



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846



In reply refer to:
ER 09/0011

FEB 26 2009

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426

Subject: U.S. Fish and Wildlife Service Comments on the Draft Environmental Assessment and the §10(j) Preliminary Determination of Inconsistency Letter for the DeSabra-Centerville Hydroelectric Project, Federal Energy Regulatory Commission No. 803-087, in Butte County, California

Dear Ms. Bose:

The U.S. Fish and Wildlife Service (Service) has reviewed the Draft Environmental Assessment (DEA) (FERC 2008) and the §10(j) Preliminary Determination of Inconsistency Letter (10(j) Letter) (FERC 2009) issued by the Federal Energy Regulatory Commission (Commission or FERC) on December 29, 2008, and January 14, 2009, respectively, for the DeSabra-Centerville Hydroelectric Project, FERC Project No. 803-087 (Project), owned by the Pacific Gas and Electric Company (Licensee).

The Service has been collaborating with the other bureaus of the Department of the Interior (Department) (Bureau of Land Management and the National Park Service), the U.S. Forest Service (USFS), State Water Resources Control Board (SWRCB), National Marine Fisheries Service (NOAA Fisheries), and the California Department of Fish and Game (CDFG) while composing our comments on the DEA and 10(j) Letter. The Service and the other agencies above comprise the Resource Agencies group for the purposes of this letter. The Service, NOAA Fisheries, and CDFG filed preliminary §10(j) Conditions, pursuant to the Federal Power Act (FPA), in response to the Commission's "Ready for Environmental Analysis" (REA) notice of May 1, 2008. The Service's §18, §10(j) and §10(a) terms (FPA Terms) were filed with the Commission in the Department's REA Letter response on June 27, 2008 (USDOI 2008).

The Service requests a meeting with Commission Staff (Staff), to include other resource agencies with §10(j) authority, to discuss and resolve differences between the Staff's alternative recommendations for the protection of fish and wildlife resources as described in the DEA and 10(j) Letter (the terms of the Staff Alternative) and the §10(j) Conditions from the Service, NOAA Fisheries, and CDFG.

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The Service's Response and Comments to the §10(j) Letter and the DEA

The Service provides answers in Section 1 to the three questions posed by the Staff in the 10(j) Letter regarding parts of our eight §10(j) Conditions for which the Staff did not recommend adopting. Note that, to facilitate our response, we have changed the order of Staff's questions 2 and 3. In addition, we provide justifications for why our recommended or alternative §10(j) Conditions would better protect and enhance fish and wildlife resources. We note in Section 2 the remaining parts of our 11 §10(j) Conditions that the Staff accepted as is into the Staff Alternative. General comments on the DEA are provided in Section 3.

Commission's Questions

- (1) *"Are our alternative recommendations for protection of fish and wildlife resources, as described in the DEA, acceptable to you?"*
- (2) *"Is there any additional evidence to support your recommendations or to demonstrate why they are consistent with the FPA?"*
- (3) *"Are there any other measures that you would agree to that would accomplish the objective of your original recommendations?"*

The Staff split out some of the §10(j) Conditions, submitted by the Service, NOAA Fisheries, and the CDFG, into separate parts in order to analyze these §10(j) Conditions in the DEA and to develop the terms for the Staff Alternative. The Staff proceeded to accept, modify, or deny the original §10(j) Conditions submitted by the Service, NOAA Fisheries, and the CDFG when creating the terms in the Staff Alternative. However, the Staff presented some 52 collective parts of the original §10(j) Conditions from the Service, NOAA Fisheries, and the CDFG in DEA Table 5.3. The manner in which the Staff presented this information was confusing. The Staff did not present their breakdown of these collective §10(j) Conditions in DEA Table 5-3 in the same order that they were filed in the Resource Agencies' REA Letters. Thus, we present the Staff's 41 parts to our §10(j) Conditions in Attachment A arranged by our §10(j) condition number. The Staff's acceptance (as is or modified) of our §10(j) Conditions into the Staff Alternative is also shown in Attachment A. We also provide in Attachment B the remaining 11 parts of the §10(j) Conditions from NOAA Fisheries and the CDFG as presented in DEA Table 5-3. Some of the Staff's terms in Attachment B were also part of our original §10(j) Conditions. The Staff proceeded to adopt most of these 11 §10(j) Conditions as terms in the Staff Alternative.

The Service's response to the 10(j) Letter and DEA in this letter does not constitute our final determination regarding any informal or formal consultations under the Endangered Species Act (ESA), as amended. The Service will respond to all requests from the Commission for any ESA consultations under separate cover.

Section 1: Response to the §10(j) Letter

The Commission's 10(j) Letter discussed the Staff's recommendations for not adopting 14 parts of 8 of our original §10(j) Conditions as terms in the Staff Alternative (see Attachment A). The Service discusses the Staff's recommended denials of the §10(j) Conditions, provides rationale for our recommended or alternative §10(j) Conditions, and specifies the Service's possible acceptance of the terms of the Staff Alternative in Sections A-H below.

Section A: Service §10(j) Condition 7, Foothill Yellow-legged Frog Monitoring Plan.

Service Response to the Commission's Questions 1 and 2.

The Staff did not recommend adopting portions of our §10(j) Condition 7, *Foothill Yellow-legged Frog Monitoring Plan*. Instead, the Staff modified our proposal by greatly reducing the frequency of sampling over the term of the License, not requiring the Licensee to use the USFS's Frog Population Model, nor conduct a population viability analysis (PVA). The Resource Agencies recommended the use of these methods to analyze Project effects on the foothill yellow-legged frog in their REA Letters (USDOI 2008, USFS 2008; CDFG 2008). We do not agree to the Staff Alternative and our rationale for the recommended condition is set out in our REA Letter (USDOI 2008). Although the Staff acknowledged that our §10(j) Condition 7 would serve to protect and enhance conservation efforts for the foothill yellow-legged frog, the Staff's reason for denying our §10(j) Condition 7, modifying it, and adopting the resulting Staff Alternative's term was based on the lower cost of the Staff Alternative term. The Service does not believe that cost alone is a sufficient reason to deny a §10(j) Condition. We request that Staff further clarify in detail how this §10(j) Condition has received equal consideration under §4(e) of the FPA and explain how the condition is inconsistent with the comprehensive planning standard of §10(a).

The Staff's modified term in the Staff Alternative has a sampling frequency that only captures data from about 25% of the License term years. The Service believes that the Staff's sampling frequency in the Staff Alternative is not high enough to provide sound biological data to monitor the population. We discuss our rationale below in our Alternative #1.

Monitoring data collected at the frequency we propose in our Alternative I below would provide input for the USFS's Frog Population Model. The population modeling is then used in conjunction with a PVA to provide ongoing information regarding the status of the existing foothill yellow-legged frog populations and for assessing Project effects on the populations. The Service believes that a PVA needs to be conducted for this species as part of the biological monitoring because of the unknown role hydropower operations play on foothill yellow-legged frog populations in the Project area and the currently unknown contribution of other factors (USDOI 2008). A PVA quantifies the trajectory (i.e. stable, increasing, decreasing, time to extinction) of a population (Morris et al. 1999; Morris and Doak 2002). PVAs can be based on counts data or on more formal population estimates (e.g., from capture-recapture methods) and can include single or multiple life stages, spatial relationships of individuals or sub-populations, and density-dependent factors (Morris and Doak 2002).

Service Alternative #1: Service Response to the Commission's Question 3.

The Service proposes the following as an alternative to both our §10(j) Condition 7 and the corresponding term in the Staff Alternative for monitoring foothill yellow-legged frogs in the Project reaches of Butte Creek and the West Branch Feather River.

The Service's original §10(j) Condition 7, Sections A, D, last four sentences in D1, D2 to D5, and E are unchanged from our REA Letter (USDOI 2008). The Service proposes the following modifications to our §10(j) Condition 7, Sections B, C1 to C3, and the first sentence in D1 as follows below in italics:

(B) The Plan shall incorporate the survey methods as performed during the Project's relicensing studies for surveying the Project-affected stream reaches for the foothill yellow-legged frog. Surveys shall be conducted at the following 13 relicensing survey locations where all lifestages of foothill yellow-legged frogs were found (Table E6.3.2.1-16 in FLA, PG&E 2007):

(B1) Nine Butte Creek Sites (BC):
BC-1 to BC-4, BC-6 to BC-9, and BC-12.

(B2) Four West Branch Feather River Sites (WBFR):
WBFR-1, WBFR-2, WBFR-5, and WBFR-6.

(C) The frequency of the foothill yellow-legged frog monitoring (dated from license issuance) is a total of 15 years over the License term as outlined below:

(C1) License Term Years 1-4:
Annually for the first 4 years of the license, to ensure monitoring at least three generations of foothill yellow-legged frogs.

(C2) Last Four Years of License Term:
Annually for the last 4 years of the License term, to ensure monitoring at least three generations of foothill yellow-legged frogs prior to the next relicensing proceeding.

(C3) Monitor During Seven Years of License Term:
The remaining 7 years of monitoring would be evenly spaced out over the License term years between the first and last 4-year sampling periods of the License term.

(D) [Monitoring Plan Elements Section is unchanged].

(D1) Population Monitoring:
The Licensee shall, as part of the Plan, monitor the numbers of foothill yellow-legged frog egg masses, tadpoles, and adults according to the frequency as stated above in (C). [The remaining four sentences of D1 are unchanged].

The percentage of License term years that are sampled with our proposed new frequency depends on the License term: Our proposal of 15 samples would capture data from 50% (30-year), 38% (40-year) and 30% (50-year) of the License term years. Foothill yellow-legged frogs spawn a generation about every 3 years (or about 33% every 10 years). It would be more consistent with the species' biology and provide more meaningful biological data to assess and sample the population about one-third (33%) of the time over a License term. The monitoring of foothill yellow-legged frog populations would provide ongoing information regarding the status of the existing populations so that specific conservation measures could be developed if this species becomes listed under the ESA during the term of the License. The foothill yellow-legged frog is known to be declining in other portions of its range (e.g. Lind 2005; Lind, et. al., 2008). Insufficient evidence in the Project area exists to determine Project effects on foothill yellow-legged frog populations. Preliminary evidence in other stream basins indicates that recent population decreases are likely due to project effects from hydropower operations (GANDA 2007).

Section B: Service §10(j) Condition 10, Bald Eagle Management Plan.**Service Response to the Commission's Questions 1, 2, and 3.**

The Service accepts this Staff Alternative term for the Bald Eagle Management Plan and bald eagle monitoring. The Staff slightly modified the frequency of monitoring from our original §10(j) Condition 10 (every year) to once every 3 years and doing surveys more frequently if bald eagles are sited more often. This frequency is acceptable to the Service for the continued protection of the bald eagle because a monitoring plan will still be developed and implemented. In addition, relicensing studies documented the current limited use of the Project area by bald eagles and the limited potential impacts from recreational use or maintenance activities (PG&E 2007). These studies found only three bald eagles feeding and no nests were seen in the Project area.

Sections C1-C2: Service §10(j) Condition 1 (A-F), Fish Passage Plan.

The Staff did not recommend adopting our §10(j) Condition 1 (A-F) (*Fish Passage Plan*), that corresponds to §10(j) Conditions 1, B1 to B3 (Attachment A). The Service believes that a fish screen on the Lower Centerville Canal (§10(j) Condition 1, B1) at Lower Centerville Dam on Butte Creek, a fish screen on Hendricks Canal (§10(j) Condition 1, B2) at Hendricks Dam, and a fish ladder at Hendricks Dam (§10(j) Condition 1, B3) on the West Branch Feather River would be beneficial to fish and wildlife resources for reasons as stated in our REA Letter and discussed below (USDOJ 2008). The Staff acknowledged that our §10(j) Condition 1 would serve to protect and enhance trout populations by preventing trout and other fish from becoming entrained into the canal system and allow for the natural movements of fish for foraging, rearing, and spawning upstream and downstream of the Hendricks Dam. However, the Staff's reason for recommending denial of our §10(j) Condition 1 and not adopting it as a term in the Staff Alternative was based on the Staff's estimated cost for our recommendation. We request that Staff further clarify in detail how this §10(j) Condition has received equal consideration under §4(e) of the FPA and explain how the condition is inconsistent with the comprehensive planning standard of §10(a).

Section C1: Service §10(j) Conditions 1 and B1, Fish Passage Plan - Fish Screen on Lower Centerville Canal on Butte Creek.**Service Response to the Commission's Questions 1 and 2.**

The Staff did not recommend adopting our §10(j) Conditions 1 and B1. The Service maintains that a fish screen is needed for reasons as stated in our REA Letter and discussed below (USDOJ 2008). A significant amount of water is diverted into the Project's canals from Butte Creek and the West Branch Feather River. There is a downward trend in trout numbers over the last 20 to 30 years within the Project-affected stream reaches of the West Branch Feather River and Butte Creek (CDFG 2008).

About 50-60% of the water from Butte Creek is diverted into the Lower Centerville Canal at the Lower Centerville Dam (PG&E 2007). On Butte Creek, in the 10.2 mile reach downstream of the Butte Dam and upstream of the Lower Centerville Dam, the mean linear abundance was 148 trout per 100 meters in 1986 and 66 trout per 100 meters in 2006, or a 55% reduction in abundance over 20 years (CDFG 2008). In addition, NOAA Fisheries considers that it is

important to protect the Central Valley steelhead and rainbow trout that are considered resident in Butte Creek. The rainbow trout upstream of Lower Centerville Dam become entrained in the Lower Centerville Canal. Both the rainbow trout upstream and the steelhead downstream of this dam are important for the recovery of the threatened Central Valley steelhead Distinct Population Segment (NMFS 2008). The Service believes that entrainment constitutes a significant impact that could be mitigated with a fish screen on Lower Centerville Canal.

Service Response to the Commission's Question 3.

The Service finds that there are no alternatives to the Service's §10(j) Conditions 1 and B1 that would accomplish the objective of the Service's original §10(j) Conditions 1 and B1. The Resource Agencies provided the following common concerns and rationale for the installation of a fish screen on the Lower Centerville Canal on Butte Creek in their REA Letters (USDOI 2008; NMFS 2008; USFS 2008; CDFG 2008):

- 1) A significant amount of water in Butte Creek is diverted into the Lower Centerville Canal.
- 2) Rainbow trout and other fish species, amphibians, aquatic macroinvertebrates, and nutrients are entrained into the Lower Centerville Canal.
- 3) The Resource Agencies do not consider the Project's canal system to be good or viable aquatic habitat.
- 4) The data provided in the Licensee's Final License Application (FLA) on rainbow trout populations in Butte Creek is highly variable due to the low amount of sampling provided.
- 5) Insufficient data for trout entrainment numbers in the Lower Centerville Canal was provided in the FLA and the Resource Agencies cannot determine the level of significance of the numbers of aquatic organisms entrained.
- 6) A positive correlation exists between the percentage of streamflow diverted and the number of young-of-the-year rainbow trout captured.

Section C2: Service §10(j) Condition 1, B2, and B3, Fish Passage Plan - Fish Screen (B2) and Ladder (B3) on Hendricks Canal and Dam on West Branch Feather River.

Service Response to the Commission's Questions 1 and 2.

The Staff did not recommend adopting our §10(j) Conditions 1, B2, and B3. We disagree and maintain that a fish screen on Hendricks Canal and a fish ladder on Hendricks Dam on the West Branch Feather River are needed for reasons stated in our REA Letter and discussed below (USDOI 2008). In addition, a significant amount of water is diverted into the Project's canals from the West Branch Feather River and Butte Creek watersheds. The historical populations of non-listed resident trout in the West Branch Feather River and Butte Creek watersheds were significantly higher some 20-30 years ago than what has been determined more recently in relicensing studies filed by the Licensee with the Commission (PG&E 2007; CDFG 2008).

All of the water from the upper West Branch Feather River is diverted into the Hendricks Canal at the Hendricks Dam (PG&E 2007) and then about 5-10% is returned to the bypassed reach several hundred feet downstream. In the 13.2 mile reach upstream of Hendricks Dam, the mean linear abundance has gone from 760 trout per 100 meters in 1977, to 57 trout per 100 meters in

2006; or roughly a 92.5% reduction of the linear abundance documented in 1977. In the 14.1 mile reach downstream of Hendricks Dam, the linear abundance has dropped from 723 trout per 100 meters to 51 trout per 100 meters, roughly 7% of what was documented in 1977. By any definition, a 92% reduction in abundance over 29 years is a significant impact (CDFG 2008).

The data presented above points to the importance of providing screening and fish passage past Project facilities and suggests that such water diversions into canals and the dams themselves may be adversely affecting numbers of fish, fish recruitment, and population survival. This data also provide trends as to possible effects of the Project's long-term operations on the non-listed resident fish within the Project's reaches. What is apparent is the importance of monitoring fish populations affected by hydropower projects on a regular basis over the term of the License. Without regular monitoring, there would be no other means to know if fish are becoming unhealthy, if their numbers are being reduced, or if there is a lack of recruitment, due to Project water diversions into canals or a lack of fish passage throughout the reaches of the Project.

The Service's recommended solution to mitigating the Project's adverse effects is to both regularly monitor fish populations and also modify the Project's facilities by providing fish screen(s) and fish ladder(s) where needed on Project diversion canals and dams.

Service Response to the Commission's Question 3.

The Service finds that there are no alternatives to the Service's §10(j) Conditions 1, B2, and B3 that would accomplish the objective of the Service's original §10(j) Conditions 1, B2, and B3. The Resource Agencies provided the following common concerns and rationale for the installation of a fish screen on Hendricks Canal and a fish ladder on Hendricks Dam on the West Branch Feather River in their REA Letters (USDOI 2008; USFS 2008; CDFG 2008):

- 1) 100% of the water in the West Branch Feather River is diverted into the Hendricks Canal (except during spilling events).
- 2) Rainbow trout and other fish species, amphibians, aquatic macroinvertebrates, and nutrients that do not go through the downstream bypass release are entrained in the Hendricks Canal.
- 3) The Resource Agencies do not consider the Project's canal system to be good or viable aquatic habitat.
- 4) Available adult rainbow trout habitat is greater per unit of stream above Hendricks Dam than below the dam.
- 5) The data provided in the Licensee's FLA on rainbow trout populations in the West Branch Feather River is highly variable due to the low amount of sampling provided.
- 6) Insufficient data for trout entrainment numbers in the Hendricks Canal was provided in the FLA and the Resource Agencies cannot determine the level of significance of the numbers of aquatic organisms entrained.
- 7) A positive correlation exists between the percentage of streamflow diverted and the number of young-of-the-year rainbow trout captured.
- 8) Rainbow trout populations in the upper and lower West Branch Feather River are genetically isolated by the Hendricks Dam.

Section D: Service §10(j) Condition 6 (f-g), 6B, and 6C, Fish Monitoring Plans - Non-listed Resident Fish in Butte Creek, West Branch Feather River, and Project Reservoirs.

Service Response to the Commission's Question 1.

The Staff did not recommend adopting our §10(j) Conditions 6 (f-g), 6B, and 6C (*Non-listed Fish Monitoring Plans* for the Butte Creek and West Branch Feather River watersheds) that corresponds to parts of the Staff Alternative's term. Instead, the Staff modified elements of our §10(j) Conditions 6 and greatly curtailed or eliminated non-listed resident fish monitoring in the stream reaches of the Project.

The Staff acknowledged that our §10(j) Condition 6 (*Fish Monitoring Plans*), including parts 6 (f-g), 6B, and 6C for non-listed resident fish, would serve to protect and enhance all resident fish populations and evaluate the status of these populations in Project-affected habitats under the flow regimes set in the new License. However, the Staff's reason for recommending denial of the non-listed resident fish portions of these measures from our §10(j) Condition 6 and not adopting them into the Staff Alternative was based on the Staff's estimated cost for our recommendations and because the non-listed resident fish did not seem as imperiled (in the Staff's view) as the listed salmonids. We request that Staff further clarify in detail how this §10(j) Condition has received equal consideration under §4(e) of the FPA and explain how the condition is inconsistent with the comprehensive planning standard of §10(a). In addition, we believe that all resident salmonids, other fish, foothill yellow-legged frogs, benthic macroinvertebrates, and riparian habitat must be equally monitored over the term of a License so that the effects of the Project on the entire ecosystem can be evaluated over time.

The Service does not agree with most of the Staff Alternative term because it proposes only 2 years of non-listed resident fish monitoring over a potentially long License term of 30-50 years. For the stream reaches in Butte Creek and the West Branch Feather River, our §10(j) Conditions 6 (f-g), 6B, and 6C would provide the best amount of data over time, as sampling 2 years out of every 5 years provides a more accurate assessment of the population because it is based on better statistical information. In addition, our proposed non-listed resident fish monitoring frequency will help assess the response of non-listed resident fish populations in the Project-affected stream reaches to any MIF changes specified in the License.

A significant amount of water is diverted into the Project's canal system from Butte Creek and the West Branch Feather River. These water diversions have caused a significant decrease in trout abundance over the last several decades within the Project-affected stream reaches of Butte Creek and the West Branch Feather River (CDFG 2008).

In the 13.2 mile reach upstream of Hendricks Dam, the mean linear abundance has declined from 760 trout per 100 meters in 1977, to 57 trout per 100 meters in 2006; almost a 93% reduction. Similarly, in the 14.1 mile reach downstream of Hendricks Dam, the linear abundance has dropped from 723 trout per 100 meters to 51 trout per 100 meters. A reduction in trout abundance of this magnitude over 29 years is a significant impact (CDFG 2008).

Possible trends to the potential effects of the Project's long-term operations on the resident fish within the Project's reaches are apparent from this data. It is critical to monitor fish populations affected by hydropower projects on a regular basis over the term of the License. Without

collecting meaningful data through regular monitoring, we would not know if fish are becoming unhealthy, if abundance is declining, or if there is a lack of recruitment, throughout the various Project-affected reaches. The CDFG fish abundance data also suggests that Project facilities and/or operations, such as water diversions into canals and the dams themselves, may be adversely affecting numbers of fish, fish recruitment, and population survival. In order to mitigate for the Project's adverse effects, the non-listed resident fish populations should be monitored over the License term and the Project's facilities may need to be modified with the addition of fish passage and/or exclusion structures.

Monitoring the non-listed resident fish populations across the Project area also provides a means of assessing the effects of the newly required MIF releases on the non-listed resident fish community composition and abundance. The goal of the non-listed resident fish monitoring is to evaluate the status of such fish populations in Project-affected habitats under the flow regimes set in the new License. Fish production monitoring data will be used in conjunction with the results of other resource investigations to determine the overall effect of the Project's new flow regime on the riverine ecosystem. Information obtained from the various monitoring programs will allow the Licensee and the Resource Agencies to adaptively manage all Project elements and conservation measures throughout the life of the Project to ensure their effectiveness and to protect and enhance fish and wildlife resources.

Service Response to the Commission's Question 2.

The Service does agree with the Staff's decision to adopt as is or as modified two of our §10(j) Condition 6 measures and one from the CDFG into the Staff Alternative: (1) Our §10(j) Conditions 6 (a-e) and 6A, that corresponded to the monitoring of listed salmonids in lower Butte Creek (not modified); (2) CDFG's measure to monitor seasonal movements of listed salmonids in Butte Creek (not modified) (see Attachment B); and (3) part of our §10(j) Condition 6 that dealt with monitoring non-listed resident fish in Project reservoirs (modified).

We now agree that monitoring non-listed resident fish in both Round Valley and Philbrook reservoirs and in DeSabra Forebay is not necessary because Round Valley Reservoir drains dry every season and the remaining two reservoirs have fish populations that are artificially maintained by regular recreational fish stocking from CDFG. Instead, the Commission has proposed, and we agree, that the Licensee should conduct creel surveys at the DeSabra Forebay to monitor the effects of the Water Temperature Improvement Facility on the put-and-take recreational fishery within the forebay.

Service Alternative #II: Service Response to the Commission's Question 3.

The Service proposes the following modifications to our §10(j) Conditions 6 (f-g), 6B, and 6C for monitoring non-listed resident fish in the Project reaches of Butte Creek and the West Branch Feather River:

- (a) The Licensee shall implement the same sampling frequencies, sampling locations, methods, and reporting requirements that would be found in our §10(j) Conditions 6 (f-g), 6B, and 6C.
- (b) No such sampling would be required in the Project's reservoirs, except for creel census of the put-and-take recreational fishery in the DeSabra Forebay to monitor the effects of the Water Temperature Improvement Facility.

Section E: Service §10(j) Condition 8, Benthic Macroinvertebrate Monitoring Plan.**Service Response to the Commission's Questions 1 and 2.**

The Service does not agree with the Staff Alternative term for the Benthic Macroinvertebrate Monitoring Plan because it proposes a very minimal amount of benthic macroinvertebrate (BMI) monitoring over a potentially long License term of 30-50 years. The Staff Alternative term modified the frequency of monitoring from our original §10(j) Condition 8 to correspond with that of the Staff's proposed schedule in the Staff Alternative term, which monitored non-listed resident fish for only 2 years. The Service disagrees with the Staff Alternative term for non-listed resident fish monitoring for reasons noted above in Section D. Likewise, we would prefer that the term in the Staff Alternative follow the same site locations, methods, and sampling frequencies as stipulated in our §10(j) Condition 8: Annually for the first 4 years, then once every 4 years, beginning in year 8 (8, 12, 16, etc.), and thereafter through the term of the License. Using this sampling frequency and the other parameters as stated in our original §10(j) Condition 8, the BMI data can then be compared with the non-resident fish monitoring data collected and analyzed per our §10(j) Conditions 6 (a-g), 6B, and 6C from the Project reaches within the Butte Creek and West Branch Feather River watersheds.

Aquatic BMI assemblages are communities of aquatic macroinvertebrates that serve as "sensitive species assemblages." BMI are an integral part of a stream's ecosystem, are important food sources for resident stream fish, and the quality of the BMI community and its structure reflects the degree of impairment that exists within a stream's ecosystem.

The Benthic Macroinvertebrate Monitoring Plan in our §10(j) Condition 8 will be used to assess the effects to the macroinvertebrate community in the Project bypass reaches under new flow regimes and other changes stipulated by the new License. BMI data will be used to determine trends in the macroinvertebrate community structure, as represented by metrics (e.g., taxa richness, EPT index, tolerance value), in the California Stream Bioassessment Procedure (Harrington 2003) and determine the trends in metrics within reaches, between reaches, and in comparison with previous results. Project impacts can be assessed by describing differences in BMI assemblages at study sites upstream and downstream of Project facilities and by identifying the Project's effects on the invertebrate community by comparing BMI assemblages across study sites and to reference sites.

Service Response to the Commission's Question 3.

The Service finds that there are no alternatives to the Service's §10(j) Condition 8 that would accomplish the objective of the Service's original §10(j) Condition 8. The Service does not believe that cost alone is a sufficient reason to deny a §10(j) Condition. We request that Staff further clarify in detail how this §10(j) Condition has received equal consideration under §4(e) of the FPA and explain how the condition is inconsistent with the comprehensive planning standard of §10(a). The Service believes for the reasons stated above that our §10(j) Condition 8 provides the best data for comparative use in determining Project effects. Information such as this provides trends or clues as to possible effects of the Project's decades of operation on the resident fish and BMI populations within the Project's reaches. This data stresses the importance of monitoring aquatic populations affected by hydropower projects on a regular basis over the term of the License. Without regular monitoring, there would be no other means to know if aquatic

species or populations are becoming unhealthy, if their numbers are being reduced, or if there is a lack of recruitment due to Project operations within the various stream reaches of the Project.

Section F1: Service §10(j) Condition 2H, MIFs Requirements, Measurements, and Ramping Rates - Contingency for Multiple Dry Water Years.

Service Response to the Commission's Questions 1, 2, and 3.

The Service accepts this Staff Alternative term. The Service recognizes that all plans should be implemented with the Licensee obtaining the Commission's approval. The nature of multiple Dry years can quickly cause an "emergency situation" that makes developing and implementing a "Drought Plan" essential. It was implied in the Service's Condition that the Licensee would contact the Commission and the Resource Agencies simultaneously, file such a plan, and implement upon the Commission's approval.

Section F2: Service §10(j) Condition 2A-2J and 2.1, MIFs Requirements, Measurements, and Ramping Rates - MIFs downstream of Lower Centerville Dam on Butte Creek.

Service Response to the Commission's Questions 1 and 2.

The Staff did not recommend adopting our §10(j) Condition 2.1, our MIF recommendations for downstream of Lower Centerville Dam on Butte Creek. Instead, the Staff modified our proposed §10(j) Condition 2.1 in the Staff Alternative and used the recommended MIFs proposed by the Licensee in the Staff Alternative. The Service does not agree with the Staff's proposed MIFs in the reaches downstream of Lower Centerville Dam for reasons previously stated in our REA Letter (USDOJ 2008) and discussed below.

The stream reaches downstream of Lower Centerville Dam are very valuable habitat for the listed spring-run Chinook salmon and steelhead in Butte Creek, particularly during the months that these listed salmonids would be spawning (September through mid-March). The Service recognizes that the cubic-feet-per-second (cfs) flows/month difference between our proposal and that in the Staff Alternative during this spawning period is about 15 to 25 cfs/month. In addition, we have not proposed to alter the Staff's proposed Summer MIFs, as those are to be managed on a real-time basis due to the implementation of a comprehensive long-term Project Operations Plan. However, the primary concern for the Service is that spawning habitat is limiting in the reaches downstream of Lower Centerville Dam. Depending on water year, the Service's proposed MIFs (100 cfs Normal and 75 cfs Dry) would provide from about 8-29% more spawning habitat than the MIFs proposed in the Staff Alternative (40, 75, or 80 cfs Normal and 40, 60, or 75 cfs Dry). We conclude that the substantial enhancement of spring-run Chinook salmon spawning habitat outweighs the slight reduction in hydropower generation, given that spring-run Chinook salmon are a listed species under the ESA, and that Butte Creek is one of only three streams (in addition to Deer and Mill creeks) with genetically pure spring-run Chinook salmon. Further, our observations indicate that spawning habitat is likely limiting spring-run Chinook salmon populations in Butte Creek, based on the considerable amount of spring-run Chinook salmon redd superimposition we observed during our Habitat Suitability Curve data collection efforts on Butte Creek (USFWS 2003). Given the large amount of observed superimposition, a substantial increase in spawning habitat would substantially reduce redd

superimposition and thus substantially reduce egg and pre-emergent fry mortality caused by redd superimposition. This is contrary to the Commission's statement "that there is superimposition at any flows." The Commission agrees in the DEA that increasing flows would provide more habitat but would not improve the current problem of redd superimposition. The Service believes that if more habitat is provided by increased flows downstream of the Lower Centerville Dam, there will be more spawning habitat both upstream and downstream of the Centerville Powerhouse. Additional spawning habitat would allow the salmonids to spread out upstream and downstream through out lower Butte Creek, reduce the adverse effects of crowding on the spawning adults, and reduce the mortality of eggs and fry by reducing the degree of red superimposition.

Service Response to the Commission's Question 3.

The Service finds that there are no alternatives to the Service's §10(j) Condition 2.1 that would accomplish the objective of the Service's original §10(j) Condition 2.1. The Service believes for the reasons stated above that our §10(j) Conditions 2.1 provides the best balance for the protection of listed salmonids and other fish and wildlife resources in Butte Creek. The Staff acknowledged that our §10(j) Condition 2.1 would serve to protect and enhance listed salmonids by providing more habitat. However, one of the Staff's reasons for modifying our §10(j) Condition 2.1 was based on the Staff's estimated cost for our recommendation. The Service does not believe that cost alone is a sufficient reason to deny a §10(j) Condition. We request that Staff further clarify in detail how this §10(j) Condition has received equal consideration under §4(e) of the FPA and explain how the condition is inconsistent with the comprehensive planning standard of §10(a).

Section F3: Service §10(j) Conditions 2A-2J and 2.2 to 2.5, MIFs Requirements, Measurements, and Ramping Rates - MIFs downstream of Butte Dam on Butte Creek; downstream of Hendricks Dam on lower West Branch Feather River; downstream of Round Valley Dam on upper West Branch Feather River; and downstream of Philbrook Dam on Philbrook Creek.

Service Response to the Commission's Questions 1 and 2.

The Staff did not recommend adopting our §10(j) Conditions 2.2 to 2.5. Instead, the Staff modified our proposed §10(j) Conditions 2.2 to 2.5 and used the recommended MIFs proposed by the Licensee in the Staff Alternative. The Service does not accept these Staff Alternative terms for reasons stated in our REA Letter and discussed below (USDOI 2008). The Staff acknowledged that our §10(j) Condition 2 (MIFs for the Project) would protect and enhance habitats for listed salmonids and other aquatic species by providing more quality habitat. However, one of the Staff's reasons for modifying our §10(j) Condition 2 was based on the Staff's estimated cost for our recommendation. The Service does not believe that cost alone is a sufficient reason to deny a §10(j) Condition. We request that Staff further clarify in detail how this §10(j) Condition has received equal consideration under §4(e) of the FPA and explain how the condition is inconsistent with the comprehensive planning standard of §10(a).

Service Response to the Commission's Question 3.

The Service finds that there are no alternatives to the Service's §10(j) Conditions 2.2 to 2.5 that would accomplish the objective of the Service's original §10(j) Conditions 2.2 to 2.5. As

explained above, we believe that our §10(j) Conditions 2.2 to 2.5 provide the best balance of water resources for the protection of listed salmonids and other fish and wildlife resources in Butte Creek and West Branch Feather River.

Section F4: Service §10(j) Conditions 2A-2J and 2.6: MIFs Requirements, Measurements, and Ramping Rates - MIFs downstream of Feeder Creeks: Inskip, Kelsey, and Clear creeks (Upper Butte Canal); Helltown Ravine (Lower Centerville Canal); and Long Ravine, Cunningham Ravine, Little West Fork, and Little Butte creeks (Hendricks Canal).

Service Response to the Commission's Questions 1 and 2.

The Staff did not recommend adopting our §10(j) Condition 2.6 that stipulated MIFs downstream of the Project's various Feeder Creek diversion dams. Instead, the Staff modified our proposed §10(j) Conditions 2.6 and used the recommended MIFs proposed by the Licensee in the Staff Alternative. However, the Staff did agree to our recommended MIF downstream of the Helltown Ravine diversion structure where water is diverted into the Lower Centerville Canal. With the exception of the Helltown Ravine diversion, the Service does not accept the remaining Staff Alternative MIFs for the remaining Feeder Creeks for reasons stated in our REA Letter (USDOJ 2008).

Service Response to the Commission's Question 3.

The Service finds that there are no alternatives to the Service's §10(j) Condition 2.6 that would accomplish the objective of the Service's original §10(j) Condition 2.6. We believe that our §10(j) Condition 2.6 provides the best balance of water resources for the protection of listed salmonids and other fish and wildlife resources in Butte Creek and West Branch Feather River. The Staff admitted that our §10(j) Condition 2.6 would enhance aquatic habitats downstream from the Feeder Creek diversions. However, one of the Staff's reasons for modifying our §10(j) Condition 2.6 was based on the Staff's estimated cost for our recommendation. The Service does not believe that cost alone is a sufficient reason to deny a §10(j) Condition. We request that Staff further clarify in detail how this §10(j) Condition has received equal consideration under §4(e) of the FPA and explain how the condition is inconsistent with the comprehensive planning standard of §10(a).

Section G: Service §10(j) Condition 5, Develop and Implement a DeSabra Forebay Water Temperature Improvement Plan.

Service Response to the Commission's Questions 1 and 2.

The Staff did not recommend adopting our §10(j) Condition 5, *Develop and Implement a DeSabra Forebay Water Temperature Improvement Plan*. Instead, the Staff modified our proposal, accepted that a water temperature improvement facility is needed within DeSabra Forebay, but only set a thermal loading reduction criteria of 50%. The Service does not agree with this Staff Alternative term and we prefer our §10(j) Condition 5 for reasons stated in our REA Letter and discussed below (USDOJ 2008). The Service recognizes that the most efficient means to move water from the canal, through the DeSabra Forebay, and through the DeSabra Powerhouse is by a pipe. Conceptually, this could also minimize the amount of thermal loading

or heating that could occur. However, the Service also recognizes that until such a facility is built and operating, we will not know the facility's true efficiency.

The Staff's cost estimate for the Service's §10(j) Condition 5 (based on the DEA) did not stipulate the design, construction, and implementation of the "pipe/penstock" as the DeSabra Forebay Water Temperature Improvement facility, but did state that a specific percentage in the reduction of thermal loading would be required. The Staff's cost estimates for both the Staff Alternative's term (at least 50% reduction in thermal loading) and our §10(j) Condition 5 (80% or greater reduction in thermal loading) were higher than a draft cost estimate provided in a draft document submitted to the Commission as License Application Appendix E611.2.2.3 (Ryan 2007). In the FLA, Ryan 2007 was supposed to provide alternatives that would all meet or exceed the "50% reduction in thermal loading" criteria. However, there was no discussion on the specific percentages of reducing thermal loading that each alternative might provide. Ryan 2007 also suggested that a pipe alternative would be the most efficient, but did not provide specific efficiency data. The Service, other Resource Agencies, and non-government organizations have noted that Ryan 2007 was not a Commission-accepted Study Plan, not reviewed by stakeholders, nor was it peer reviewed (RAs and NGOs 2007). While the Staff has proposed that a water temperature improvement facility is required in the DeSabra Forebay, it would appear that the Staff's decision is based on their perceived cost of such a facility. We request that Staff further clarify in detail how this §10(j) Condition has received equal consideration under §4(e) of the FPA and explain how the condition is inconsistent with the comprehensive planning standard of §10(a). The Service does not believe that cost alone is a reason for denying a recommendation that is critical for the protection and enhancement of the listed salmonids and other aquatic resources in Butte Creek.

Service Alternative #III: Service Response to the Commission's Question 3.

The Service proposes the following modifications to our §10(j) Condition 5. We propose that a pipe could be installed to take water directly from the canal to the intake to reduce thermal heating in the forebay. This facility should be designed such that positive surges in the pipe could spill into the forebay, about 3-5 cfs could still spill into the forebay to satisfy downstream water rights, and some operational flexibility could remain. By eliminating any specific reference to a percentage of "thermal loading reduction" or warming, the Licensee would have fewer compliance issues. Installation of a pipe into DeSabra Forebay should minimize thermal loading over other options, may be easier to install, and may eliminate the uncertainty to the Licensee associated with meeting a specific percentage of water temperature reduction.

Section H: Service §10(j) Condition 17 and 17D, Install and Maintain New Flow Gages - Feeder Creeks (noted in Service §10(j) Conditions 2A-J and 2.6).

Service Response to the Commission's Questions 1, 2, and 3.

The Staff modified our §10(j) Condition 17 to not require the installation of new flow gages at each of the Feeder Creek diversions because these facilities were already constructed to deliver set amounts of flow (as specified in the Staff's adopted term and based on the Licensee's proposed MIFs at these Feeder Creek diversions). The Staff did suggest in the DEA that regular inspections of the Feeder Creek diversions by a roving operator would help insure that these diversions remain functioning as designed. These diversions were designed such that any water

in excess of the required MIFs cannot be diverted and remains within the bypassed creek (PG&E 2007). The Service accepts these Staff Alternative terms as they may provide the best balance of water resources for the protection of listed salmonids and other fish and wildlife resources in Butte Creek and West Branch Feather River.

Section 2: Additional Staff Alternative Terms That the Service May Accept

In Attachment A, in the "Staff Alternative" column, the Staff noted those 27 parts of our 11 §10(j) Conditions that were adopted as is into the Staff Alternative. We also provide in Attachment B the remaining 11 parts of the §10(j) Conditions from NOAA Fisheries and the CDFG as presented in DEA Table 5-3. The Staff proceeded to adopt most of these 11 10(j) Conditions as terms in the Staff Alternative (three as is, five as modified, and three were not adopted). The Service supports all of the FPA Terms submitted previously to the Commission in the Resource Agencies' 2008 REA Comment Letters and we appreciate the Staff's adoption of most of the environmental measures for the protection of fish and wildlife resources into the Staff Alternative (USDOI 2008; NMFS 2008; USFS 2008; CDFG 2008).

The remaining 27 parts of the Service's remaining 11 §10(j) Conditions that Staff recommended adopting as is into the Staff Alternative are listed below.

Ten Parts to §10(j) Condition 2: *MIF Requirements, Measurements, and Ramping Rates.*

- §10(j) Condition 2D1a, *General Terms, Project MIFs.*
- §10(j) Condition 2D1b, *General Terms, Project MIFs.*
- §10(j) Condition 2D2, *General Terms, Project MIFs.*
- §10(j) Condition 2D3, *General Terms, Project MIFs.*
- §10(j) Condition 2F, *General Terms, Project MIFs.*
- §10(j) Condition 2G, *General Terms, Project MIFs.*
- §10(j) Condition 2Ha, *General Terms, Project MIFs.*
- §10(j) Condition 2Hb, *General Terms, Project MIFs.*
- §10(j) Condition 2I, *General Terms, Project MIFs.*
- §10(j) Condition 2, (J1-J4) *General Terms, Project MIFs.*

§10(j) Condition 3: *Feeder Diversion Facility Removal Plan.*

Two Parts to §10(j) Condition 4: *Project Canal Maintenance, Inspection, Wildlife Protection, and Monitoring.*

- §10(j) Condition 4A, *Project Canal Maintenance and Inspection Plan.*
- §10(j) Conditions 4B-C, *Maintenance of Canal Wildlife Protection Facilities, Monitor Wildlife Loss in Project Canals, and Report.*

One Part to §10(j) Condition 6: *Fish Monitoring Plans.*

- §10(j) Conditions 6 (a-e) and 6A, *Listed Salmonid Monitoring.*

Two Parts to §10(j) Condition 9: *Federally Listed Species Protection, Mitigation, and Consultation.*

- §10(j) Condition 9A, *Federally Listed Species Protection and Mitigation.*
- §10(j) Condition 9B, *Federally Listed Species Annual Consultation.*

- §10(j) Condition 11: *Valley Elderberry Longhorn Beetle Management Plan.*
§10(j) Condition 12: *Invasive/Noxious Weed Vegetation Management Plan.*
§10(j) Condition 13: *Long-Term Operations Plan.*
§10(j) Condition 14: *Canal Fish Rescue Plan.*
§10(j) Condition 15: *Minimum Pool in Philbrook Reservoir.*
§10(j) Condition 16: *Water Temperature Monitoring Plan.*

Five Parts to §10(j) Condition 17: *Install and Maintain New Flow Gages.*

- §10(j) Condition 17A, *Install and Maintain New Flow Gages.*
 §10(j) Condition 17B, *Install and Maintain New Flow Gages.*
 §10(j) Condition 17C, *Install and Maintain New Flow Gages.*
 §10(j) Condition 17D, *Install and Maintain New Flow Gages.*
 §10(j) Condition 17E, *Install and Maintain New Flow Gages.*

Section 3: General Comments on the DEA

Status of Centerville Powerhouse not Analyzed in the REA

DEA Pages 23, 26, and 400: The Staff notes that the Licensee, "...does not propose any new facilities..." or "...propose any changes to existing project operations..." on page 23. Staff also notes on page 26 that the Licensee proposes as their *Measure 20*, a "*Facility Monitoring, Maintenance, and Refurbishment Plan*;" however, such a plan was never submitted as part of the Licensee's FLA. The details of *Measure 20* are unknown and the way that this measure is stated in the REA suggests that this measure would involve only relatively minor repairs to any of the Project's facilities. In addition, Staff notes on page 400 that, "...*Centerville Powerhouse most likely will need to be rebuilt or refurbished within the next 10 years.*" The Licensee did not state in its FLA that it would be submitting a rebuilding/refurbishment plan for this powerhouse or for any of its other facilities; they only suggested that such an action may be necessary.

The Service believes that replacing, rebuilding, or refurbishing the Centerville Powerhouse would be a major reconstruction event that could have significantly adverse effects on listed salmonids in Butte Creek because of the relatively cooler water that is delivered to this powerhouse. This powerhouse could be offline for many months during reconstruction and this would affect the amount and quality of water that the Project delivers into Butte Creek. However, because the Licensee did not specify that such a major action was part of its FLA, the Commission's Staff did not analyze all of the potential ramifications of this powerhouse being out of service for an extended period while such upgrades are done.

The Staff states that rebuilding or refurbishing Centerville Powerhouse would need to be addressed via consultations concerning Historic Properties. However, the statement on page 400, "...in accordance with the Secretary of FWS's Standards for the Treatment of Historic Properties..." may be referring to such standards within the "Department of the Interior" and not "FWS's Standards." In addition, because of the lack of specificity and information in the FLA regarding the future status of this powerhouse, the Staff did not fully analyze all cumulative affects. Such a major modification to Project facilities would reopen the License to formal consultations under Section 7 of the ESA regarding the listed salmonids in Butte Creek because

of the uncertainty associated with varying the instream flows from either the Lower Centerville Dam or Centerville Powerhouse.

DEA, Use of Acronyms and abbreviations: There was inconsistent use of common acronyms or abbreviations for various resource agencies. The list provided was not always consistent with acronym use in the text. We would suggest that either the entire agency name be spelled out or a unique acronym be used consistently.

DEA Page 8: The DEA incorrectly includes a reference to the "U.S. Department of FWS Bureau." The particular reference here should be to "U.S. Department of the Interior, Bureau of Land Management."

DEA Page 14: The intervention and comments were filed by the "Department of the Interior," not the "U.S. Department of the FWS."

DEA Page 303, Table 4-3, Term 85: Include the Service ("FWS") in the column "Recommending Entity," as our §10(j) Conditions 2, 2J, and 7 included "velocity-based ramping rates."

DEA Page 304, Table 4-3, Terms 1 and 2: Include the Service ("FWS") in the column "Recommending Entity," as our §10(j) Conditions 12 did include all lands of the Project.

DEA Page 304-5, Table 4-3, Terms 11 and 12: Include the Service ("FWS") in the column "Recommending Entity," as our §10(j) Condition 4 (A-C) included Project canal maintenance and inspection, maintaining wildlife protection facilities, and monitoring and reporting wildlife mortalities.

DEA Page 305, Table 4-3, Term 13: Include the Service ("FWS") in the column "Recommending Entity," as our §10(j) Condition 11, *Valley Elderberry Longhorn Beetle Management Plan*, includes such a program.

DEA Page 307, Table 4-3, Terms 5-13: Correct the "FWS" in the column "Recommending Entity," to "Bureau" (we presume that this abbreviation is for the Bureau of Land Management), as these terms were filed by the Department of the Interior on behalf of the Bureau of Land Management (USDOI 2008).

DEA, Pages 401-412, Tables 5-3 and 5-4. A transparent cost analysis was not provided in the DEA that would allow the Service to adequately determine how the Staff cost estimates were developed. While the Service does not understand the Staff's cost estimates, the Staff did not provide their cost estimates for the various MIFs by stream reach. Instead, the Staff noted such costs using relative terms (relative as in "so many dollars greater than the Staff Alternative's cost"). Presenting this information in the DEA's text and in the 10(j) Letter as a relative cost estimate was confusing. We have also noted in Attachment A, errors between these two DEA tables.

Secretary Bose

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The Service appreciates the opportunity to comment during this stage of the Project. Please address any questions or concerns regarding this response to William E. Foster of my staff at (916) 414-6600.

Sincerely,

A handwritten signature in black ink that reads "M. Kathleen Wood". The signature is written in a cursive style with a large initial "M" and a long, sweeping underline.

M. Kathleen Wood
Assistant Field Supervisor

Attachments

cc:

Original and eight hardcopies filed FERC
Project Service List for DeSabra-Centerville Hydroelectric Project, FERC Project No. 803-087
Proof of Service

References

- California Department of Fish and Game (CDFG). 2008. *Notice of Intervention and Section 10(j) Protection, Mitigation, and Enhancement Recommendations of the California Department of Fish and Game for the DeSabra-Centerville Hydroelectric Project, FERC Project No. 803-087*. June 30, 2008.
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- U.S. Department of the Interior (USDOI). 2008. "*Comments Recommendations, Terms and Conditions, and Prescriptions*" (REA Letter) from the USDOI in response to the FERC's Notice, "*Notice of Application Accepted for Filing; Soliciting Motions to Intervene and Protests; Ready for Environmental Analysis and Soliciting Comments, Recommendations, Preliminary Terms and Conditions; and Preliminary Fishway Prescriptions*" for the DeSabra-Centerville Hydroelectric Project, FERC Project No. 803, Butte Creek and West Branch Feather River Watersheds, Butte County, California (ER 08/0467), June 27, 2008.
- U.S. Fish and Wildlife Service (USFWS). 2003. Service Report to U.S. Fish and Wildlife Service Central Valley Project Improvement Act Program (submitted to FERC for FERC Project No. 803-068): "*Flow-Habitat Relationships for Spring-Run Chinook Salmon Spawning in Butte Creek, Final Report.*" USFWS, August 29, 2003, Sacramento, California.
- U.S. Forest Service (USFS). 2008. "*Preliminary Section 4(e) Terms and Conditions and Section 10(a) Recommendations for the DeSabra-Centerville Hydroelectric Project, FERC No. 803-087, Owned by the Pacific Gas and Electric Company.*" June 27, 2008.

Attachment A

The Service's §10(j) Conditions, as found within the Commission's (FERC) Draft Environmental Assessment (DEA) (Section 5, Table 5-3).

Service's §10(j) Conditions (Type) ⁽¹⁾	Within scope of Section 10(j)? ⁽²⁾	FERC Adopted? ⁽³⁾ (Staff Alternative Measure)
§10(j) Conditions 1A-1F and B1 (Fish Passage Plan). Fish Screen at Lower Centerville Dam.	Yes	No. See DEA Section 5.2.
§10(j) Conditions 1A-1F and B2 (Fish Passage Plan). Fish Screen at Hendricks Dam.	Yes	No. See DEA Section 5.2.
§10(j) Conditions 1A-1F and B3 (Fish Passage Plan). Fish Ladder at Hendricks Dam.	Yes	No. See DEA Section 5.2.
§10(j) Conditions 2A-2J, 2.1-2.3, and 2.5 (MIFs). Implement agency recommended MIFs in lower and upper Butte Creek, lower West Branch Feather River, and Philbrook Creek.	Yes	No. See DEA Section 5.2.
§10(j) Conditions 2A-2J and 2.4 (MIFs). Implement agency recommended MIFs downstream of Round Valley Reservoir.	Yes	No. See DEA Section 5.2.
§10(j) Conditions 2A-2J and 2.6 (MIFs). Implement agency recommended MIFs in Inskip, Kelsey, Clear, Helltown Ravine, Long Ravine, Cunningham Ravine, Little West Fork, and Little Butte creeks.	Yes	No. FERC added a MIF for Helltown Ravine. See DEA Section 5.2.
§10(j) Condition 2D1a (MIFs). The minimum instantaneous 15-minute stream flow shall be at least 80% of the prescribed mean daily flow for MIFs less than or equal to 10 cfs and at least 90% for MIFs required to be greater than 10 cfs.	No / Yes ⁽²⁾	Yes as is.
§10(j) Condition 2D1b (MIFs). Measure MIFs as the 24-hour average and as instantaneous flow, as required by the USGS.	Yes	Yes as is.
§10(j) Condition 2D2 (MIFs). If mean daily flows are less than the required mean daily flow, but more than the instantaneous flow, begin releasing the equivalent under-released volume of water within 7 days of discovery.	Yes	Yes as is.
§10(j) Condition 2D3 (MIFs). Instantaneous flows may deviate below the specified MIFs by up to 10 percent, or 3 cfs, whichever is less.	No / Yes ⁽²⁾	Yes as is.
§10(j) Condition 2F (MIFs). Promptly resume performance of flow requirements after an emergency and notify the resource agencies within 48 hours, and provide notice to the FERC as soon as possible, but no later than 10 days after each incident with an explanation.	Yes	Yes as is.
§10(j) Condition 2G (MIFs). Complete facility modifications needed for the releases of MIFs as soon as possible, but no longer than three years after License issuance.	Yes	Yes as is.
§10(j) Condition 2Ha (MIFs). By March 10 of the second or subsequent dry year, notify the resource agencies and by May 1 consult with the resource agencies.	No / Yes ⁽²⁾	Yes as is (also §4(e) No. 18).

Attachment A

Service's §10(j) Conditions (Type) ⁽¹⁾	Within scope of Section 10(j)? ⁽²⁾	FERC Adopted? ⁽³⁾ (Staff Alternative Measure)
<p>§10(j) Condition 2Hb (MIFs). Implement a revised drought operational plan, if agreed upon by the resource agencies, and if agreement is not reached file the plan with the FERC for approval.</p>	Yes	Yes, FERC modified. See DEA Section 5.2.
<p>§10(j) Condition 2H (MIFs). Determine water year types based upon the California Department of Water Resources Bulletin 120.</p>	Yes	Yes as is.
<p>§10(j) Conditions 2H1-2H3 (MIFs). Provide notice to the resource agencies and the FERC within 30 days of making the final water year type determination.</p>	No / Yes ⁽²⁾	Yes as is.
<p>§10(j) Conditions 2J1, 2J2, and 2J4 (MIFs). Implement ramping rates based on water velocity and stage in foothill yellow-legged frog breeding areas.</p>	Yes	Yes as is (also §4(e) No. 18).
<p>§10(j) Conditions 2J1, 2J3 (MIFs), and 7D4 (Frogs). In consultation with the resource agencies, review information from fish and foothill yellow-legged frog monitoring to determine the need to adjust ramping rates, and file with the FERC any proposed adjustments.</p>	Yes	Yes as is.
<p>§10(j) Condition 3. Develop and Implement a Feeder Diversion Facility Removal Plan.</p>	Yes	Yes as is.
<p>§10(j) Condition 4A. Project Canal Maintenance and Inspection Plan.</p>	No / Yes ⁽²⁾	Yes as is (also §4(e) No. 23). [Error, DEA Table 5-4 (\$15,000 vs. \$150,300)].
<p>§10(j) Conditions 4B-C. Maintenance of canal wildlife protection facilities and monitor wildlife loss in Project canals.</p>	Yes	Yes as is (also §4(e) No. 28).
<p>§10(j) Condition 4C. Summary Report of wildlife mortalities in canals.</p>	No / Yes ⁽²⁾	Yes as is (also §4(e) No. 29). [Error, DEA Table 5-4 (\$120 vs. \$100)].
<p>§10(j) Condition 5. Develop and Implement a DeSabra Forebay Water Temperature Improvement Plan to reduce thermal loading by 80 % within the forebay.</p>	Yes	Yes, FERC modified. FERC recommended thermal loading be reduced by 50 %. See DEA Section 5.2.
<p>§10(j) Conditions 6 (a-g) and 6B-C. Non-listed resident fish monitoring in all Project-affected stream reaches and reservoirs. Monitoring in years 1, 2, 5, 6, 10, 11, 15, 16, 20, 21, 25, and 26.</p>	Yes	Yes, FERC modified. See DEA Section 5.2.
<p>§10(j) Conditions 6 (a-e) and 6A. Annually monitor the ESA listed spring-run Chinook salmon and the Central Valley steelhead in Butte Creek.</p>	Yes	Yes as is.
<p>§10(j) Condition 7. Foothill Yellow-legged Frog Monitoring Plan.</p>	Yes	Yes, FERC modified. See DEA Section 5.2.
<p>§10(j) Condition 8. Benthic macroinvertebrate monitoring in Project-affected reaches in years in years 1 through 4, and 8, 12, 16, 20, 24, and 29.</p>	Yes	Yes, FERC modified. See DEA Section 5.2.
<p>§10(j) Condition 9A. Federally listed species protection and management.</p>	No / Yes ⁽²⁾	Yes as is.
<p>§10(j) Condition 9B. Federally listed species annual consultation.</p>	No / Yes ⁽²⁾	Yes, FERC modified §4(e) No. 26 to all lands.

Attachment A

Service's §10(j) Conditions (Type) ⁽¹⁾	Within scope of Section 10(j)? ⁽²⁾	FERC Adopted? ⁽³⁾ (Staff Alternative Measure)
§10(j) Condition 10. Bald Eagle Management Plan.	Yes	Yes, FERC modified. See DEA Section 5.2.
§10(j) Condition 11. Valley Elderberry Longhorn Beetle Management Plan.	Yes	Yes as is (also §4(e) No. 30).
§10(j) Condition 12. Invasive and Noxious Weed Vegetation Management Plan.	No / Yes ⁽²⁾	Yes, FERC modified (also §4(e) No. 31 to all lands).
§10(j) Conditions 13 (Ops. Plan) and 16A (Water Temp.) Long-Term Operations Plan.	Yes	Yes, FERC modified (also §4(e) No. 24 to include monitoring and adaptive management report).
§10(j) Condition 14. Fish Rescue Plan and annual implementation.	Yes	Yes as is.
§10(j) Condition 15. Maintain a minimum pool at Philbrook Reservoir of 250 acre-feet.	Yes	Yes as is (also §4(e) No. 25).
§10(j) Conditions 16 (Water Temp.) and 13D (Ops. Plan). Develop and implement a Water Temperature Monitoring Plan.	Yes	Yes as is.
§10(j) Conditions 17A-B (Flow Gages) and 2D-E (MIFs). Install/modify and maintain real-time gaging stations downstream of Hendricks Dam, upstream of Butte Dam, and the stream gage near Lower Centerville Dam.	Yes	Yes as is.
§10(j) Conditions 17A-B (Flow Gages) and 2D-E (MIFs). Operate and maintain the existing stream flow gages downstream of Round Valley Reservoir and Hendricks Dam.	Yes	Yes as is.
§10(j) Conditions 17C (Flow Gages) and 2D-E (MIFs). Install and maintain a new stream gage with real-time capability downstream of the confluence of the low level release and the spill channel in Philbrook Creek.	Yes	Yes as is.
§10(j) Conditions 17D (Flow Gages) and 2D-E (MIFs). Install and maintain new stream flow gages downstream of the eight feeder creek diversions.	Yes	No. See DEA Section 5.2, pgs. 298 & 335, roving operator.
17E (Flow Gages) and 2D-E (MIFs). Measure and document all MIFs in publicly available and readily accessible formats and provide flow data to the USGS in an annual report.	No / Yes ⁽²⁾	Yes as is.

Notes:

(1) The Service's §10(j) Condition by our number or numbered sections. The description is as stated in DEA Table 5-3. However, some of these descriptions did not always indicate which of our §10(j) Conditions that they were extracted from. The "Type" is an abbreviation of our Condition's name and is used were needed for clarity.

(2) No / Yes. FERC used "No" to indicate that a term was not within the scope of §10(j). However, the Service believes that these are all §10(j) Conditions ("Yes"), as they all relate back to the management of the MIFs, or management of listed species, which are essential to "protect, mitigate, or enhance fish and wildlife resources."

(3) FERC did ("Yes") or did not ("No") adopt this §10(j) Condition, as is or modified, as a term in FERC's Staff Alternative. Some §10(j) Conditions were the same or similar to the §4(e) Conditions found in DEA Table 5-4. Text page(s) citations are from FERC's DEA or 10(j) Letter.

Attachment B

Eleven §10(j) Conditions from other Agencies in the Commission's (FERC) DEA Table 5-3 (from a total of 52 §10(j) Conditions)¹. FERC accepted 8 (3 as is, 5 as modified, and 3 not adopted) as terms in the Staff Alternative. Our comments are shown in bold.

Recommended §10(j) Conditions in DEA	Other Agencies	FERC Adopted in Staff Alternative (as is or modified)	FWS May Accept Staff Alternative Term
Resident fish monitoring in Butte Creek. Monitoring in years 1, 2, 5, 6, 10, 11, 15, 16, 20, 21, 25, and 26. [Part of FWS §10(j) Condition 6 (6f-6g, 6B, and 6C). See Attachment A].	NMFS FWS	Yes, modified.	No ²
Monitor movement patterns of adult Chinook salmon in response to changes in Project flows, and the monitoring of Chinook salmon holding habitat.	CDFG	Yes as is	May
Install remote operating capability as well as additional real-time water temperature and reservoir elevation and flow gages in Round Valley and Philbrook reservoirs.	NMFS	Yes, modified.	May
Annually stock 8,000 pounds of trout for put-and-take fishery.	CDFG	Yes, modified.	May
During up-ramping downstream of Lower Centerville Dam, velocity shall not change more than 0.2 feet per second per hour. [Part of FWS §10(j) Condition 2 and 2J4. See Attachment A].	NMFS FWS	Yes as is	May
Flows discharged downstream of Hendricks Dam shall be maintained within the West Branch Feather River to the high water line of Lake Oroville.	CDFG	No (not enforceable)	May
Make a good faith effort to ensure MIFs downstream of Hendricks Dam are not diverted from the West Branch Feather River through methods under the control of the Licensee.	CDFG	Yes as is	May
Consult with the Resource Agencies to identify water rights associated with diversion of water from the West Branch Feather River.	CDFG	No	May
Install and maintain up to 3 additional stream flow gages, if deemed necessary as a result of annual consultation with the Resource Agencies.	CDFG	No	May
Comprehensive Monitoring Report with adaptive management summary.	NMFS CDFG	Yes, modified.	May
Remove the Feeder Dams on Oro Fina Ravine, Emma Ravine, Coal Claim Ravine, Stevens, and Little Butte creeks. [The Service's §10(j) Condition 3 included removing these dams. See Attachment A].	CDFG	Yes, modified.	May

Notes: (1) Other Agencies with §10(j) authority: The Service (FWS), NOAA Fisheries (NMFS), and the CDFG. Descriptions stated as found in DEA Table 5-3.

(2) The Service does not agree with FERC's denial of parts of our §10(j) Condition 6, *Fish Monitoring Plans - 6f-6g, 6B, and 6C*.

**BEFORE THE
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION**

CERTIFICATE OF SERVICE

I hereby certify that U.S. Fish and Wildlife Service Comments on the Draft Environmental Assessment and the §10(j) Preliminary Determination of Inconsistency Letter for the DeSabra-Centerville Hydroelectric Project, Federal Energy Regulatory Commission No. 803-087, in Butte County, California has this day been sent by that service for filing with the Federal Energy Regulatory Commission and served, via deposit in U.S. mail, first-class postage paid, upon each person designated on the service list for Project #8033 compiled by the Commission Secretary.

Dated at Sacramento, California, this 26th of February, 2009.

Name: Heeja Seto
Office Assistant
US Fish and Wildlife Service
2800 Cottage Way, Rm. W-2605
Sacramento, CA 95825
(916) 414-6600