on the status of the Agreement.**

**If you have any questions regarding the attached Agreement, you may contact Steve Novarus at (415) 973-3174, e-mail SAN3@ppe.com, or myself at (415) 973-7145, e-mail ARF3@ppe.com.**

**Very truly yours,**

A handwritten signature in black ink, appearing to read "Annette Faraglia".

**Annette Faraglia**

**Attachment**

**cc: Ms. Emily Carter**  
**Mr. Robert Fletcher**  
**Mr. Hennis Edrei**  
**Mr. Alan Mitchnick**  
**Mr. Timothy Walsh**

**Mr. Wayne White, Field Supervisor, U.S. Fish & Wildlife Service**  
**Mr. Donald B. Koch, Regional Manager, California Department of Fish & Game**  
**Mr. Jonathan B. Jarvis, Regional Director, National Park Service, Pacific West Region**  
**Ms. Victoria A. Whitney, Chief Div. of Water Rights, CA State Water Resources Control Bd.**  
**Mr. Rodney Melnick, Regional Administrator, NOAA Fisheries**  
**Mr. Steven Evans, Conservation Director, Friends of The River**  
**Charles Bonham, Esq., California Council, Trout Unlimited**

**Service List for Kilare Cow-Creek Project, FERC Project No. 606**

## **Kilero-Cow Creek Project Agreement**

This Agreement regarding the Kilero-Cow Creek Project ("Agreement") is signed as of ~~March 22, 2005~~ **March 22, 2005** ("Effective Date") by and among Pacific Gas & Electric Company, a California corporation (the "Company"), U.S. Fish and Wildlife Service, California Department of Fish and Game, National Parks Service, California State Water Resources Control Board, Nation Marine Fisheries Service, Friends of the River, and Trout Unlimited. The signatories to this Agreement are referred to individually as a "Party" or collectively as the "Parties".

### **PROJECT BACKGROUND**

A. The Kilero-Cow Creek Project is licensed by the Federal Energy Regulatory Commission ("FERC") as FERC Project No. 606 (the "Project"). The Project is located in Shasta County, California along Old Cow Creek and South Cow Creek. The Project consists of Kilero Powerhouse and Cow Creek Powerhouse along with related canals, penstocks, forebays and other structures.

B. The current FERC license for the Project expires on March 27, 2007. For the last two years the Company has been following the process prescribed in the Federal Power Act to obtain a new license. The Company's application for a new license is due to FERC by March 27, 2005. The Parties to this Agreement have been participants in the Company's relicensing process for the Project.

C. Due to the complex and competing resource issues associated with the Project, in early 2004 the Company decided to explore decommissioning as an alternative to relicensing the Project. The Company requested that the Parties participate in evaluating actions that would be necessary should the Project be decommissioned. This led to the Parties identifying a list of subjects and desired conditions to be addressed should the Project be decommissioned. The subjects and desired conditions are listed in Attachment A, which is incorporated herein by reference.

D. The Company's evaluation of the cost of decommissioning the Project based on the subjects and desired conditions in Attachment A versus operating the Project under a new license with the anticipated conditions, show that under a new license the Project would be a high cost source of energy and would not be competitive with other generation sources. This evaluation was only possible once the relicensing work had proceeded to the point where potential conditions of a new license could be identified by the Parties.

E. Based on the Parties' concerns regarding the subjects and desired conditions in Attachment A, the Company is willing to stop work on relicensing the Project and not file a new license application. The Company is also willing to support decommissioning the Project based on its determination that decommissioning is a viable and cost-effective alternative to relicensing.

F. By not filing an application for new license by the statutory deadline of March 27, 2005, the Company will lose its incumbent license status and forgo its opportunity to relicense the Project. Under 18 C.F.R. §16.18, FERC is authorized to issue annual licenses to the Company pending determination of the future status of the Project. The United States may seek to take over the Project, or other entities may apply for the Project license within a time period set by FERC under 18 C.F.R. §16.25. Other entities may also apply for the Project license prior to March 27, 2005. If no timely applications are received, FERC will order the Company to prepare and file a license surrender application in compliance with FERC's rules that provides for the disposition of Project facilities.

## AGREEMENT

### 1. RELICENSING

1.1 The Company agrees not to file an application for new license for the Project. The other Parties support this action.

1.2 Entities other than the Company may seek to acquire a new license for the Project following the FERC prescribed process. The Parties accept that if an entity other than the Company indicates an interest in licensing the Project, the Company will need to provide such entities with Project information as required, including the results of relicensing studies performed to date. Additionally, the Parties accept that in such circumstances the Company will not hinder the efforts of such entities to obtain a license for the Project.

1.3 The Company will continue to operate the Project under the terms and conditions of the existing license until it expires on March 27, 2007, and then on annual licenses issued by FERC under 18 C.F.R. §16.18 until the Project is transferred to another license, or is decommissioned. The Company recognizes that during the period of annual license, if any, the Parties may work together, or individually, or with FERC to establish mutually acceptable environmental measures that improve water quality and/or conditions for state and federally protected species. The Parties recognize that FERC may incorporate additional or revised interim conditions in annual licenses if necessary and practical to limit adverse impacts on the environment under 18 C.F.R. §16.18(d). Any Company application for license surrender filed pursuant to 18 C.F.R. §16.25 shall provide for disposition of the Project facilities.

### 2. GOVERNMENTAL PARTIES RETAIN AUTHORITIES

2.1 Notwithstanding this Agreement, the Parties <sup>that</sup> ~~which~~ are governmental agencies retain all of their authorities and mandates related to the Project, the Project-affected resources and the Company's ongoing relicensing or surrender of license proceeding, and to any new licensing proceeding that may be initiated for this Project. Such authorities and mandates are not diminished in any way by these Parties entering into this Agreement. Entering into this Agreement is not in any manner a pre-decisional act or commitment by any of the governmental agencies as to the disposition of the Project assets or water rights.

**2.2 Notwithstanding this Agreement, the Parties that are non-governmental organizations retain all of their rights related to the Project, the Project-affected resources and the Company's ongoing relicensing proceeding, and to any new licensing proceeding that may be initiated for this Project. Such rights are not diminished in any way by these Parties entering into this Agreement. Entering into this Agreement is not in any manner a pre-decisional act or commitment by any of the non-governmental organizations as to the disposition of the Project assets or water rights.**

### **3. DECOMMISSIONING**

**3.1 The Company commits to supporting decommissioning the Project based on decommissioning being the viable and cost effective alternative to relicensing.**

**3.2 If FERC authorizes or orders the Company to decommission the Project, upon a final order from FERC ending Project power operations, the Company intends to transfer its appropriative water rights held for operation of the Project ("water rights") to a resource agency or other entity that: 1) agrees to use the water rights to protect, preserve, and/or enhance aquatic resources, as authorized by applicable laws and regulations, such as Water Code section 1707; and 2) is acceptable to the Parties. Additionally, prior to transferring of its water rights, the Company will work in good faith with other non-Parties to resolve potential water rights issues with the goal of having the water rights used to preserve, protect and/or enhance aquatic resources.**

**3.3 In the event the Company files or is ordered by FERC to file a surrender application, which the Company agrees will include a decommissioning plan, the subjects and desired conditions in Attachment A represent the Parties' good faith effort at this time to identify the subjects that would need to be addressed and the desired condition of each of these subjects after decommissioning of the Project. It is the Parties' intent that the surrender application and decommissioning plan will define these subjects and desired conditions more fully and identify the actions to be taken by which the desired conditions will be met. If a consensus agreement cannot be reached, the dissenting Party will submit written documentation in the form of a letter to the other Parties explaining the dissenting Party's reasons for not agreeing with the other Parties. This letter will become part of the decommissioning record.**

**3.4 The subjects and desired conditions in Attachment A are based on limited information and subject to change by consensus of the Parties based on additional information that may become available or compliance with applicable laws and regulations. Consensus means that all Parties involved in a decision can "live with" that decision even if the decision is not exactly as each Party would desire.**

**3.5 Additional subjects and desired conditions may be added to this Agreement by a consensus decision-making process among the Parties.**

**3.6 If the Company files, or is ordered by FERC to file a surrender application and a decommissioning plan, the Parties will work collaboratively to develop the surrender schedule and decommissioning plan. The decommissioning plan will identify and refine the actions**

necessary to address the subjects and desired conditions in Attachment A following decommissioning of the Project and will be consistent with legal requirements and obligations to FERC, and other applicable state and federal laws. Decisions on actions to address the subjects and desired conditions in Attachment A will be made by consensus of all Parties involved in the decommissioning plan's development.

3.7 To the extent permissible, the Parties will support the Company in the necessary regulatory processes to decommission the Project, including the Company's efforts before the CPUC to recover the costs the Company incurs to decommission the Project in accordance with Attachment A.

#### **4. NEW PARTIES**

Additional governmental agencies, groups and individuals may become Parties to this Agreement.

#### **5. COMMUNICATIONS TO THE PUBLIC**

This Agreement and the work that may be needed to assist the Company and the Parties in developing a detailed decommissioning proposal are open to members of the public.

#### **6. TERM OF AGREEMENT**

6.1 This Agreement shall remain in effect until the later of 1) March 27, 2007; 2) the date the Project license is transferred to a new licensee; or 3) completion of the decommissioning of the Project under a FERC order and the final order from FERC ending the Company's responsibilities as the licensee of the Project, unless this Agreement is terminated sooner pursuant to the terms of this Agreement.

6.2 Each Party has the option of withdrawing from this Agreement by providing written notice to the other Parties explaining the reasons for the proposed withdrawal and affording the other Parties thirty (30) calendar days to consult and seek alternatives to such withdrawal. All Parties agree they will not arbitrarily withdraw from the Agreement and will make a good faith effort to consult with the other Parties to resolve any dispute prior to withdrawal.

6.3 Withdrawal by the Company terminates this Agreement. Grounds for Company withdrawal include, but are not limited to, the CPUC's failure to authorize the Company to fully recover in rates its decommissioning costs.

6.4 This Agreement can also be terminated by unanimous agreement of the Parties.

#### **7. MISCELLANEOUS PROVISIONS**

7.1 There are no intended third-party beneficiaries of this Agreement.

7.2 This Agreement does not create any rights, interests, claims or causes of action at law or in equity for any Party against another Party, or for any non-party against any Party.

7.3 Each person signing this Agreement on behalf of a Party represents that she or he is authorized to sign the Agreement on the Party's behalf.

7.4 This Agreement does not make any Party the agent or representative of any other Party, and this Agreement does not create any partnership or venture between or among the Parties.

7.5 This Agreement may be signed in counterparts by the Parties, and the signed counterparts taken together shall constitute one complete Agreement. A facsimile signature by a Party on a counterpart of this Agreement is as valid as the original signature.

**Attachment A: Kilaro-Cow Creek Project Decommissioning Agreement Subjects and Desired Conditions**

The Parties have signed this Agreement as of the dates listed below.

**U. S. Fish and Wildlife Service**

**California Dept. of Fish and Game**

By: \_\_\_\_\_  
Wayne White, Field Supervisor

By: \_\_\_\_\_  
Donald B. Koch, Regional Manager

Dated: \_\_\_\_\_

Dated: \_\_\_\_\_

**National Park Service  
Pacific West Region**

**California State Water  
Resource Control Board**

By: \_\_\_\_\_  
Jonathan B. Jarvis, Regional Director

By: \_\_\_\_\_  
Victoria A. Whitney, Chief, Div. of Water Rights

Dated: \_\_\_\_\_

Dated: \_\_\_\_\_

**NOAA Fisheries**

**Friends of The River**

By: \_\_\_\_\_  
Rodney Mahan, Regional Administrator

By: \_\_\_\_\_  
Steve Evans, Conservation Director

Dated: \_\_\_\_\_

Dated: \_\_\_\_\_

7.2 This Agreement does not create any rights, interests, claims or causes of action at law or in equity for any Party against another Party, or for any non-party against any Party.

7.3 Each person signing this Agreement on behalf of a Party represents that she or he is authorized to sign the Agreement on the Party's behalf.

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**Attachment A: Kilaro-Cow Creek Project Decommissioning Agreement Subjects and Desired Conditions**

The Parties have signed this Agreement as of the dates listed below.

**U. S. Fish and Wildlife Service**

**California Dept. of Fish and Game**

By: Kenneth Sanchez  
PA Wayne White, Field Supervisor

By: \_\_\_\_\_  
Donald B. Koch, Regional Manager

Dated: 3/1/05

Dated: \_\_\_\_\_

**National Park Service  
Pacific West Region**

**California State Water  
Resources Control Board**

By: \_\_\_\_\_  
Jonathan B. Jarvis, Regional Director

By: \_\_\_\_\_  
Edward Anon, Chief, Div. of Water Rights

Dated: \_\_\_\_\_

Dated: \_\_\_\_\_

**NOAA Fisheries**

**Friends of The River**

By: \_\_\_\_\_  
Rodney Mohrta, Regional Administrator

By: \_\_\_\_\_  
Steve Evans, Conservation Director

Dated: \_\_\_\_\_

Dated: \_\_\_\_\_

7.2 This Agreement does not create any rights, interests, claims or causes of action at law or in equity for any Party against another Party, or for any non-party against any Party.

7.3 Each person signing this Agreement on behalf of a Party represents that she or he is authorized to sign the Agreement on the Party's behalf.

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**Attachment A: Kilaro-Cow Creek Project Decommissioning Agreement Subjects and Desired Conditions**

The Parties have signed this Agreement as of the dates listed below.

**U. S. Fish and Wildlife Service**

**California Dept. of Fish and Game**

By: \_\_\_\_\_  
Wayne White, Field Supervisor

By: Donald B. Koch  
Donald B. Koch, Regional Manager

Dated: \_\_\_\_\_

Dated: March 1, 2005

**National Park Service  
Pacific West Region**

**California State Water  
Resources Control Board**

By: \_\_\_\_\_  
Jonathan B. Jarvis, Regional Director

By: \_\_\_\_\_  
Edward Aston, Chief, Div. of Water Rights

Dated: \_\_\_\_\_

Dated: \_\_\_\_\_

**NOAA Fisheries**

**Friends of The River**

By: \_\_\_\_\_  
Rodney Melnia, Regional Administrator

By: \_\_\_\_\_  
Steve Evans, Conservation Director

Dated: \_\_\_\_\_

Dated: \_\_\_\_\_

7.2 This Agreement does not create any rights, interests, claims or causes of action at law or in equity for any Party against another Party, or for any non-party against any Party.

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**Attachment A: Kilaro-Cow Creek Project Decommissioning Agreement Subjects and Desired Conditions**

The Parties have signed this Agreement as of the dates listed below.

**U. S. Fish and Wildlife Service**

**California Dept. of Fish and Game**

By: \_\_\_\_\_  
Wayne White, Field Supervisor

By: \_\_\_\_\_  
Donald B. Koch, Regional Manager

Dated: \_\_\_\_\_

Dated: \_\_\_\_\_

**National Park Service  
Pacific West Region**

**California State Water  
Resource Control Board**

By: George F. Smith  
Jonathan B. Smith, Regional Director

By: \_\_\_\_\_  
Edward Anton, Chief, Div. of Water Rights

Dated: 3/16/05

Dated: \_\_\_\_\_

**NOAA Fisheries**

**Friends of The River**

By: \_\_\_\_\_  
Rodney Mohan, Regional Administrator

By: \_\_\_\_\_  
Steve Evans, Conservation Director

Dated: \_\_\_\_\_

Dated: \_\_\_\_\_

7.2 This Agreement does not create any rights, interests, claims or causes of action at law or in equity for any Party against another Party, or for any non-party against any Party.

7.3 Each person signing this Agreement on behalf of a Party represents that she or he is authorized to sign the Agreement on the Party's behalf.

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7.5 This Agreement may be signed in counterparts by the Parties, and the signed counterparts taken together shall constitute one complete Agreement. A facsimile signature by a Party on a counterpart of this Agreement is as valid as the original signature.

**Attachment A: Kilare-Cow Creek Project Decommissioning Agreement Subjects and Desired Conditions**

The Parties have signed this Agreement as of the dates listed below.

**U. S. Fish and Wildlife Service**

**California Dept. of Fish and Game**

By: \_\_\_\_\_  
Wayne White, Field Supervisor

By: \_\_\_\_\_  
Donald B. Koch, Regional Manager

Dated: \_\_\_\_\_

Dated: \_\_\_\_\_

**National Park Service  
Pacific West Region**

**California State Water  
Resources Control Board**

By: \_\_\_\_\_  
Jonathan B. Jarvis, Regional Director

By: Victoria A. Whitney  
Victoria A. Whitney, Chief  
Div. of Water Rights

Dated: \_\_\_\_\_

Dated: March 17, 2005

**NOAA Fisheries**

**Friends of The River**

By: \_\_\_\_\_  
Rodney Mahala, Regional Administrator

By: \_\_\_\_\_  
Steve Evans, Conservation Director

Dated: \_\_\_\_\_

Dated: \_\_\_\_\_

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**California Dept. of Fish and Game**

By: \_\_\_\_\_  
Wayne White, Field Supervisor

By: \_\_\_\_\_  
Donald B. Koch, Regional Manager

Dated: \_\_\_\_\_

Dated: \_\_\_\_\_

**National Park Service  
Pacific West Region**

**California State Water  
Resources Control Board**

By: \_\_\_\_\_  
Jonathan B. Jarvis, Regional Director

By: \_\_\_\_\_  
Edward Anton, Chief, Div. of Water Rights

Dated: \_\_\_\_\_

Dated: \_\_\_\_\_

**NOAA Fisheries**

**Friends of The River**

By: Rodney McManis  
Rodney McManis, Regional Administrator

By: \_\_\_\_\_  
Steve Evans, Conservation Director

Dated: 3-3-05

Dated: \_\_\_\_\_

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**California Dept. of Fish and Game**

By: \_\_\_\_\_  
Wayne White, Field Supervisor

By: \_\_\_\_\_  
Donald B. Koch, Regional Manager

Dated: \_\_\_\_\_

Dated: \_\_\_\_\_

**National Park Service  
Pacific West Region**

**California State Water  
Resources Control Board**

By: \_\_\_\_\_  
Jonathan B. Jarvis, Regional Director

By: \_\_\_\_\_  
Edward Anton, Chief, Div. of Water Rights

Dated: \_\_\_\_\_

Dated: \_\_\_\_\_

**NOAA Fisheries**

**Friends of The River**

By: \_\_\_\_\_  
Rodney Malinin, Regional Administrator

By: \_\_\_\_\_  
Steve Evans, Conservation Director

Dated: \_\_\_\_\_

Dated: Feb 25, 2005

**Treat Unlimited**

By:   
Chuck Bonham, California Counsel

Dated: 03/03/2005

**Pacific Gas and Electric Company**

By: \_\_\_\_\_  
Gregory M. Raeger  
Sr. Vice President Generation and Chief Nuclear Officer

Dated: \_\_\_\_\_

**Trent Unlimited**

By: \_\_\_\_\_  
Chuck Bonham, California Counsel

Dated: \_\_\_\_\_

**Pacific Gas and Electric Company**

By:  \_\_\_\_\_  
Gregory M. Kasper

**Sr. Vice President Generation and Chief Nuclear Officer**

Dated: March 22, 2005

## **Attachment A**

### **Kilare-Cow Creek Project Agreement Subjects and Desired Conditions**

#### **Subjects Addressed**

Following is a list of subject areas (numbered items) and desired conditions (lettered items) addressed the Decommissioning Alternative Agency and Stakeholder meetings in the context of an Agreement for decommissioning the Kilare-Cow Creek Project.

- 1. Cost for Implementing Decommissioning**
  - a) Costs are known
  - b) Economics are favorable (i.e., more favorable than relicensing)
  - c) Funds for implementation, monitoring and contingency are identified
  
- 2. Disposition of Diversion Structures**
  - a) Safe, timely, and effective passage up/downstream for fish
  - b) Geomorphically stable stream channel above/below/at diversions
  - c) Retain as much spawning gravel as possible in active channel during deconstruction activities
  - d) Safety issues addressed - public and wildlife
  
- 3. Disposition of Canals and Spillways (includes waterways, tunnels and flumes)**
  - a) Stable drainage of runoff to natural waterways including:
    - Safe, timely, and effective fish passage
    - Maintain good water quality
    - Does not contribute sediment to drainage and streams
  - b) Preservation of riparian habitat during/after deconstruction wherever possible
  - c) Maintain floodplain connectivity
  - d) Safety issues addressed - public and wildlife
  
- 4. Disposition of Forebays**
  - a) Geomorphically stable sediment conditions
  - b) Appropriate fish and wildlife recolonization prior to deconstruction activities
  
- 5. Disposition of Penstocks**
  - a) Safety issues addressed - public and wildlife
  
- 6. Disposition of Powerhouses (includes switchyards)**
  - a) Safety issues addressed - public and wildlife
  - b) Historical/cultural values preserved
  - c) Preserve options for future reuse of structures other than powerhouses

**7. Disposition of Water Rights**

- a) PG&E appropriative water rights are protected and used to preserve or enhance aquatic resources
- b) Other water right holders rights are preserved
- c) All water rights preserved subject to the law
- d) Water rights are enforceable and permanent
- e) Maintain aquatic habitat values downstream of Hooten Gulch

**8. PG&E Lands (as managed by a land trust)**

- a) Promote land use consistent with ecological function of streams
- b) Safety issues addressed - public and wildlife

**9. Public Recreation Opportunities**

- a) Achieve balance between lost recreation opportunities at Kilarc forebay with other recreation opportunities (e.g., fishing and picnicking)
- b) Recreation stream fisheries opportunities enhanced
- c) Public access available to recreational opportunities

**10. FERC Approval for Decommissioning**

- a) Timely FERC approval of decommissioning alternative consistent with the Agreement

**11. CPUC Rate Recovery for Decommissioning**

- a) Full and timely rate recovery for decommissioning costs

**12. Post Decommissioning License Responsibilities**

- a) Decommissioning desired conditions are maintained post-decommissioning for specified time period
- b) Scope and cost of responsibilities are known

**13. Permit Approval Process**

- a) Timely identification and issuance of required permits
- b) Permit conditions consistent with the Agreement
- c) Environmental benefits of decommissioning outweigh impacts to resources

**14. Implementation Schedule**

- a) Decommissioning schedule is approved with clearly defined timeframe

**15. Roads and Access Routes**



- a) Best management practices for retiring roads where possible to minimize sediment

**16. Protection of Special Status Species**

- a) Compliance with California Endangered Species Act and Endangered Species Act



CITY OF REDDING  
**REPORT TO CITY COUNCIL**

ITEM NO.	4-5 (b)
MEETING DATE	6/21/05
APPROVED BY	
DEPARTMENT DIRECTOR	 James C. Feider
CITY MANAGER	 Michael Warren

**DATE:** June 10, 2005

**CODE:** E-120-050

**FROM:** Electric Utility Director

**SUBJECT:** Request to decline filing of Notice of Intent for Kilarc-Cow Creek Hydroelectric Project, FERC Project No. 606

***Recommendation***

Redding Electric Utility (REU) staff recommends that the City Council decline to file a notice of intent in the Federal Energy Regulatory Commission (FERC) licensing process for the Kilarc-Cow Creek Hydroelectric Project.

***Background***

The Kilarc-Cow Creek Hydroelectric Project (Kilarc Project) currently owned and operated by Pacific Gas & Electric (PG&E) is located approximately 30 miles east of Redding near Whitmore. The Kilarc Project totals 5 megawatts (MW) of electric capacity and consists of two powerhouses and associated canals, penstocks and forbays. The Kilarc powerhouse on Old Cow Creek was built in 1904 and has a capacity of 3.2 MW. The Cow Creek powerhouse on South Cow Creek was built in 1907 and has a capacity of 1.8 MW. The average annual energy output of this project is about 30 million kWhours or approximately 4% of REU's energy requirements.

PG&E's current FERC operating license is set to expire on March 27, 2007. Due to the involved process to obtain a license renewal, PG&E in early 2001 began working with various stakeholders and resource agencies.<sup>1</sup> Through that process (costing several hundreds of thousands of dollars), it became clear to PG&E that new license provisions would result in the project no longer being an economic source of power. Of the many new or enhanced license provisions, a couple of these provisions stand out as to why operating the project beyond the term of the current license did not make sense. First, the amount of water mandated to stay in the natural channels of the Old Cow Creek and South Cow Creek to support fish habitat ranges from 6 to 10% of the natural flow depending on the season of the year and/or how wet or dry the water year has been. The expected new license requirements imposed by the resource agencies would be higher by a factor of 10 leaving

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<sup>1</sup> The resource agencies include the U.S. Department of Commerce National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service, State Water Resources Control Board (SWRCB), California Department of Fish and Game (CDFG), and the United States Fish and Wildlife Service (USFWS).

very little water for power generation. Such a large increase in water staying in the steam beds and not going through the diversion canals to the power houses would easily by itself render the project uneconomical

Simply put, the Kilarc Project under those operating conditions would not produce enough kilowatt hours of energy to cover the costs of upgrading, maintaining and operating the facilities even in California's high cost power market. On top of that, many physical attributes of the project were expected to have to be modified. For example, a fish ladder built in 1980 on South Cow Creek appears to not provide adequate conditions for meaningful fish passage. The facilities in Old Cow Creek have no fish ladder at all and therefore significant capital costs would be incurred by the project to correct these deficiencies. Please see the attached letter from the National Marine Fisheries Service to PG&E regarding the above-mentioned issue and other project enhancements expected to be part of the relicensing process.

Aside from these direct impact issues mentioned above, the Kilarc Project over the last 100 years has seen a number of conflicts over water uses. The Cow Creek Watershed serves agricultural, domestic, and power production needs. These conflicts resulted in the adjudication of water rights on Little Cow Creek in 1932, Oak Run Creek in 1932, Clover Creek in 1937, and the Old Cow/South Cow Creek system in 1969. The adjudication of Little Cow, Oak Run, and Clover Creeks identified 116, 23, and 26 water rights, respectively. The adjudication of water rights on the Old/South Cow Creek System established 116 water rights on these streams. Any new license requirements would probably have some impact on how all these water rights would be satisfied. Water rights issues can be highly contentious and could involve significant potential litigation.

As a result of all these issues, in early 2005 PG&E and the various resource agencies crafted an agreement which could lead to the decommissioning of the Kilarc Project. Upon decommissioning the agreement designated that all of PG&E's Kilarc Project water rights to be used for providing additional habitat for the federal listed spring run Chinook salmon and steelhead trout.

#### ***Issue***

Should the City Council authorize REU to take the first step by issuing a Notice of Intent in the FERC relicensing process? The filing deadline for the Notice of Intent is July 7, 2005.

#### ***Alternatives; Implications of Alternatives***

The City Council has the following options:

1. Direct REU to file a Notice of Intent. The implication of this alternative is that it believes it is in the best interest of the City Council to enter into the FERC relicensing process for the Kilarc Project.

Report to City Council (June 21, 2005, meeting)  
- Kilarc-Cow Creek Hydroelectric Project

June 10, 2005  
Page 3

- 
2. Do not direct REU to file a Notice of Intent. The implication of this alternative is that the City Council does not believe it is in the best interest of the City to enter into the FERC relicensing process.

***Fiscal Impact***

Filing a Notice of Intent in the FERC relicensing process for the Kilarc Project would be the first step in a multi-year effort costing anywhere from several hundred thousand dollars to several million dollars without a guaranteed positive outcome at the end of the process. REU is actively working on an on-going basis other power supply projects. For example, the recent purchase of wind based energy through Redding's participation in the Modesto-Santa Clara-Redding (MSR) agreement with PPM. Exploration efforts such as the Kilarc Project are not part of the FY06-07 budget, therefore appropriate adjustments would have to be made to existing budget priorities.

***Conclusions and Recommendation***

The Kilarc Project has provided many years of cost effective power to PG&E customers. However, with the environmental and operating restrictions expected under a new license, this would no longer be the case. That coupled with the uncertain outcome of a lengthy FERC licensing process and the water use complexities for such a small portion of REU's resource portfolio, REU staff recommends that the City Council does not direct REU to file a Notice of Intent in the FERC relicensing process.

FERC 606  
File 025.39



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

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

In response reply to:  
May 5, 2003 1503045WV03SR0440-SE

<b>POWER GENERATION</b>	
MAY 09 2003	
FERC NO.	DATE
FILE NO.	CC
TRACK NO.	
ACTION	

Angela Risdon  
245 Market Street, Room 1123B  
San Francisco, California 94177

Dear Ms. Risdon:

This concerns relicensing of the Kilarc-Cow Hydroelectric Project (FERC No.606). The National Marine Fisheries Service (NOAA Fisheries) appreciate the opportunity to provide comments on your "Traditional" relicensing proceeding. On March 20, 2003, we participated in a site visit to inspect certain project facilities and to conduct an informal barrier survey at an unnamed waterfall upstream of the Kilarc powerhouse on Cow Creek. This letter provides our conclusions regarding the barrier survey and documents other issues raised during the meeting that potentially affect ~~mitigation measures~~. Some of these issues can be addressed this season, while others will require additional study and feasibility analysis. Issues discussed include the following:

- 1) Completing habitat mapping on South Cow Creek.
- 2) Gaging flows on Old Cow Creek.
- 3) Screening Kilarc diversion intake.
- 4) Moving the fish water-release on the Kilarc diversion closer to the point of diversion to minimize length of diverted reach.
- 5) Lining the 11-mile long Kilarc power canal to minimize seepage.
- 6) Excluding fish, stalled in the Kilarc forebay, from moving through the Kilarc spill channel to Old Cow Creek.
- 7) Upgrading screens and ladders at South Creek diversion to meet current standards including a monitoring system for alerting operators when screens or ladders become clogged.
- 8) Determining the habitat quality in Mill Creek and South Cow Creek Canal to inform decisions regarding the need for minimum flows, fish exclusion, and/or habitat enhancement.
- 9) Providing fish passage on Old Cow Creek.
- 10) Determining the relative benefit of preventing fish from moving upstream past the Abbott Diversion.



-2-

Regarding the barrier survey, the unnamed waterfall is located approximately 2.3 miles upstream of Kilare powerhouse. The geology in this area is unstable with loosely or unconsolidated volcanic material and shale overlying bedrock. The lowest point on the waterfall occurred at a side chute, approximately 5.5-feet above the base of the waterfall. The depth of the plunge pool (potential jump-pool) at the base of this chute was difficult to gage because low flows in effect during the survey would not be indicative of up-stream migration flows and because the bed-rock pool was filled with loose shale. At the time of the inspection, a fallen tree was partially blocking and deflecting flows in the chute, thus reducing scour. Accordingly, once the tree breaks loose and moves past the falls, flows and consequent scour would likely increase and deepen the plunge pool. In conclusion, we do not believe this waterfall to be an absolute barrier to steelhead migration.

We look forward to the next opportunity for an agency meeting. It is our hope that during the next meeting the above issues can be discussed in more detail and the need for additional study or other actions agreed to in a timely fashion. This is necessary to ensure that short term measures to reduce or avoid impacts to salmon and steelhead are in place this season and the steps necessary to finalize study plans or long-term measures are actively pursued.

My staff stands by to assist you in preparing study plans for meeting your obligations under the Endangered Species Act, Magnuson-Stevens Fishery Conservation and Management Act and Federal Power Act. If you have questions concerning these comments, please contact Mr. Steve Edmondson at (707) 575-6000.

Sincerely,



Miles M. Croom  
Northern California Supervisor  
Habitat Conservation Division

cc: Secretary, FERC, ES-1 (8-copies)  
Randal S. Livingston, Director, Power Generation, PG&E Company  
M. Accituro, NOAA Fisheries  
Howard Brown, NOAA Fisheries  
Eric Theiss, NOAA Fisheries  
David K. White, NOAA Fisheries