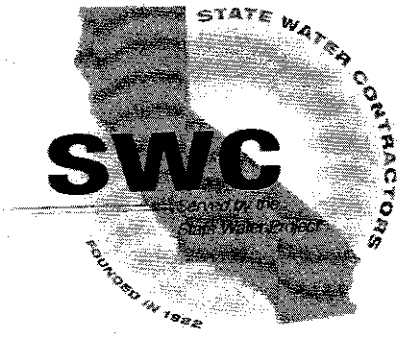

September 27, 2010

Ms. Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
Division of Water Rights
P.O. Box 100
Sacramento, CA 95812-0100
Via email: commentletters@waterboards.ca.gov

RE: Draft Section 401 Water Quality Certification for the Department of Water Resources Oroville Facilities, Federal Energy Regulatory Commission Project No. 2100

Dear Ms. Townsend:

The State Water Contractors (SWC) appreciate the opportunity to provide the following comments regarding: (a) the above-referenced draft Section 401 water quality certification (Draft WQC), and (b) the related July 9, 2010 letter from the Water Board Staff (Staff) to the Department of Water Resources (DWR) and the SWC, entitled "Response to Comments on the Draft Water Quality Certification for the Oroville Facilities, FERC #2100" (July 9 Staff Letter).[1]

These comments consist of an Executive Summary (Section I), a discussion of the limits on the Water Board's legal authority under Section 401 of the Clean Water Act (Section II), and an in-depth discussion of three provisions of the Draft WQC of most concern to the SWC (Section III). The SWC also includes its proposed redline revisions to the Draft WQC with respect to those three provisions only (Appendix C). The SWC submitted comments regarding a previous version of the Draft WQC on February 23, 2010. The SWC supports the concerns expressed by DWR in the comment letter it is filing today, as well as the proposed redline revisions to the Draft WQC submitted by DWR on or about April 13, 2010 .

[1] The July 9 Staff Letter responds to comments filed by DWR and the SWC regarding the January 21, 2010 version of the Draft WQC. As such, it attempts to explain the Staff's rationale underlying the current draft.

I. Executive Summary

After five years of intensive effort and collaboration, over 50 parties came together in a comprehensive Settlement Agreement (SA) with respect to the relicensing of the Oroville Facilities. The SA provides a delicate balance of actions to provide enhancement of certain resource beneficial uses while preserving the core Project purposes.

The SWC appreciates the significance of the Water Board Staff's statement of support for the SA. However, while the Water Board Staff supports the SA, they nevertheless have proposed substantive changes to key provisions of the SA that jeopardize the continued existence of the SA and have included another objectionable caveat: in order to provide reasonable assurance of compliance with water quality standards, the Staff contends that the Water Board must be able to rewrite all of the provisions in the SA relating to water quality, ***throughout the entire term*** of the new license to be issued by the Federal Energy Regulatory Commission (FERC or Commission).

The Staff's Draft WQC proposes substantial changes to the terms of the SA, relying on factual assertions that are not supported by substantial evidence, and that are in some cases flatly inconsistent with more reliable information already in the record. Furthermore, the Water Board Staff reserves to itself the unrestrained authority to make further changes at any time, in its sole discretion, with no requirement that the Staff comply with the criteria or decision-making processes established in the SA, or even consult with the parties to the SA.

In fact, the Draft WQC requires that virtually every plan called for by the SA be submitted to the Water Board Staff for approval, with the Deputy Director authorized to "require modifications as part of the approval." The only limitation, required in only some instances, is that the modifications ordered must be "appropriate." Apparently, the Staff has concluded that it should sit as the ultimate arbiter with respect to virtually every aspect of implementing and overseeing a FERC hydroelectric license.

The broad attempt at oversight of a FERC license presents both important legal and policy issues. The key legal issue is whether Section 401 of the Clean Water Act gives state water quality agencies the sole and unlimited authority to rewrite the provisions of a settlement agreement that somehow relate to water quality, both initially and over the term of the license. That position is legally untenable. While Water Board Staff points to language in a few cases interpreting a state's powers under Section 401 as the basis for its effort to exert broad and continuous authority, if the Water Board adopts the Staff proposal, it is likely that a court, when presented with the current facts, will use this certification to place clear limits on the State's exercise of such authority. Furthermore, a water quality certification containing such revisions also will be overturned where, as here, the revisions are unsupported by substantial evidence.

There are two policy issues raised by the Water Board Staff's proposed certification that must be resolved by the Water Board. The first is whether its Staff ***should*** attempt to elbow aside the parties to a settlement agreement, including other federal and state resource agencies, in exercising its responsibilities under Section 401. If the Water Board wants to encourage diverse stakeholders to come together and craft settlement agreements, rather than to engage in endless

dispute and litigation, it must provide a reasonable measure of deference to the careful work of the settlement parties, assuming that the settlement meets minimum legal requirements. The second policy issue is whether the Water Board really wants its Staff making decisions regarding implementation of a FERC license throughout the term of the license, whether the Water Board Staff has the necessary expertise to make such decisions, and whether the Water Board has the Staff, time, and money to invest in order to remain continuously and competently engaged in this matter in a meaningful and timely manner.

Although these legal and policy issues arise with respect to nearly every provision of the Draft WQC, three provisions are particularly troubling for the SWC (discussed in greater detail in Section III below):

1. **Inclusion of the HEA in the WQC would jeopardize the Settlement Agreement and have a chilling effect on the future use of "off-license" settlement agreements to provide environmental benefits.**

A major issue in the settlement negotiations was whether fish passage facilities should be constructed at the Oroville Facilities and certain other hydroelectric facilities owned by PG&E. Because all of the parties to the SA – and the National Marine Fisheries Service (NMFS), in particular – agreed that fish passage facilities on other streams would be of greater value than on the upper Feather River, they entered into a separate Habitat Expansion Agreement (HEA), the goal of which is to expand the amount of habitat capable of supporting spawning, rearing, and holding of spring-run Chinook salmon and steelhead elsewhere in the Sacramento River basin. NMFS noted: "This process, detailed in a Habitat Expansion Agreement, is expected to have equal or greater benefits for these species than would be directly available under NMFS' authorities alone, therefore NMFS has opted for the Habitat Expansion Agreement process."[2]

Using criteria and a consultation process established in the HEA, DWR and PG&E are to prepare and submit a Habitat Expansion Plan to NMFS, and then, once approved by NMFS, to implement it. In the event DWR and PG&E do not submit and implement a Habitat Expansion Plan that complies with the terms of the HEA, NMFS may return to its reserved Section 18 authority and seek to require the construction of fish passage facilities.

The SA also provides that the HEA will not be subject to FERC jurisdiction because, *inter alia,* the additional habitat will be created well outside the influence of the Feather River hydroelectric projects owned by DWR and PG&E. Specifically, the HEA is not to become part of a FERC license for the DWR or PG&E projects, and is not to be the basis for expanding the FERC-established boundaries for those projects.

The Draft WQC proposes to include the HEA in the Final WQC, on the ground that the HEA must be enforceable under the WQC in order for the Water Board to find reasonable assurance of compliance with state water quality standards. The Staff takes the position that bringing the HEA within the WQC does not change the obligations of the parties, but simply makes them enforceable by the Water Board.

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[2] *See* NMFS' February 15, 2007 "Comments, Recommended Terms and Conditions, and Modified Fishway Prescriptions for the Oroville Facilities Project, No. 2100" filed in FERC Docket No. P-2100, at 5.

The position taken by Water Board Staff is not accurate either legally or practically. As to legal enforceability, the HEA is enforceable as a contract, includes NMFS, the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (DFG) as parties, and includes the option to pursue fish passage on the Feather River should the HEA not be implemented. Further, prior to implementing the HEA, there is an affirmative obligation to confer with the Water Board. Given the party status of the three fishery agencies, the obligation to confer with the Water Board, and the reservation of rights to seek fish passage, it cannot seriously be contended that implementation of the HEA cannot be ensured, even if such assurance is not held directly by the Water Board.

The Draft WQC amends a key provision of the HEA by depriving DWR of the option to withdraw from the HEA (and then manage fish passage on the Feather River) if the cost of implementation is unreasonably high, and jettisons both the HEA's detailed decision-making process and NMFS as the decision-maker. Further, the Draft WQC leaves open the possibility that even if NMFS withdraws from the HEA, the Water Board could continue to require DWR and PG&E to implement the HEA under the terms of the Draft WQC. In addition, instead of NMFS applying criteria established in the HEA, the Water Board's Deputy Director would have the unfettered discretion to make modifications to the HEA "as appropriate," thereby exposing all parties to uncertainty regarding the terms under which the HEA is to be implemented.

The inclusion of the HEA as part of the FERC license also subjects the HEA to litigation by third parties at FERC. These third parties may be pursuing agendas independent of the Feather River projects, such as seeking tactical advantage on a stream where the HEA is proposed for implementation, or seeking to upset the settlements on the Feather River. Further, because there is the almost certain likelihood that FERC boundaries for the four licensed projects on the Feather River would be expanded to encompass the location where the HEA is to be implemented, this could have a substantial chilling effect on the ability to implement an already challenging project. After all, no entity would voluntarily agree to have "its river" subjected to FERC and Water Board jurisdiction for a project that is part of a settlement of proceedings on another river.

These changes would largely destroy the bargain struck by the parties to the HEA. They will frustrate the ability to implement the HEA, likely to the potential detriment of the fisheries within the Sacramento Valley. And yet, there is no apparent benefit to the Water Board respecting the ability to successfully implement the HEA. While the SWC is amenable to language that provides the Water Board with regulatory assurance with respect to the WQC, such assurances must not be at the expense of the very program it is seeking to implement.

2. The Draft WQC's requirement that temperature "goals" be treated as "requirements" upon issuance of the license ignores the inability of the Oroville Facilities to meet those temperatures, substitutes the judgment of the Water Board Staff for that of the parties to the SA, including the fishery agencies, and instead invites decisions unsupported by substantial evidence by the Water Board Staff.

The Oroville Facilities as presently configured cannot meet the desired temperatures at Robinson Riffle on the Feather River 100% of the time. Hence, the SA requires that certain management actions be taken to meet temperature requirements to the extent achievable. The

parties further recognized that designing modifications to reduce water temperature will be very challenging. Each of the options involves construction in a deep-water environment, and some options involve significant disruption for all beneficial uses, including flow and temperature for fisheries. To meet these challenges, the SA divides the downstream channel into three sections: the diversion pool (the source of water supply for the hatchery); the low-flow channel (LFC), which extends from the Thermalito Diversion Dam to the Thermalito Afterbay; and the high-flow channel (HFC), which extends from the Thermalito Afterbay downstream to the Project boundary. See map attached as Appendix A.

As to the hatchery water supply and LFC, the parties were convinced that it would be impossible to comply with the applicable numeric temperature criteria (both the SA and Draft WQC use the same temperature criteria) until the Project facilities can be modified to improve access to cold water, but that the likelihood of compliance is very high once the facilities are modified. The SA therefore provides that the temperature criteria for the LFC will be treated as ***targets*** until those facilities can be modified, at which time they will convert to requirements. As to the HFC, the parties agreed that establishing achievable temperature criteria would be too speculative until after the facilities are modified to provide cold water; therefore, the temperature criteria will not be established until temperature data has been gathered for five years following facilities modification.

The Draft WQC rejects both of these requirements, thereby ignoring the evidence in the record and the technical judgments of the parties to the SA (specifically, the Ecological Committee). As to the hatchery and LFC, the Staff would require immediate compliance unless DWR can convince the Deputy Director that to do so is impossible or unreasonable using existing facilities. In view of the fact that the parties to the SA have already examined the evidence and concluded that immediate compliance is impossible, conducting such a process again is, at best, wasteful.[3] As to the HFC, Staff reserves to itself the unfettered authority to approve the long-term temperature criteria or require additional measures.

The Water Board Staff attempts to justify these changes as necessary to protect beneficial uses in the Feather River but fails to cite metrics by which the threshold of protection can be measured. Beneficial uses are not being protected, the Staff claims, because the current temperatures adversely affect spawning activity and distribution. Because no substantial evidence is cited by Staff for this factual proposition, a final WQC that discards the approach to water temperature adopted in the SA would be unsupported by substantial evidence in the record.[4] Further, merely mandating temperatures does not make them achievable, and Staff at least acknowledges that upon proof, the mandates will revert to targets, thereby returning to the

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[3] *See* DWR's "Reconnaissance Study of Potential Future Facilities Modifications Pursuant to the Settlement Agreement under P-2100" (December 2006) (*Reconnaissance Study*), filed January 16, 2007 in FERC Docket No. P-2100 (http://elibrary.ferc.gov/idmws/file_list.asp?accession_num=20070116-5021), at 33-34; National Oceanic and Atmospheric Administration's NMFS draft Biological and Conference Opinion (July 2, 2010), (*Draft BO*), filed July 6, 2010 in FERC Docket No. P-2100 (http://elibrary.ferc.gov:0/idmws/file_list.asp?document_id=13735836), at 205, *et seq*.

[4] *See* September 27, 2010 comments of DWR on Draft WQC, for detailed description of substantial evidence supporting a finding that temperature requirements to protect beneficial uses are being provided by the measures in the SA.

requirement currently in the SA. Yet, the establishment of unachievable temperature criteria could place DWR in violation of its FERC license.

3. Requiring the licensee to develop a complex and costly methyl mercury management plan would be unsupported by substantial evidence.

The Draft WQC provides that the Water Board may require DWR to develop and implement a methyl mercury management plan, a potentially significant new cost. No actions by DWR caused mercury to exist in the state's water systems. Rather, methyl mercury is a legacy problem associated with historical gold mining. As such, methyl mercury management is a state-wide problem for which management solutions that are protective of beneficial uses have been elusive. The SWC agrees that DWR should respond to reasonable public policy regarding solutions, but objects to being held to a higher or different standard than that applied to other entities under similar circumstances. The final WQC should make clear that any mercury management plan required of DWR will be well-defined and consistent with state-wide policy.

II. Legal Limitations on the Board's Authority Under Section 401

The Staff takes the position that Section 401 of the CWA provides it with exclusive and unlimited authority to rewrite those provisions of a settlement agreement that somehow relate to water quality, and then to further revise them over the term of the new FERC license. They justify this extremely broad authority on the fact a water quality certification must find "reasonable assurance that the activity will be conducted in a manner which will not violate applicable water quality standards."[5]

However, the reasonable assurance requirement does ***not*** provide the Water Board with unfettered discretion to include any and all possible conditions in a water quality certification. The Supreme Court noted in *PUD No. 1 of Jefferson County v. Washington Dept. of Ecology* (*Jefferson County*),[6] that although Section 401(d) "authorizes the State to place restrictions on the activity as a whole, *that authority is not unbounded*."[7]

That authority is bounded by at least three distinct legal requirements. First, any condition included in a certification in order to provide reasonable assurance must be ***necessary*** to make such a finding; otherwise, the condition does not serve the essential purpose of Section 401 and is without a legal basis. This limitation is made clear in Section 401(d), which provides that the state may impose conditions "***necessary*** to assure" compliance (emphasis added). For example, the Draft WQC's requirement that "any change to the Oroville Facilities" be submitted to the Water Board for review and approval is hardly necessary to provide reasonable assurance.[8]

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5 40 C.F.R. 121.2(a)(3).

6 511 U.S. 700 (1994).

7 *Id.* at 712 (emphasis added).

8 *See, e.g.,* Condition G7 of the Draft WQC, which requires the licensee "to submit any change to the Oroville Facilities, including project operation that would have a significant or material effect on the findings, conclusions, or conditions of this certification, to the Deputy Director for prior review and written approval."

Second, like any other administrative order issued by a California state agency, a Section 401 certification must be based on substantial evidence.[9] In order to meet this test, the evidence on which the agency relied must be of "ponderable legal significance, reasonable in nature, credible, and of solid value."[10] It must also be of the sort that a "reasonable mind" would accept it as "adequate to support" the conclusion at which the agency arrived.[11] Conditions based on unfounded or erroneous factual assertions, or agency decisions that lack a rational basis, will fail this test. For example, the record evidence must be such that a reasonable person would conclude that a certification condition will, in fact, help support a beneficial use to which it is purportedly directed.

Third, once the new license is issued by FERC, the Water Board no longer has the authority to make unilateral changes to the water quality certification. The U.S. Court of Appeals for the D.C. Circuit has stated that "Whatever freedom the states may have to impose their own substantive policies in reaching initial certification decisions, *the picture changes dramatically once that decision has been made and a federal agency has acted upon it.*"[12] The U.S. Court of Appeals for the Third Circuit has held that Section 401 "gives states exclusive authority *only* to issue a certification, *prior to licensing*, that any discharge into navigable waters" will comply with effluent limitations and applicable water quality standards.[13] This conclusion is firmly buttressed by section 6 of the Federal Power Act (FPA), which provides that FERC licenses "may be *altered* or surrendered only upon mutual agreement between the licensee and the Commission after thirty days' public notice."[14]

The Water Board Staff attempts to discredit these limitations. It first asserts that "SWC's quoted language in Federal Power Act section 6 does not address water quality certification or the reach of the Clean Water Act at all." July 9 Staff Letter at 23-24. This misses the point entirely. Section 6, by its terms, applies to any proposed alteration of a license; the fact that it does not specifically refer to water quality certifications or the Clean Water Act is irrelevant.

The Water Board Staff attempts to discount FERC's authority by stating that "a federal agency is unlikely to use its limited resources and discretionary prosecutorial powers to enforce a state provision that it did not add to its permit in the first place." July 9 Staff Letter at 14. The FPA does not distinguish as to which provisions of a license FERC may or may not enforce. Staff's concern regarding FERC's enforcement actions is pure speculation. The fact that a federal agency has prosecutorial discretion does not vest a state agency with legal authority that it does not otherwise possess.

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9 Cal. Code Civ. Proc. § 1094.5(c).

10 *County of San Diego v. Assessment Appeals Bd. No.* 2, 148 Cal.App. 3d 548, 555 (1983).

11 *Id.*

12 *Keating v. FERC*, 927 F.2d 616, 623 (D.C. Cir. 1991)(emphasis added).

13 *Pennsylvania v. FERC*, 868 F.2d 592, 598 (3d Cir. 1989) (emphasis added).

14 16 U.S.C. § 799 (emphasis added). *See also FPL Energy Me. Hydro LLC v. FERC*, 551 F.3d 58, 64 (1st. Cir. 2008), and *Keating v. FERC*, 927 F.2d at 623.

Finally, the Staff cites as authority Water Board decisions that concern state water rights, not FERC's authority under the FPA. July 9 Letter at 5-6 and 20-21.[15] The Water Board may in fact be the ultimate and final authority over state water rights, but not over a federal license to operate a hydroelectric project. Therefore, all provisions of the Draft WQC that purport to reserve continuing, unilateral authority, including General Conditions 1, 7, 8, 9, 10, and 11, are invalid.

The SWC will, however, accept these terms for the time being, but by so doing does not thereby waive its rights to subsequently challenge any exercise of the Water Board's authority under Section 401 if and when the Water Board attempts to add to or modify the certification following its issuance. To accomplish this, SWC urges two changes to General Condition No. 12 (which requires notice and hearing in the event that the Water Board attempts an addition or modification). First, the Water Board should only attempt to exercise its authority to add to or modify those provisions where such authority is expressly reserved in the certification. Second, the Condition needs to include an acknowledgment that, in the event the Water Board attempts to exercise its reserved authority, DWR reserves its right to challenge such exercise on any basis.

III. Major Concerns

This section contains a more in-depth discussion of the three provisions of the Draft WQC of most concern to the SWC.

A. Inclusion of the HEA in the WQC Would Jeopardize the Settlement Agreement and Have a Chilling Effect on the Future use of "Off-License" Settlement Agreements to Provide Environmental Benefits

One of the most difficult issues in the relicensing of four FERC-jurisdictional hydroelectric projects on the Feather River, including the Oroville Project, has been whether the NMFS should seek to invoke its authority under Section 18 of the Federal Power Act,[16] to require the construction of fish passage facilities. In addition to the potential cost, there is concern that fish passage facilities at these hydroelectric dams would be of limited value because of the lack of suitable habitat upstream, that the recapture technology being proposed is untested on large-flow rivers, and that fish passage might introduce downstream salmonid diseases into the riverine ecosystem upstream of these dams.

Consequently, as an alternative to NMFS seeking to require the construction of fish passage facilities, the two dam owners (DWR and PG&E), NMFS, USFWS, the California Department of Fish and Game (DFG), other agencies responsible for the health of fisheries within the Sacramento Valley, American Rivers, and the SWC engaged in extended exploration of alternatives, which led to the development of the HEA. The overall goal of the HEA is to expand the amount of habitat capable of supporting spawning, rearing, and holding of spring-run Chinook salmon and steelhead in the Sacramento River basin, as a contribution to the

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15 Citing *Central Delta Water Agency v. State Water Resources Control Board*, 124 Cal.App.4th 245, 265 (2004), which concerned permits for the appropriation/diversion of water. State Water Board Order WR 2002-0002 and State Water Board Order WR 2008-0025 similarly concerned state water right permits.

16 16 U.S.C. § 811

conservation and recovery of those species.[17] The specific goal is to increase that habitat so as to accommodate spawning by a net increase of 2,000 to 3,000 spring-run Chinook, as compared to the habitat available as a result of existing requirements and commitments. It is expected that this additional habitat will also benefit steelhead.[18]

Notably, in its comments on the proposed terms and conditions of the new FERC license, NMFS agreed that the HEA was the best means of increasing habitat:

> NMFS has investigated the potential for restoration of Central valley spring run Chinook salmon and California Central Valley steelhead to portions of their historical habitat in the Feather River watershed. The Seneca Reach of the North Fork Feather River has suitable habitat for these fishes, and the potential for upstream and downstream capture and transportation is feasible, therefore a preliminary Section 18 fishway prescription was submitted for the Upper North Fork Feather River project (P-2105; USDOC 2005).
>
> Subsequently, NMFS was presented with an alternative process, which would identify and implement a project(s) to provide equal or greater benefits for these species. This process, detailed in a Habitat Expansion Agreement, is expected to have equal or greater benefits for these species than would be directly available under NMFS' authorities alone, therefore NMFS has opted for the Habitat Expansion Agreement process.[19]

Using detailed criteria and a consultation process established in the HEA, DWR and PG&E are to prepare and submit a final Habitat Expansion Plan to NMFS for approval.[20] Prior to approving the Plan, NMFS is to engage in a 60-day consultation process with all parties, including the Water Board.[21] Once approved by NMFS, "[i]mplementation may be by DWR and PG&E individually, DWR and PG&E jointly, or through cooperative efforts with others."[22]

If at any point the licensees estimate that the life-cycle cost of implementing the recommended habitat expansion actions exceeds $15 million for the two licensees combined, either or both licensees may withdraw from the HEA.[23] Significantly, the HEA also provides that if any of the new FERC licenses for the four projects are materially inconsistent with the HEA, including conditions imposed by the Water Board's Final WQC, any party has to right to withdraw from the HEA.[24]

If both licensees implement the HEA, it is deemed to "fully mitigate for any presently unmitigated impacts due to the blockage of Fish Passage of all fish species caused by the Feather River Hydroelectric Projects for the term" of the HEA.[25] In exchange, NMFS and the other

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17 HEA §2.1.
18 SA, Appendix F (Section 2).
19 *See* NMFS' February 15, 2007 "Comments, Recommended Terms and Conditions, and Modified Fishway Prescriptions for the Oroville Facilities Project, No. 2100" filed in FERC Docket No. P-2100, at 5-6.
20 HEA §4.2.
21 HEA §4.2.2.
22 HEA §4.7.
23 HEA §11.1.
24 HEA §§11.2.1, 2.2.
25 HEA §12.1.

resource agencies agree to not impose fish passage conditions on any of the licensees' Feather River projects.[26] If, however, one licensee withdraws from the agreement, NMFS may seek to impose fish passage conditions on the non-performing licensee's Feather River projects, as long as it does so in a manner that does not result in additional operational constraints or mitigation requirements on the performing licensee's Feather River project or projects.[27]

Among other reasons, the HEA was not included in the SA because it will not be implemented in the Feather River basin and it will be implemented outside the project boundaries of the four FERC-licensed projects. The parties agreed that the HEA "is not subject to FERC's jurisdiction and shall not be included in any article, condition, or term of any New Project License for the Feather River Hydroelectric Projects."[28] More specifically, the parties agreed that the HEA "shall not be the basis for expanding FERC's jurisdiction over the Licensees, including without limitation the enlargement of project boundaries...."[29]

1. The Water Board Should Be Wary of Including Terms in a 401 Certification that are Beyond Its Capacity and Expertise to Enforce.

The Water Board Staff obligates itself to continuously monitor and make substantive decisions regarding implementation of the HEA. Under the Draft WQC, the Deputy Director must be consulted on all major matters regarding implementation of the HEA. The Deputy Director then must render a decision as to whether to permit the licensee, NMFS, USFWS, and DFG to proceed with implementation. The Draft WQC also reserves to the Deputy Director the right to make substantive changes to the HEA, even if over the objections of NMFS, USFWS, and DFG.

The Water Board is currently faced with severe staffing and funding shortages, and that situation is not likely to improve in the foreseeable future. Yet, the HEA, by its terms, must continue moving forward. Although it is certainly important for the Water Board to be consulted regarding the implementation of the HEA, it would be highly inappropriate for the Water Board to unilaterally override decisions made by NMFS, USFWS, and DFG. The Water Board brings no additional expertise to bear on the issue of habitat restoration, a core mission of NMFS, USFWS, and DFG. Those agencies are therefore in the best position to provide the necessary guidance and decision-making.

The Water Board Staff recommends placing itself in a position that would require it to defend its actions in four separate FERC licenses. A challenge to the Deputy Director's decision could occur under any or all of these licenses. The Draft WQC would place the Water Board in the position of having to defend a decision that overrules decisions by NMFS, USFWS, and DFG before the FERC in any or all of four licenses, and potentially before a federal Circuit Court of Appeals.

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[26] HEA §12.3.
[27] HEA §12.6.1.
[28] HEA §1.9.
[29] *Id.*

In order to be in a position to make informed decisions that could have financial implications in the tens of millions of dollars, the Deputy Director must dedicate substantial staff time to keeping abreast of the HEA as it is being implemented. Otherwise, the Water Board will be responsible for delaying implementation of the HEA while the parties wait for up to 60 days for the Deputy Director to decide whether to approve a plan or require additional actions or information. This, in turn, will not only delay the development of additional habitat, but is also likely to raise FERC compliance issues. Furthermore, no purpose is served if the Water Board adopts a practice of simply endorsing decisions made by NMFS, USFWS, and DFG.

2. *Inclusion of the HEA in the Draft WQC Fundamentally Changes the Obligations of DWR.*

The Draft WQC proposes to include the HEA in the Final WQC on the ground that enforceability of the HEA under the WQC is necessary in order for the Board to find reasonable assurance of compliance with state water quality standards. Draft WQC at 11. In doing so, the Staff takes the position that bringing the HEA within the WQC does not change the obligations of the parties. "The condition in the Draft does not change DWR or any HEA party's actions or obligations under the agreement, but simply makes it enforceable by the State Water Board." July 9 Staff Letter at 11.

This is not accurate. In fact, the Draft WQC would dramatically change the obligations of DWR. First, it appears to convert an ***option*** to pursue habitat expansion into a ***requirement*** to do so. As described above, the HEA allows DWR and/or PG&E to withdraw from the agreement if the total cost of the habitat expansion package would exceed $15 million. Instead, Section S9 of the Draft WQC provides that "Within two years of license issuance, the Licensee ***shall*** complete identification, evaluation and recommendation of habitat expansion action(s) to expand spawning, rearing and adult holding habitat to accommodate a net increase of 2,000 to 3,000 spring-run Chinook salmon for spawning...." The Staff seems to reinforce this point by stating that: "it would not be appropriate to include it [a cost cap] in the water quality certification, because it is the creation of the habitat and not the expenditure of a certain amount of money that allows certification that the project will meet water quality standards." July 9 Staff Letter at 11.

Elsewhere, however, the Draft WQC refers to the prospect of DWR withdrawing from the HEA and states that if the HEA is not performed, the Water Board "maintains the authority to reexamine the issue of fish passage above the Oroville Facilities." July 9 Staff Letter at 20-21, and 30. This ambiguity can be avoided by revising the final WQC to provide that, in the event the habitat expansion measures contemplated by the HEA are not completed and the NMFS seeks fish passage pursuant to Section 18 of the FPA, the Deputy Director reserves authority to modify the conditions of this water quality certification to seek fish passage or other appropriate measures for purposes of mitigating impacts to migration and spawning habitat on the Feather River as caused by the Oroville Facilities (see the proposed redline of Conditions S9 in Appendix C).

This clarification would avoid inclusion of the HEA in the Section 401 certification and preserve the option of DWR to withdraw from the HEA. But it would also give the Water Board

the discretion to later attempt to seek fish passage or other appropriate measures if the HEA is not fully implemented. Of course, in that event, revised General Condition No. 12, as described above, would make clear that DWR reserves the right to challenge the Water Board's assertion of such authority on any ground.

Second, the Draft WQC would substantially change the detailed decision-making process described above, as well as the ultimate decision-maker. Section S9 of the draft provides: "If the final habitat expansion plan developed through the Habitat Expansion Agreement (HEA) includes a schedule for completion of the recommended actions, is submitted to the Deputy Director ***for review, modification as appropriate, and approval*** within two years of license issuance, and is timely and appropriately implemented, the Licensee shall be deemed to have met the requirement for habitat expansion." (Emphasis added.) There is no indication in the Draft WQC that the Deputy Director will adhere to the criteria established in the HEA, will consult with NMFS and the other parties, or abide by interim changes to the HEA that already have been made that will affect the timeline for implementation. Instead, the Deputy Director appears to have the discretion to modify the plan on his or her own initiative, based on his or her own criteria, without regard to the criteria painstakingly established by parties to the HEA.

Even assuming that the Deputy Director attempts to apply the criteria provided in the HEA, the fact that the Deputy Director could reach a substantially different conclusion at the end of a long, collaborative process will create great uncertainty among the parties to the HEA. Instead of NMFS serving as the ultimate decision-maker, the Draft WQC would give the final word to the Deputy Director, allowing him or her to override the careful work of the licensees, NMFS, and the other resource agencies directly responsible for fish health, perhaps even adding new measures or conditions that were never considered under the HEA process. The predictable result is confusion and delay, rather than progress toward the goals of the HEA.

In short, bringing the HEA into the WQC does not "simply" make it enforceable by the Board. It instead appears to convert an option to proceed into a requirement, changes the ultimate decision-maker, and potentially overrides a detailed process and criteria agreed to by the parties to the SA.

3. Including the HEA in the WQC will have unintended and unnecessary consequences at FERC, directly contrary to the agreement of the parties to the HEA.

A Section 401 water quality certification becomes part of the new license, enforceable by FERC. In order to perform its licensing responsibilities under the FPA, FERC brings within the project boundary those lands necessary to accomplish "public purposes," which includes not only project operations but also the adequate protection, mitigation, and enhancement of fish and wildlife.[30] Based on this statutory language, the Commission has concluded that a licensee's obligations "may extend to the furtherance of these purposes just as they extend to operation of the project for water power development."[31] Thus, the Commission has determined that it is

[30] 16 U.S.C. § 803(a)(1).

[31] *Kennebec Water Power Co.*, 102 FERC ¶ 61,259, at P 9 (2003).

appropriate to include within the project boundary those lands necessary for such project purposes as protection of environmental resources, public recreation, and shoreline control.[32]

This precedent has been taken so far as to include non-contiguous property within a pre-existing project boundary, where FERC has determined that the licensee will be engaging in "project purposes" on such non-adjacent lands. For example, when the Commission issued a new license for the Rocky Reach Project, FERC noted that three conditions in the U.S. Fish and Wildlife Service (USFWS) Biological Opinion (BO) required the licensee to implement measures for bull trout at its fish ladders at two dams "some distance away from, and not part of, the Rocky Reach Project."[33] Acknowledging that "[t]his is the only connection between these fish ladders and trapping facilities and the Rocky Reach Project," and the fact that the facilities "serve no other purpose related to the Rocky Reach Project," the Commission nevertheless ordered the licensee to bring the facilities within the project boundary "because ongoing activities at these facilities are required by this license...."[34]

Where a habitat expansion project is not reasonably contiguous to an existing project boundary, FERC may create a non-contiguous project boundary for that particular habitat expansion project. Depending on the number and location of the projects included in the final Habitat Expansion Plan, the result may be a patchwork of isolated project areas throughout the Sacramento River basin. If so, it is not clear how the Commission will go about assigning each of these non-contiguous project areas to one or more of the four hydroelectric projects, or how the Commission would take enforcement action under one or more of the four licenses.

These are some of the reasons why the parties drafted the HEA so as to avoid further FERC jurisdiction, and their collective judgment deserves deference by the Water Board. Including the HEA in the Final WQC will create needless confusion or worse, and can only delay the implementation of the HEA. Instead of including the HEA, the Water Board should simply reserve its authority to seek fish passage or other appropriate measures in the event that the HEA is not fully implemented and NMFS seeks fish passage under Section 18 of the FPA.

4. Inclusion of the HEA in the WQC is Not Required by Section 401.

As described in Section II, above, the reasonable assurance requirement does ***not*** provide the Water Board with an open season to include any and all possible conditions in a water quality certification. Instead, each condition must be necessary to a finding of reasonable assurance.

In this case, inclusion of the HEA in the WQC is not necessary because the SA already includes a heavy and effective sanction for failure to implement the HEA. Specifically, the HEA provides that such failure unleashes the NMFS, USFWS, and DFG, as parties to the HEA, to

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32 *PacifiCorp*, 80 FERC ¶ 61,334, at p. 62,113 (1997). *See also Portland General Electric Co. & Confederated Tribes of the Warm Springs Reservation of Oregon*, 117 FERC ¶ 61,112, at P 35 (2006) ("The licensees acknowledge our policy of bringing lands into the project boundary when there are to be ongoing actions requiring Commission oversight.").

33 *PUD No. 1 of Chelan of Chelan County*, 126 FERC ¶ 61,138, at P 63 (2009).

34 *Id.* at P 64.

impose the same actions under their existing statutory authority. Section 12.3 of the SA provides that:

> Throughout the term of this Agreement, the Parties shall not directly impose or indirectly seek through other agencies (including, but not limited to, through the exercise of authority under the ESA subject to Section 13 of this Agreement, California Endangered Species Act subject to Section 13 of this Agreement, Section 18, 4(e), 10(a) and 10(j) of the FPA, and Section 401 of the Clean Water Act) conditions for Fish Passage associated with or related to any of the Licensees' Feather River Hydroelectric Project in excess of the habitat expansion action(s) contemplated under this Agreement, provided the Licensees are complying with their obligations under this Agreement.

The Water Board staff ignores this fact, characterizing the HEA as a garden-variety "third party contractual agreement" as if it were merely an agreement between private parties. July 9 Staff Letter at 21. In fact, the ESA, Section 18, Section 4(e), the California Endangered Species Act, and Section 401 of the Clean Water Act are powerful forces in the hands of federal and state agencies that are directly responsible for the protection of fish and other aquatic species. In the event that DWR somehow fails to comply with the HEA, these statutes provide more than enough authority to require any measures necessary to protect fish and other aquatic species from the effects of the project. Under these circumstances, making the HEA also enforceable by the Water Board is unnecessary to provide reasonable assurance of compliance with water quality standards, and its inclusion therefore would be unsupported by substantial evidence, and contrary to the express language of Section 401.

5. *Inclusion of the HEA in the WQC is not Necessary to Mitigate for Project Impacts.*

Finally, the Water Board Staff attempts to justify the inclusion of the HEA in the WQC as follows:

> The State Water Board concludes that in order to provide reasonable protection for the cold freshwater, spawning, and migration beneficial uses from the ongoing impacts the Project is having and will continue to have on those uses, expansion of habitat as envisioned in the HEA, to at least partially offset the loss of habitat caused by the Project, is necessary. (Draft WQC at 13.)

This bootstrapping effort falls short for at least two reasons. First, the protection, mitigation, and enhancement (PM&E) measures in the SA fully mitigate for the loss of habitat caused by the Project; indeed, that was the whole purpose of the SA. Even the Staff admits that "[t]he listed PM&Es [in the SA] mitigate for impacts of the Oroville Facilities on Chinook salmon, including changes in temperature, reduction of sediment replenishment, reduction in woody debris, reduction in habitat complexity and rearing habitat, and flow changes." July 9 Staff Letter at 20.

In fact, the conditions in the Feather River were worse before the Oroville Dam was constructed. Two downstream diversion dams (the Western Canal Dam and the Sutter-Butte Dam), dating back to early 1900s, substantially blocked access to upstream habitat.

> In 1900 two men, Duncan McCallum and Thomas Fleming, became partners and constructed an irrigation canal to better supply the Gridley and Biggs areas. In 1905 they secured enough support around the Gridley area to begin construction of a canal. On June 9, 1905, Butte County Canal was completed. It was 14 miles long, 30 feet wide and cost $200,000 (McGee 1980). The canal, which later became known as Sutter-Butte canal, led to increased land values around Gridley and many new people moved to the area.
>
> ...
>
> Great Western [Power Company] went on to organize a subsidiary company known as the Western Canal Company. In 1915, the first section of the Western Canal was completed and in May of that year the Feather River was diverted into the canal to irrigate 20,000 acres of rice and 10,000 acres of fruit orchards (McGee, 1980).[35]

Those dams diverted water for the irrigation of rice fields but became unnecessary when, as part of the water rights proceedings related to the development of the State Water Project, DWR agreed to provide water to the rice farmers from the Thermalito Afterbay. Consequently, the dams were removed and unobstructed access to nine miles of Feather River habitat was restored. This is currently the most productive spawning habitat on the Feather River, and it is expected to improve as a result of the measures included in the SA. Figure 1 indicates the location of the dams, as shown in a map submitted by DWR to FERC in 1962.

An agreement between DWR and the Joint Districts (Biggs-West Gridley Water District, Butte Water District and Sutter Extension Water District) was executed on July 6, 1964:

> [DWR] shall design and construct in conjunction with its construction of the Thermalito Afterbay, a part of the State Water Facilities, two diversions structures including appropriate water measurement devices and other appropriate appurtenances as described below proving a total diversion capacity at maximum head of 2,800 cubic feet per second. Said structures will be in full replacement for [DWR's] taking or destroying [the Joint] Districts' existing diversion dam and related facilities at Haselbusch on the Feather River designed to divert water into the Sutter-Butte canal system.[36]

A separate but similar agreement between DWR, Pacific Gas and Electric Company, and Western Canal Water District was executed on January 17, 1986, which provided for DWR to deliver water to the Western Canal from the Thermalito Afterbay and that "the delivery of water pursuant to this Agreement shall constitute a substitution for all of the rights and claims of Western [Canal Water District] to divert water from the Feather River below Oroville Dam."[37]

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35 *See* "Draft Existing Conditions Report, Chapter 8: Historical Uses and Cultural Resources", Butte Creek Watershed Conservancy, July 1999, at 150.

36 *See* agreement attached at Appendix B, at 1-2.

37 *See* agreement attached at Appendix B, at 4.

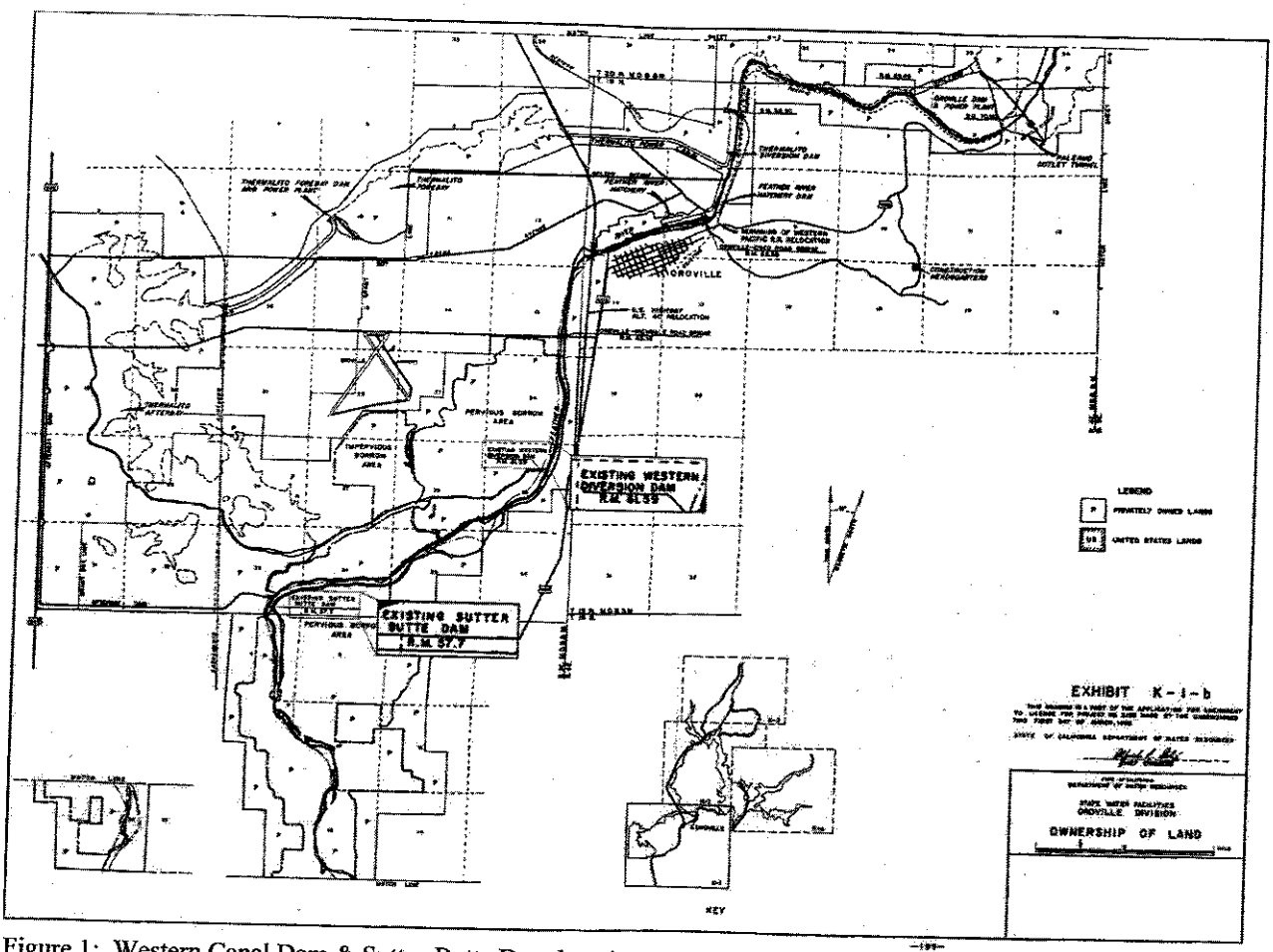

Figure 1: Western Canal Dam & Sutter-Butte Dam locations (source: "Application to Federal Power Commission for Amendment of License for Project No. 2100", March 1, 1962)

Second, the Water Board has no authority under Section 401 to require a FERC licensee to undertake a mitigation project in another watershed. The Water Board has acknowledged that it lacks jurisdiction in such matters. For example, in a 2007 decision discussing mitigation measures, the Water Board noted "the mitigation can and should be adopted by the FERC and placed as conditions in the License" however, it is "legally infeasible for the State Water Board to ensure the implementation of mitigation measures that are outside the scope of the State Water Board's jurisdiction under section 401 of the Clean Water Act."[38] In a 2003 decision regarding fishery protection and water right issues on the lower Yuba River, the Water Board indicated the geographical bounds of its authority within a particular proceeding: "Modification or regulation of out-of-basin factors goes beyond the issues under consideration in this proceeding and, in some cases, beyond the jurisdiction of the SWRCB."[39]

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38 In the Matter of Petition for Reconsideration of PACIFIC GAS & ELECTRIC COMPANY; Water Quality Certification of the Pit 3, 4, and 5 Hydroelectric Project Federal Energy Regulatory Commission Project Number 233, Order No. WQ 2007-0001, 2007 Cal. ENV LEXIS 37, at *15-*16.

39 In the Matter of FISHERY RESOURCES AND WATER RIGHT ISSUES OF THE LOWER YUBA RIVER Involving Water Right Permits 15026, 15027, and 15030 Issued on Applications 5632, 15204, and 15574 of Yuba County Water Agency, Licenses 3984 and 3985 Issued on Applications 9927 and 12371 of Cordua Irrigation District License 4443 Issued on Application 9899 of Hallwood Irrigation District, and Other Water

B. Converting Temperature Goals Into Absolute Requirements Renders Compliance Impossible at License Inception.

1. The Draft WQC Substantially Changes the Water Temperature Provisions of the Settlement Agreement

Water temperature in the Feather River below the Oroville Dam was another critical issue in the drafting of the SA. The parties recognized that designing modifications to reduce water temperatures would be a considerable challenge: each of the options would involve construction in a deep-water environment, and some options would involve significant disruption of water delivery for all beneficial uses (including flow and temperature for fisheries) over an extended construction period. Moreover, all options would require significant capital investment. To meet these challenges, the SA divided the downstream channel into the diversion pool (the source of hatchery water), the LFC, and the HFC.[40]

As to the hatchery supply and LFC, the parties agreed that it will be impossible to comply with the applicable numeric temperature criteria until the Project facilities can be modified to improve access to cold water, but that the likelihood of compliance is very high once the facilities are modified. These conclusions were based on modeling developed by DWR,[41] and shared with the other participants (including Water Board Staff) during settlement discussions. The DFG developed its own model, which corroborated DWR's analyses. The parties to the SA were convinced by the DWR modeling analyses that the measures described in Articles 107 and 108 of the SA (curtailing pump-back operation, removing shutters on the Hyatt intake, increasing LFC flows and operation of the River Valve) were the only viable measures available (in the absence of construction of measures outlined in SA Article A108) to reliably meet the desired temperature requirements.[42]

Based on this information, the SA provides that the temperature criteria with respect to the LFC and the hatchery will be treated as targets until those facilities can be modified. Specifically, Article A108.1(b) provides: "Prior to the Facilities Modification(s) described in Article A108.4, Table 1 temperatures are ***targets*** and if they are not met ***there is no license violation*** so long as Licensee is otherwise in compliance with this article." (Emphasis added.) Instead, the SA requires DWR to submit a plan to improve water temperature conditions by modifying facilities to FERC for approval within three years following license issuance. SA 108.4(a). Once the modifications are completed, however, DWR ***must*** operate the project to meet the temperature requirements in Table 1.[43]

As to the HFC, the situation was quite different. In that case, the parties agreed that establishing achievable temperature criteria would be too speculative until after the facilities are

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Diversions by Various Parties Under Claim of Riparian Rights, Pre-1914 Appropriative Rights, and Contractual Rights, Revised Decision 1644, 2003 Cal. ENV LEXIS 103, at *69 (emphasis added).

40 *See* map attached as Appendix A.

41 *See* DWR's *Reconnaissance Study*, *supra* n. 3.

42 Since execution of the SA, use of the River Valve has been temporarily and perhaps permanently compromised, and greater uncertainty exists today regarding the Project's ability to do anything other than view WQC Tables S7A and S8 temperatures as goals prior to modifying the project facilities as required under SA A108.

43 SA 108.1(d).

modified. Therefore, the SA provides that a goal be set for the design of the modifications planned to improve access to cold water, and that the temperature criteria for the remainder of the FERC license will not be established until the facility modifications have been completed and data has been gathered for a five-year test period. At that point, DWR is to submit a draft report regarding the test period findings to the Ecological Committee, specifically including NMFS, USFWS, the DFG, and the Water Board, for review, comment, and consultation before submitting a final report to FERC.[44] DWR then is required to operate the Project in conformance with the final report, as may be modified by FERC.[45]

The Draft WQC rejects the approach taken in the SA with respect to the hatchery supply, the LFC, and the HFC. As to the hatchery and the LFC, it ignores the targets established in the SA, and simply requires that: "Licensee shall operate the Project to not exceed the water temperatures in Table S8 as measured at the Robinson Riffle." Draft WQC at 32. Because it is not possible to meet these temperature requirements reliably, DWR potentially will be in license violation on day one of the license. (It is possible that DWR could be in a position to meet the then-prescribed temperature requirements operationally, simply because river and climatic conditions are favorable.) The only way to avoid the compliance obligation once the license is issued, is to demonstrate "to the satisfaction of the Deputy Director that it cannot feasibly meet these water temperature requirements using current facilities...." Draft WQC at 32. In other words, DWR must meet the temperature criteria in Table S8 immediately, and only thereafter can convince the Deputy Director that to do so is "impossible or unreasonable using existing facilities...." Draft WQC at 12.

The Water Board Staff already knows DWR cannot meet temperature requirements on day one of the license. The record reflects the situation,[46] and both DWR and the SWC have informed Water Board Staff of this fact. Yet the Draft WQC ignores this very real situation. Hence, the mandate to meet temperature requirements on day one is not supported by substantial record evidence.

Additionally, Conditions S7(a) and S8(b) give the Water Board Staff broad authority to compel additional measures and/or operational changes to provide cold water to the hatchery and LFC before facilities are modified pursuant to Article A108 of the SA. Condition S7(a) requires DWR to submit a proposed "list of temperature control actions," to which the Deputy Director may "require modifications as part of the approval." Similarly, Condition S8(b) requires DWR to submit an "interim operations plan," which may be modified by the Water Board Staff to achieve LFC temperature requirements, thus essentially empowering the Water Board Staff to control the operation of the Oroville Dam.

As to the HFC, the Draft WQC ignores the members of the Ecological Committee and FERC, and reserves to itself alone the establishment of the long-term temperature criteria: within three years of license issuance, DWR is to submit to the Deputy Director a table of proposed temperature requirements to be achieved within 10 years after license issuance. As with every

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44 SA A108.5(b).

45 *Id.*

46 *See* DWR's *Reconnaissance Study*, *supra* n. 3, at 33-34; NMFS *Draft BO*, *supra* n. 3, at 205, *et seq.*

other plan, the Deputy Director "may require modifications as part of the approval." Draft WQC at 34.

2. *The Draft WQC's Stated Rationale for Requiring Immediate Compliance with Numeric Temperature Criteria is Factually Inaccurate.*

Staff asserts that DWR has failed to "meet water quality standards and other appropriate requirements of state law." July 9 Staff Letter at 20. However, Staff has not explicitly identified, in its letter or elsewhere, the water quality standards that the Oroville Project has purportedly failed to meet.

The Water Board Staff attempts to justify its changes to the terms of the SA regarding water temperature by claiming that they are necessary to protect beneficial uses in the Feather River. "The State Water Board staff believes it is necessary to require more specific timelines in the water quality certification for completion of measures to improve water temperature so as to demonstrate protection of the cold water beneficial uses of the Feather River." Draft WQC at 11.

Beneficial uses are not being protected, the Staff claims, because the current temperatures affect spawning activity and distribution. July 9 Staff Letter at 22. In support of this proposition, the Staff cites three possible sources of substantial evidence. First, the Staff cites a study that "concluded that possible factors responsible for the time trend in spawning distribution include changes in total LFC flow, flow distribution, temperature, substrate, escapement, and hatchery practices." July 9 Staff Letter at 22 (citing Sommers, [sic] *et al.* (2002) [sic]). In fact, the Sommer study concluded that "Temperature trends were not significantly correlated with spawning distribution."[47]

Second, Staff cites a Bureau of Reclamation conclusion, based on modeling, that the River below the Thermalito Afterbay Outlet is unsuitable for salmon except as a migratory corridor. July 9 Staff Letter at 22. However, the Staff fails to note that, based on subsequent field work by DWR, the final report reached a very different conclusion: 38 percent of the spawning Chinook salmon population in the lower Feather River spawn in the HFC.[48] To the best of the SWC's knowledge, no one (other than Water Board Staff) has questioned DWR's conclusion.

Finally, the Staff cites a DWR report, stating that: "DWR evaluated the water temperature effects on pre-spawning adult Chinook salmon and characterization of holding habitat (SP-F10). The report concludes that increased incidence of disease, developmental abnormalities, increase in-vivo egg mortality, and temporary cessation of migration could occur due to elevated water temperatures (page 6-3)." July 9 Staff Letter at 22. In fact, the report

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47 Sommer, *et al.*, "Factors Affecting Chinook Salmon Spawning in the Lower Feather River" (2001) at 269.

48 "Final Report - Evaluation of Potential Effects of Oroville Facilities Operations On Spawning Chinook Salmon - SP-F10, Task 2B", (DWR, March 2004 at 6-3).

simply refers to general information in available literature, and cautions that the water temperature data in the Feather River is insufficient to draw any specific conclusions.[49]

The Staff closes its discussion of the temperature issue by stating: "Thus, while a river's suitability for salmon may be related to a range of different factors, there are specific findings regarding the effect of temperature on these river reaches affected by the Oroville facilities." July 9 Staff Letter at 22. As made clear above, none of the three sources cited by the Staff contains a such a "finding," much less one based on substantial evidence. To the contrary, the available evidence suggests the opposite – that temperature trends are not significantly correlated with spawning distribution in the Feather River, and that as much as 38 percent of the spawning in the Feather River occurs in the HFC.

Thus, there is no evidentiary basis for concluding that current operations when combined with the SA requirements are not protective of beneficial uses with regard to HFC temperatures. Lacking any substantial evidence in support of its position, there is no basis for discarding the approach to water temperature adopted in the SA. Given the collective expertise of the parties to the SA, particularly the federal and state agencies charged with responsibility for protecting salmonids, the Water Board should acknowledge that the SA addresses this issue adequately, consistent with the protection of the beneficial uses of the River.

3. *Violation of an Unachievable Temperature Requirement Would Leave DWR Vulnerable to an Enforcement Action at FERC.*

As noted in Section II with regard to the HEA, the Final WQC will become a part of the new FERC license, subject to FERC's enforcement authority. Section 401(d) of the Clean Water Act states that any certification provided under Section 401 "shall become a condition on any Federal license" for the activity in question.[50] FERC has absolutely no discretion to pick and choose among the state-imposed conditions; in fact, even conditions that FERC believes to be impermissible must be incorporated.[51] A FERC order issuing a hydroelectric license need not expressly adopt the terms and conditions of such certification: they become terms and conditions of the license as a matter of law.[52] While Staff may suppose that FERC would not bring an action against DWR as a result of violating the temperature conditions on day one, in fact, it is impossible to know how FERC might use its enforcement authority. A FERC enforcement action would tie up resources and time that would be better spent on implementation of the HEA.

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[49] The relevant portion of the DWR report states that: "Based on available literature, increased incidence of disease, developmental abnormalities, increased in-vivo egg mortality, and temporary cessation of migration could occur due to elevated water temperatures in some areas of the lower Feather River. However, results of the analysis of pool profile water temperature data should be utilized carefully because the data do not indicate the duration of elevated water temperatures in any individual pool." Final Report Evaluation of Oroville Facilities Operations On Water Temperature-Related Effects On Pre-Spawning Adult Chinook Salmon and Characterization of Holding Habitat - SP-F10, Tasks 1D And 1E" (DWR, June 2004).

[50] 33 U.S.C. § 1341(d).

[51] *American Rivers, Inc. v. FERC*, 129 F.3d 99, 108, 111 (1997) (stating that FERC "does not possess a roving mandate to decide that substantive aspects of state-imposed conditions are inconsistent with the terms of § 401").

[52] *See, e.g., Ridgewood Maine Hydro Partners, L.P.*, 105 FERC ¶62,137, at P 10 (2003) (explaining that "[t]he provisions of [license] Article 401 are included for the purpose of adding basic requirements that enable the Commission to enforce the [section 401 water quality certification] requirements as license requirements.").

C. Requiring the Licensee to Develop Complex and Costly Methyl Mercury Management and Pathogen Protection Plans is Unsupported by Substantial Evidence

The Draft WQC adds a condition to the recommended comprehensive water quality monitoring program, in which the Water Board reserves the authority to require the Licensee to conduct studies and, if appropriate, develop a methyl mercury management plan. Draft WQC, at 41. Depending on the level of sampling required by the Water Board (number of locations, frequency, and laboratory procedures required), the development and implementation of this plan, and other related plans,[53] could represent a significant new cost to the licensee. Mercury management is a state-wide problem for which management solutions that are protective of beneficial uses have been elusive, and exploration of this topic has begun only recently.[54] The SWC agree that DWR should respond to reasonable public policy regarding solutions, but that DWR should not be held to a standard that is different than required in other similar circumstances. The current Draft WQC language should not be open-ended and should instead require DWR to implement a mercury management plan that is consistent with state-wide policy. The SWC therefore urges the Water Board to revise Condition S12n) as proposed in Appendix C.

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53 *See also* the addition of a condition at S14 (Public Education Regarding Risks of Fish Consumption): "The plan shall include the collection and analysis of fish tissues and if necessary, the posting of consumption advisory notices at key locations."

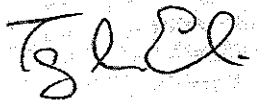
54 *See, e.g.,* http://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/delta_hg/april_2010_hg_tmdl_hearing/.

IV. Conclusion

In conclusion, the SWC strongly urges the Water Board to issue a final WQC that incorporates the proposed License Articles as agreed to in the SA, without material modifications. Failure to do so could result in withdrawals from, and termination of, the SA, the HEA, and other significant commitments among the Settlement Parties, with a consequent loss of important benefits for the community and the environment. Accordingly, the SWC respectfully requests that the Water Board consider the concerns set forth herein, and issue its final WQC consistent with the SA, as set forth in the SWC's proposed redline revisions to the Draft WQC found at Appendix C attached hereto. Please note that the revisions set forth in Appendix C are intended to complement the redline revisions previously submitted by DWR. In the event of any perceived inconsistencies between the terms recommended by the SWC and those by DWR, the SWC requests that the Water Board convene a meeting among the parties and Water Board Staff to clarify such matters.

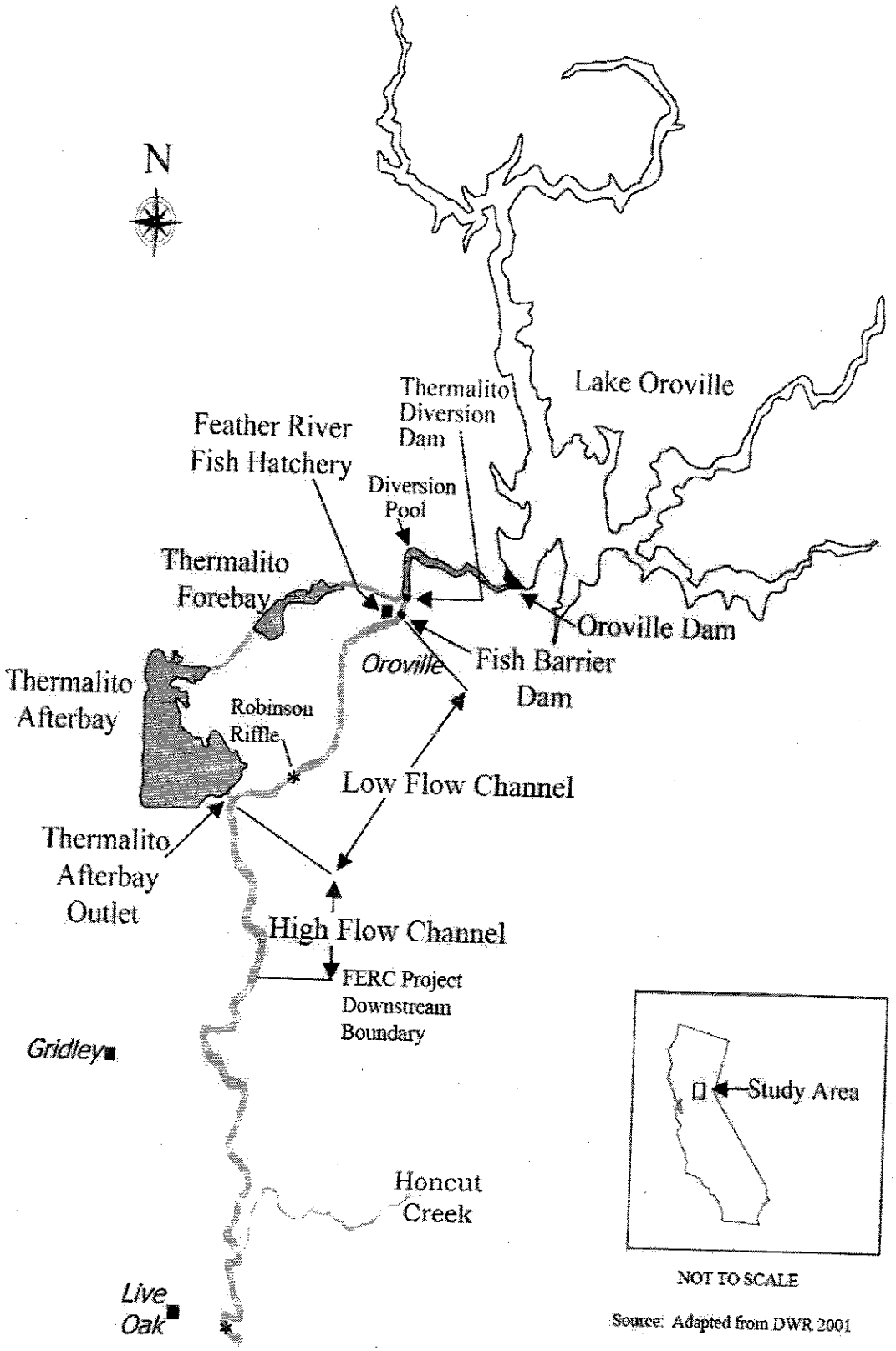
Finally, given the importance of these issues to a water project of state-wide significance, the SWC respectfully requests that its representative be permitted to testify before the Water Board in person prior the issuance of the final certification.

Respectfully yours,



Terry Erlewine, General Manager
State Water Contractors, Inc.

cc: Arthur Guy Baggett, Jr.
Mark Cowin
Ralph Torres
Rick Ramirez
Cathy Crothers
Laurence H. Kerckhoff


N
Lake Oroville
Thermalito Diversion Dam
Feather River Fish Hatchery
Diversion Pool
Thermalito Forebay
Oroville Dam
Oroville
Fish Barrier Dam
Thermalito Afterbay
Robinson Riffle
Low Flow Channel
Thermalito Afterbay Outlet
High Flow Channel
FERC Project Downstream Boundary
Gridley
Honcut Creek
Live Oak
Study Area
NOT TO SCALE
Source: Adapted from DWR 2001

Appendix B

Unsigned Copy

A G R E E M E N T

This agreement made and entered into this 6th day of July, 1964, by and between the STATE OF CALIFORNIA, acting by and through the DEPARTMENT OF WATER RESOURCES, hereinafter called "State"; RICHVALE IRRIGATION DISTRICT, a public agency, BIGGS-WEST GRIDLEY WATER DISTRICT, a public agency, BUTTE WATER DISTRICT, a public agency, and SUTTER EXTENSION WATER DISTRICT, a public agency, hereinafter collectively referred to as "Districts," acting jointly by and through the [illegible] DISTRICT, hereinafter called "Board":

W I T N E S S E T H:

For and in consideration of the covenants and conditions hereinafter set forth the said parties hereby agree as follows:

1. State shall design and construct in conjunction with its construction of the Thermalito Afterbay, a part of the State Water Facilities, two diversion structures including appropriate water measurement devices and other appropriate appurtenances as described below providing a total diversion capacity at minimum head of 2,800 cubic feet per second. Said structures will be in full replacement for State's taking or destroying Districts' existing diversion dam and related facilities at Haselbusch on the Feather River designed to divert

water into the Sutter-Butte Canal system. Said structures will be designed and constructed in conformance with acceptable engineering standards. The plans therefor shall be approved by Board as to general arrangement and hydraulic design prior to advertising for construction. The first structure shall be constructed at the southeast corner of the afterbay, at a location to be agreed upon by Board and State, and the other shall be constructed at the northwest corner of the afterbay, with the replacement structure for the Western Canal of the Pacific Gas and Electric Company. The first structure shall [illegible] to connect to the existing Sutter-Butte canal. The first structure shall have a capacity at minimum head of 2,300 cubic feet per second and the second structure a capacity at minimum head of 500 cubic feet per second. The Districts shall pay State in advance of commencement of construction of said structures $25,000 to apply on such construction and the State shall pay the balance of the cost thereof. State at request of Districts will undertake design and construction of the necessary crossing of the State Highway immediately westerly of the structure to be provided at the northwest corner of the afterbay; provided that Districts fully compensate State for all costs which it may incur in connection therewith.

2. State shall operate and maintain the structures to be constructed pursuant to paragraph 1. However, said

operation shall be in accordance with the instructions of Board's manager made by telephone or other means to State's Oroville operations headquarters and diversions ordered shall be made without delay in the amount and at the times requested by Board's manager pending the final determination, as hereinafter provided, of the water diversions to which the Districts are and in the future may be entitled under their own rights now or hereafter existing, county of origin and watershed of origin rights, and by acquisition of stored water from Pacific Gas and Electric Company and its successors. This determination as not yet been reached but is presently under negotiation between the parties and upon such determination being made either by agreement executed by the parties hereto or by a final decree of a court of competent jurisdiction, State shall operate said structures in accordance with the said determination. Any diversion of water by State at request of Board's manager shall not constitute a waiver of any rights which State or any other person or persons may have to such water and nothing contained in this agreement nor in State's consent to construct delivery structures at the locations or to the capacity provided for in paragraph 1 shall either enlarge or restrict Districts' present water rights. Provided, however, that nothing contained in this paragraph or otherwise shall relieve State of promptly making whatever water diversions are ordered by Board until the aforesaid determination of water

rights is made irrespective of the views of State, its agents, or employees as to the yield of Districts' water rights, the amount of flow of water used in prior years, the present or past capacity of Districts' facilities, the amount of flow of Pacific Gas and Electric Company stored water available to Districts, or the needs of Districts; provided further that in the event the 500 cfs capacity gate near the northwest corner of the afterbay is combined with the headgate to be constructed for the Western Canal and operation of said structure is to be performed by Pacific Gas and Electric Company, the operation of Districts' portion of said headgate may also be performed by Pacific Gas and Electric Company and appropriate reduction shall be made in the annual payment to be made hereunder by Districts to State.

3. Neither the State nor any of its officers, agents, or employees shall be liable for the control, carriage, handling, use, disposal, or distribution of water diverted at Board's request after such water has passed the delivery structures constructed pursuant to paragraph 1; nor for claim of damage of any nature whatsoever, including but not limited to property damage, personal injury or death, arising out of or connected with the control, carriage, handling, use, disposal or distribution of such water beyond such delivery structures, or arising out of or connected with the diversion of water the right to the use of which is claimed by an entity, person or persons not party to this agreement; and the Board shall in-

demnify and hold harmless the State and its officers, agents, and employees from any such damages or claims of damages.

4. Nothing herein shall relieve State or any of its officers, agents, or employees from liability, if any, to Districts, or to landowners or to water users within Districts, due to reduction in temperature of the water available to Districts during any portion of any irrigation season or seasons as a result of State's development on the Feather River.

5. State shall provide at State's cost any necessary fish screens and facilities in conjunction with the construction [illegible] provided for in paragraph 1, above.

6. Upon the commencement of operation of the structures to be provided under paragraph 1, above, and the diversion works and conduit being in operation and sufficient water being available to assure adequate water being in Thermalito Afterbay to at all times fully supply Districts the flow of water they order released to them pursuant to this agreement, State shall assume responsibility for Districts' existing dam. Board hereby authorizes State at its sole discretion and expense and without additional compensation to Districts to remove or destroy said dam and appurtenances and to remove silt or other material in the low water channel of the Feather River behind said dam at any time after it has assumed responsibility as provided hereunder. Nothing herein shall be construed as

granting State any right, title or interest in or to land of Districts but not including such dam in the low water channel of the Feather River.

7. Board shall pay State the sum of $5,500 per year on or before January 1 of each year commencing with the first year after commencement of operation of the structures provided for under paragraph 1, above. Said sum has been determined to represent the amount of depreciation on the existing structure plus the amount of betterment to be received from the new structure and the cost of operation and maintenance of the new structures. Said payment shall continue so long as Districts or their successors continue to utilize either or both of the said structures.

8. Richvale Irrigation District agrees that within five days after final execution of this agreement, it will file with the Federal Power Commission a letter and a copy of this agreement which shall constitute an amendment to its Application No. 2134 deleting all of its proposed facilities at the Grizzly Valley site. If additional documents are required to accomplish this, Richvale Irrigation District agrees expeditiously to file the same and shall, if necessary, within forty-five days after final execution of this agreement file a formal amendment to the said application so deleting all of its proposed facilities at the Grizzly Valley site. The parties hereto agree that the said Grizzly Valley site is to

be utilized by State for the construction of Grizzly Valley Dam and Reservoir, a part of the State Water Facilities. It is the desire of the parties to this agreement that the amendment of this license will not jeopardize the remainder of said District's Federal Power Application No. 2134 or State's protest to the same.

9. State agrees that any water releases from its proposed Grizzly Valley Reservoir for fish preservation and stream flow maintenance shall not be added to any amount which any or all of the Districts may be required to release for such purposes from the proposed Bucks Reservoir or other reservoirs to be constructed by them or any of them and none of the Districts shall be obligated to pay to State any headwater benefits for use of any such water that reaches power plants hereafter constructed by them or any of them; said benefits having been taken into account as part of the consideration for this agreement.

10. Upon Board's request State agrees to petition to include in each of the Districts the points of diversion of water for Districts from State's Thermalito Afterbay, the point of diversion of water from the Feather River into the canal leading to said afterbay, and the canal to be constructed by State from the Thermalito Afterbay to the present main canal of Districts, and to support the efforts of Districts, including legislation if needed, to accomplish such inclusion. Districts' present point of diversion at Haselbusch is within their

boundaries and the purpose of including the new substituted points of diversion within their boundaries is to maintain Districts' present status in this respect with any benefits that may result therefrom.

IN WITNESS WHEREOF, this agreement has been executed by the parties hereto as of the date first above written.

STATE OF CALIFORNIA DEPARTMENT OF WATER RESOURCES	BIGGS-WEST GRIDLEY WATER DISTRICT
By ______	By ______ President
	By ______ Secretary
JOINT WATER DISTRICTS BOARD	BUTTE WATER DISTRICT
By ______ President	By ______ President
By ______ Secretary	By ______ Secretary
RICHVALE IRRIGATION DISTRICT	SUTTER EXTENSION WATER DISTRICT
By ______ President	By ______ President
By ______ Secretary	By ______ Secretary

Department of General Services
APPROVED
JUL .. 1964
BY ______

Approved by ______
For Department of Finance

Duplicate Original

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

AGREEMENT ON DIVERSION OF WATER
FROM THE FEATHER RIVER

THIS AGREEMENT, made and entered into the 17th day of January, 1985, by and between the STATE OF CALIFORNIA, acting by and through the Department of Water Resources, hereinafter called "State", PACIFIC GAS AND ELECTRIC COMPANY, a California corporation, hereinafter called "Pacific", and * WESTERN CANAL WATER DISTRICT, a political subdivision of the State of California, hereafter called "Western".

RECITALS:

WHEREAS, the State has constructed Oroville Dam and Edward Hyatt Power Plant and the Thermalito Diversion Dam, Power Canal, Forebay, Power Plant, and Afterbay, all of which are collectively referred to herein as the Oroville-Thermalito Project, as part of the State Water Project; and

WHEREAS, Pacific owns and operates a public utility hydroelectric system, hereafter referred to as the "Pacific System", and has entered into a contract with Western for the delivery or release of water to meet its obligations to Western from the Feather River downstream from the City of Oroville pursuant to water rights which are prior in time

and superior in right to the water rights of the State; and

WHEREAS, Western owns and operates a canal system for the diversion and delivery of water for agricultural purposes to an area located within the counties of Butte and Glenn, State of California, referred to in this Agreement as "Western System"; and

WHEREAS, the water supply for Western System is derived from the combined natural flow rights on the Feather River and Butte Creek, which have been assigned by Pacific to Western and are hereafter referred to in this Agreement as "natural flow rights", and the contractual right to releases by Pacific of Pacific's stored water from the upstream Pacific System, referred to in this Agreement as "stored water rights"; and

WHEREAS, pursuant to an Agreement dated May 27, 1969, between State and Pacific, an agreement was reached related to the operation of the Oroville-Thermalito Project in conjunction with Pacific's operations as owner of the facilities now owned by Western, which Agreement also defined the quantities of water to be delivered by State to Pacific, which Agreement must now be modified to reflect the operations of Western; and

WHEREAS, neither the State, Pacific, nor Western wish to materially alter, modify, amend, or otherwise affect,

operations of Pacific's, State's or Western's systems in any manner which will modify or change the operational criteria previously existing under the prior Agreement of May 29th, 1967, between Pacific and State; and

WHEREAS, the parties wish to update certain provisions of the May 29, 1967 Agreement which are now obsolete and of no operational significance; and

WHEREAS, State and Western wish to update and clarify certain operating rules and criteria governing deliveries by State to Western.

NOW, THEREFORE, it is mutually agreed among the State, Pacific, and Western as follows:

1. Water Deliveries

(a) The State shall deliver to Western during each irrigation season (March 1 through October 31) into Western Canal Outlet 1, Western Canal Outlet 2, the Richvale Canal Outlet, or the Sutter-Butte Canal Outlet from the Thermalito Afterbay, as Western may specify, (i) one hundred fifty thousand (150,000) acre feet under Western's natural flow rights, subject to reduction for deficiencies as provided in Article 2, and (ii) one hundred forty-five thousand (145,000) acre-feet under Pacific's stored water rights, which shall not be subject to any reduction for deficiencies.

(b) During the period November 1 to March 1 of the succeeding year, the State shall deliver such additional quantity as Western can beneficially use, including such additional quantity as is necessary for Western to meet its obligations under the July 7, 1922, contract of Western Canal Company, et al. with Clarence J. Berry and others and under the letter of August 4, 1937, from Western Canal Company entitled "In Re Agreement of July 7, 1922 Between Gun Clubs, Districts, and Western Canal Company" (copies of which are attached as Exhibits "A" and "B"), which obligations have been assigned by P.G.&E. to Western.

(c) Water delivered hereunder shall be diverted by State for Western at the Thermalito Diversion Dam and conducted through State's Thermalito facilities and delivered through the specified outlets from the Thermalito Afterbay. Subject to Article 6, the delivery of water pursuant to this Agreement shall constitute a substitution for all of the rights and claims of Western to divert water from the Feather River below Oroville Dam.

(d) Western shall not claim any right to divert water from the Feather River in or downstream from Lake Oroville except water delivered pursuant to Articles 1(a) and 1(b) of this Agreement and shall not contract for the delivery of water of the Feather River in or downstream

from Lake Oroville to any person, district, municipality, or other agency, other than its direct customers served by the Western Canal System and the Joint Water Districts (Richvale Irrigation District, Biggs-West Gridley Water District, Butte Water District, and Sutter Extension Water District) through the Sutter-Butte Canal System.

(e) The State shall deliver any portion of the water to which Western is entitled under this Article into the Joint Water District outlets for the Joint Water Districts and shall deliver any water to which Joint Water Districts are entitled into Western Canal's Outlets in accordance with agreements entered into from time to time between Western and the Joint Water Districts.

2. Deficiencies

(a) In any year in which there may occur a temporary shortage due to drought resulting in reduction of delivery of annual entitlements to water supply contractors of the State pursuant to Article 18(a) of the long-term water supply contracts that the State has heretofore executed, such as the water supply contract with The Metropolitan Water District of Southern California dated November 4, 1960, the quantity of water specified in Article 1(a) to be delivered by State to Western under Western's natural flow rights shall be reduced by an amount not to exceed the

percentages for the reduction in annual entitlements for water to be put to agricultural use by water supply contractors in the San Joaquin Valley as determined by the State in accordance with Article 18(a) of such contracts: Provided, that the reduction in delivery to Western shall not exceed seventy-five thousand (75,000) acre feet in any one (1) year or a total of one hundred fifty thousand (150,000) acre feet in any series of seven (7) consecutive years.

(b) As used in this Article, "drought" shall mean any year in which the supply of State project water made available by the State for delivery to State's water supply contractors is less than the total of the annual entitlements of all such contractors for that year, and in addition, either of the following conditions exists:

(i) The forecasted April-July unimpaired runoff to Lake Oroville for the current water year (October 1 through September 30), as such forecast is made by the Department of Water Resources on February 1 and modified by subsequent monthly reports thereafter as conditions and information warrant, is equal to or less than six hundred thousand (600,000) acre feet; or

(ii) The total accumulated actual deficiencies of unimpaired runoff to Lake Oroville below two million

five hundred thousand (2,500,000) acre feet in the immediately prior water year or series of consecutive prior water years each of which had runoff of less than two million five hundred thousand (2,500,000) acre feet, together with the predicted deficiency below two million five hundred thousand (2,500,000) acre feet for the current year, exceed four hundred thousand (400,000) acre feet.

(c) On or before February 15 of each year, the State shall furnish Western its forecast and the data required by this Article to support such forecast as to whether drought will occur during that year, as to whether reductions will be imposed, and the percentage of any such reduction. A forecast based on the most recent data available shall be furnished Western on or before April 10. Such forecasts shall be periodically revised as additional data become available: Provided, that the percentage of reduction, if any, shall not exceed the percentage set forth in the April 10 forecast.

(d) For the purpose of the determinations in this Article, the predicted unimpaired runoff to Lake Oroville shall be that quantity as presently computed for inclusion in Department of Water Resources Bulletin No. 120, "Water Conditions in California", or in the event of discontinuance or alteration of such computation, by a method mutually

agreed upon.

3. Delivery Schedules

(a) On or before October 1, Western shall furnish to the State a delivery schedule setting forth the quantities of water to be delivered to Western each week during the following calendar year, and the quantity of water Western is entitled to receive under Article 1 which is to be delivered by State into Joint Water District Outlets during the following calendar year. Western may revise this schedule on or about April 15, after State has furnished Western with State's forecast of any deficiency reductions.

(b) Unless otherwise mutually agreed upon by the parties, State shall deliver water at the main Western Canal head gate (Western Canal Outlet Number 1) at a maximum rate of one thousand two hundred (1,200) cubic feet per second and at the second Western Canal outlet (Western Canal Outlet Number 2) from Thermalito Afterbay at a maximum rate of fifty (50) cubic feet per second. Deliveries requested by Western at other points specified in Article 1(a) shall be at a rate not in excess of the constructed capacity of the outlets upon the effective date of this Agreement. The specific rates of flow at each point of delivery shall be determined in accordance with the Agreements between the

State and Pacific for operation of outlet facilities dated June 3, 1968 and December 24, 1974, or as said Agreements may be modified from time to time by mutual consent of the parties.

(c) During the period March 1 through October 31, Pacific shall release from its upstream storage reservoirs a quantity of water, equal to the quantity delivered to Western under Article 1(a)(ii). Pacific shall furnish State during the release period a monthly report of reservoir storage and evaporation as set forth in Exhibit "C" attached.

4. Responsibilities of the Parties

(a) State shall operate Oroville Dam and Lake Oroville and Thermalito Afterbay and related facilities and the Afterbay diversion structures to deliver the water provided for in Article 1 in accordance with diversion schedules and notices to be given in accordance with Article 3 of this Agreement and the Agreement between the parties for the operation of outlet facilities from Thermalito Afterbay in effect at the time of deliveries.

(b) State shall be solely responsible for maintaining a sufficient flow of water in the Feather River downstream of the Thermalito Diversion Dam to supply water diverted by others under rights superior to the State or

Western.

(c) Nothing contained herein shall relieve State from, or impose on Western, any liability for the quality or temperature of water released by State from the Oroville-Thermalito Project or delivered to Western hereunder.

5. Effective Date of Agreement, Cancellation of May 27, 1969 Agreement

This Agreement shall be effective upon the date of execution hereof, and shall remain in force and effect until terminated on mutual consent of each of the parties hereto. The parties acknowledge that this Agreement does supersede and cancel the May 27, 1969 Agreement on Diversion of Water From the Feather River, between State and Pacific, and the parties are relieved from performance thereunder.

6. Water Rights

(a) Pacific and Western do not surrender, modify or terminate any of their rights to store or divert water, other than their points of diversion, or change the priority of their rights. Pacific and Western, as appropriate, will protect and defend their established rights to divert water from the Feather River through the Western Canal System, including the protesting of applications to

appropriate water that are adverse to the rights of Pacific and Western, the prosecution of such protests before the State Water Resources Control Board and other administrative agencies, and the defense of such water rights in the courts: Provided, that the failure of Western or Pacific to protest an application or otherwise defend its water rights shall not be a default under this Agreement, unless Western or Pacific fails to protest an application or otherwise defend its water rights after having been specifically requested to do so by the State in time for protests to be filed.

(b) In the event Pacific, or the State, or Western shall become a party to a general adjudication of rights to the use of water of the Sacramento River system or the Feather River System, this Agreement shall continue in effect until final judgment has been entered, at which time the final judgment in any such general adjudication shall determine the rights of the parties insofar as the quantities of water provided for herein are concerned. In all other respects, this Agreement shall continue in full force and effect. In any such adjudication neither State nor Pacific nor Western shall make or assert any claim inconsistent with the rights and obligations existing under this Agreement.

7. Effect on Other Agreements

Pacific and State have, by Agreements dated June 3, 1968 and December 24, 1979, established the respective rights and responsibilities of each party regarding the operation and maintenance of the outlet structures from Thermalito Afterbay and other facilities. Said Agreements, among other things, include a provision that State shall measure the quantities of water delivered on P.G.&E.'s demand from Thermalito Afterbay and shall furnish P.G.&E. with a record of all such water deliveries. Such Agreements, as they may be pertinent hereto, shall in all respects be assigned by Pacific to Western and the State's obligations thereunder to Pacific, and Pacific's obligations to the State, shall become mutual obligations of the State and Western, except as follows:

(i) Section 6 of the Agreement of June 3, 1968, is modified by deletion of the first two sentences thereof. In lieu thereof, it is agreed that Western shall notify State no later than 3:00 p.m. if the delivery to Western is to be changed more than 50 cfs between the hours of 3:00 p.m. and 9:00 a.m. on the succeeding day; and

(ii) The obligation of State contained in Section 10(a)(ii) of the Agreement of June 3, 1968,

or by implication to be given by one party to the other under this Agreement shall be deemed to have been given at the time of delivery if delivered personally or forty-eight (48) hours after deposit in the mail if enclosed in a properly addressed envelope and deposited in a United States Post Office for delivery with postage prepaid. Unless and until formally notified otherwise, all notices shall be addressed to the State and Pacific and Western at their addresses as shown below.

IN WITNESS WHEREOF, this Agreement has been executed by the parties hereto as of the date first above written.

Approved as to legal form and sufficiency:

Chief Counsel,
Department of Water Resources

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
P. O. Box 388
Sacramento, CA 95802

Director

PACIFIC GAS AND ELECTRIC COMPANY
77 Beale Street
San Francisco, CA 94106

Attorney for Pacific Gas and Electric Company

By
Senior Vice-President

Attest:
Secretary

WESTERN CANAL WATER DISTRICT
P. O. Box 176
Richvale, CA 95974

MINASIAN, MINASIAN, MINASIAN, SPRUANCE, BABER, MEITH & SOARES

By _____
JEFFREY A. MEITH, Attorney for Western Canal Water District

By _____
President

Attest: _____
Secretary

APPENDIX C
DRAFT

7/2/2010

SWC Proposed Redlines Are Highlighted in Yellow
(SWC Also Supports Redlines Previously Submitted by DWR)

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of Water Quality Certification for the

DEPARTMENT OF WATER RESOURCES
OROVILLE FACILITIES

FEDERAL ENERGY REGULATORY COMMISSION PROJECT NO. 2100

SOURCES: Feather River

COUNTY: Butte

WATER QUALITY CERTIFICATION FOR FEDERAL PERMIT OR LICENSE

BY THE EXECUTIVE DIRECTOR:

1.0 Introduction

The Department of Water Resources (DWR) has filed with the Federal Energy Regulatory Commission (Commission) for a New License to operate the Oroville Facilities (Commission Project #2100). The Oroville Facilities (Project) were developed as part of the State Water Project (SWP), which includes water storage, water delivery, and hydroelectric systems. As part of the SWP the Project is operated for flood control, power generation, recreation, fish and wildlife, and to meet regulatory requirements in the Sacramento-San Joaquin Delta. The original license for the Project was issued by the Commission on February 11, 1957, with an effective date of February 1, 1957, and expired on January 31, 2007. The Project is currently operating under an annual license which extends the terms of the original license. The Project is located on the Feather River near the City of Oroville in Butte County. The Project includes the following: Oroville Dam and Reservoir with storage of 3.5 million-acre-feet and surface area of 15,180 acres; Hyatt Pumping-Generating Plant with a capacity of 645 megawatts (MW) at a maximum flow of 16,950 cubic feet per second (cfs); Thermalito Diversion Pool and the Thermalito Diversion Pool Power Plant with a capacity of 3 MW at 615 cfs; Thermalito Forebay and Thermalito Pumping and Generating Plant with a capacity of 114 MW at a maximum flow of 17,400 cfs; and the Thermalito Afterbay.

Construction of the Project began in 1961 and was completed in 1968. The Project, along with other water development projects and historic mining activity, has contributed to altered hydrology and geomorphology of the Feather River, and impacted water quality and

anadromous fisheries. Oroville Dam blocks access to 66.9 miles of high quality habitat for anadromous fish. Anadromous fish are now restricted to the Lower Feather River and can seasonally experience high water temperatures and unnatural flows. The Lower Feather River is designated as critical habitat for Central Valley spring-run Chinook and steelhead, under the federal Endangered Species Act (ESA). The Feather River Fish Hatchery was opened in 1967 to mitigate for the loss of habitat from the construction of Oroville Dam. Hatchery operations have impacted the genetics of spring–run Chinook. In 1999 the Central Valley Spring-run Chinook Evolutionary Significant Unit (ESU) was listed as threatened under the federal ESA. National Oceanic and Atmospheric Administration (NOAA) Fisheries concluded that the hatchery produces spring-run Chinook salmon that are genetically more similar to fall-run. In March of 1998, naturally spawned Central Valley steelhead was listed as threatened under the Federal Endangered Species List (ESA). In 1999 the Central Valley spring-run Chinook Evolutionary Significant Unit (ESU) was listed as threatened on the California ESA.

2.0 State Water Quality Standards

The Federal Clean Water Act (33 U.S.C. §§ 1251-1387) was enacted "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." (33 U.S.C. § 1251(a).) Section 101 of the Clean Water Act (33 U.S.C. § 1251 (g)) requires federal agencies to "co-operate with the State and local agencies to develop comprehensive solutions to prevent, reduce and eliminate pollution in concert with programs for managing water resources."

Section 401 of the Clean Water Act (33 U.S.C. §1341) requires every applicant for a federal license or permit which may result in a discharge into navigable waters to provide the licensing or permitting federal agency with certification that the project will be in compliance with specified provisions of the Clean Water Act, including water quality standards and implementation plans promulgated pursuant to section 303 of the Clean Water Act (33 U.S.C. § 1313). Clean Water Act section 401 directs the agency responsible for certification to prescribe effluent limitations and other limitations necessary to ensure compliance with the Clean Water Act and with any other appropriate requirement of state law. Section 401 further provides that state certification conditions shall become conditions of any federal license or permit for the project. ~~The State Water Resources Control Board (State Water Board) has delegated authority to act on applications for water quality certification to the Executive Director.~~ The State Water Resources Control Board (State Water Board) Executive Director may issue a decision on a water quality certification application. -(Cal. Code Regs., tit. 23, § 3838, subd. (a).)

The California Regional Water Quality Control Boards have adopted, and the State Water Board has approved, water quality control plans (basin plans) for each watershed basin in the State. The basin plans designate the beneficial uses of waters within each watershed basin, and water quality objectives designed to protect those uses pursuant to Section 303 of the Clean Water Act. (33 U.S.C. § 1313.) The beneficial uses together with the water quality objectives that are contained in the basin plans constitute State water quality standards.

The Water Quality Control Plan for the Central Valley-Sacramento and San Joaquin River Basins (Basin Plan) lists the existing beneficial uses designated for Lake Oroville as municipal and domestic supply, irrigation, power generation, contact and non-contact recreation, freshwater habitat (cold and warm), spawning habitat (cold and warm), and wildlife habitat. Beneficial uses for the Feather River from the fish barrier dam to the Sacramento River are

municipal and domestic supply, irrigation, contact and non-contact recreation, canoeing and rafting, migration (cold and warm), freshwater habitat (cold and warm), spawning habitat (cold and warm), and wildlife habitat. Protection of the instream beneficial uses identified in the Basin Plan requires maintenance of adequate instream flows as well as effluent limitations and other limitations on discharges of pollutants from point and nonpoint sources to the Feather River and its tributaries.

3.0 Settlement Agreement for the Licensing of the Oroville Facilities

After consultation with state and federal resources agencies, tribes, local governments, non-governmental agencies (NGOs), and the public, and upon approval of the Commission, DWR chose to use the Alternative Licensing Process (ALP) for the relicensing of the Project. The reason for using the ALP is to expedite the relicensing process through extensive collaboration and preparation of an Applicant Prepared Environmental Assessment (APEA). A collaborative group composed of interested parties and regulatory agencies, including State Water Board staff, was formed to scope issues, design studies, review study reports, identify potential resource actions, and provide guidance to DWR on the application for new license and process documents. A settlement group was later formed to negotiate a Settlement Agreement (SA). A Settlement Agreement (SA) was finalized in March of 2006 for the purpose of resolving all issues that have or could have been raised in connection with a new license.

Because the State Water Board must exercise its independent authority over any water quality certifications it issues, the State Water Board was not involved with and was not represented at the negotiations that resulted in the SA. While one of the State Water Board members, Arthur G. Baggett, and several State Water Board staff, participated in these negotiations, they acted in an independent capacity, not on behalf of the State Water Board. Mr. Baggett signed the Settlement Agreement as a recommendation to the California State Water ~~Resources Control~~ Board, and not as a Party to the Settlement Agreement. Neither he nor staff that participated in the collaborative group or the settlement discussions has participated in State Water Board decision-making regarding the Oroville water quality certification, or shared confidential settlement communications with other board members or staff involved with the water quality certification.

The signatories to the SA (Parties) requested that the State Water Board accept and incorporate into the water quality certification, without material modification, the terms of the SA which are within the State Water Board's jurisdiction. However, the SA also contains a process to address water quality certification conditions that are inconsistent with the SA. Appendix A of the SA contains the Protection Mitigation and Enhancement (PM&E) measures recommended for inclusion in the Commission license. Appendix B contains the measures agreed to among the Parties but not recommended for inclusion in a new license. Per the terms of the SA, the Parties request that Appendix A of the SA be included in the water quality certification and a new license, and that Appendix B not be included in a new license issued by the Commission.

4.0 Water Quality Certification Conditions

The State Water Board ~~staff~~ reviewed the PM&E measures in both Appendices A and B of the SA to determine which of the measures are necessary for the operation of the Project to meet the water quality standards in the Basin Plan. The following measures from Appendices A and B, as amended herein, are necessary for the Project to ~~fully~~ protect the beneficial uses:

A101 Lower Feather River Habitat Improvement Plan
A102 Gravel Supplementation and Improvement Program
A103 Channel Improvement Program
A104 Structural Habitat Supplementation and Improvement Program Plan
A105 Fish Weir Program
A106 Riparian and Floodplain Improvement Program

A107 Feather River Fish Hatchery Improvement Program
A108 Flow/Temperature to Support Anadromous Fish
A110 Lake Oroville Warm Water Fishery Habitat Improvement Program
A111 Lake Oroville Cold Water Fishery Improvement Program
A112 Comprehensive Water Quality Monitoring Program
A113 Monitoring of Bacteria Levels and Public Education
A114 Public Education Regarding Risks of Fish Consumption
A115 Oroville Wildlife Area Management Plan
A117 Protection of Vernal Pools
A118 Minimization of Disturbances To Nesting Bald Eagles
A119 Protection of Giant Garter Snake
A121 Protection of Red-Legged Frog
B104 Feather River Fish Hatchery Funding
B105 Gravel Supplementation
B108 Flow/Temperature to Support Anadromous Fish

The State Water Board ~~staff~~ has determined that certain measures as written in the SA are either not enforceable, will not ~~fully~~ protect the beneficial uses, or will not meet water quality standards in a timely manner. Beneficial uses currently impacted by the Project may not be reasonably protected if the proposed measure has a management plan with unclear or unenforceable standards, an excessively long period prior to implementation, or unspecified implementation dates. The State Water Board ~~staff~~ modified each measure to provide assurance that the beneficial uses will be reasonably protected.

This water quality certification will become part of the Commission's 30-to-50-year operating license for the Oroville Facilities. Certain changes in the physical environment, the regulatory environment, and the state of scientific understanding are anticipated during this time; however, the scope of such changes cannot be determined with sufficient specificity at the present time to determine that the project will be able to meet water quality standards throughout the license period or to determine what, if any, additional conditions would be required for it to do so. Therefore, some terms and conditions include reservations of authority and/or adaptive management provisions to address these future uncertainties.

Many of the SA measures require consultation with the Ecological Committee (EC). Appendix C of the SA defines the purpose and goal, committee membership, and details of committee decision-making procedures. The State Water Board ~~staff~~ supports consultation with agencies when developing plans or making decisions affecting resources over which agencies may have jurisdiction or expertise. It is not appropriate, however, to make the terms and conditions of Appendix C an enforceable condition of the water quality certification. The State Water Board recognizes and appreciates the expertise and dedication that the settlement parties can bring to decisions and planning for beneficial use and resource protection. However, only certain governmental entities are formally vested with the authority and responsibility to protect such uses and resources, and are publicly accountable for these duties. The centrality of these responsibilities to those government agencies ensures that they, or successor agencies, will be responsible for consultation throughout the term of a 30-to-50-year license. Each of the conditions in this water quality certification that includes consultation with agencies lists the specific agencies and alternately allows consultation with the EC as long as those agencies are members of the EC. The State Water Board hopes and expects that the parties will fulfill their

contractual obligations and use the EC process described in the SA, as this process includes a broad range of parties that can bring valuable expertise to the various planning processes. Some certification conditions require the Licensee to submit plans to the State Water Board for modification and/or approval. Many of these plans will also be submitted to the Commission under the provisions of the SA. Where a condition requires the approval of a plan by both agencies, Licensee should first submit the plan to the State Water Board and receive approval before submitting the approved plan to the Commission.

5.0 Rationale for the Water Quality Certification Conditions

When preparing the conditions in this certification, the State Water Board ~~staff~~ reviewed and considered the SA, the Explanatory Statement prepared by the Parties, the Commission's Environmental Impact Statement (EIS), DWR's Environmental Impact Report (EIR), and other information in the record. Each measure in the SA was evaluated as to whether it would ~~fully~~ protect the beneficial uses. Those measures that protect the beneficial uses are used as conditions with small modifications. Any conditions that require the development of a plan will require the plan to be reviewed, modified if necessary, and approved by the Deputy Director for Water Rights (Deputy Director). In addition, other regulatory agencies have specific authorities to approve plans and reports. The following describes the rationale used to develop each of the conditions in the water quality certification and generally describes how and why the SA measures were modified.

Lower Feather River Habitat Improvement Plan

Implementation of this program will be beneficial to coordinate all of the proposed measures to be implemented in the lower Feather River. The program will include the development of a single, comprehensive monitoring and adaptive management summary report. Considering the number of plans required, and the changes that may occur over time, this approach will be instrumental in ensuring compliance with water quality standards.

Gravel Supplementation and Improvement Program

Oroville Dam blocks 97 percent of sediment from passing downstream to the Lower Feather River, which has reduced spawning habitat. DWR will develop a Spawning Gravel Supplementation and Improvement Program designed to mitigate for the cumulative impacts of the reduced quantity and quality of spawning gravels available for steelhead and Chinook salmon. An increase in the quantity and quality of suitable spawning habitat is expected to reduce rates of redd superimposition and egg mortality, as well as reduce competition for spawning habitat, which should contribute to the reduction of pre-spawn mortality rates. Article B105 of the SA required DWR, upon execution of the SA, to begin obtaining all necessary permits for the supplementation and implement the provision. A102 requires DWR to develop a plan for gravel supplementation and improvement program throughout the term of the license for Commission approval within two years of license issuance. Article A102 of the SA states that "if and when the need arises, but not sooner than 10 years after license issuance, DWR shall prepare a gravel budget for supplementation activities in the High Flow Channel." The SA and the Explanatory Statement do not describe what information will be used to determine "if and when the need arises", nor do they describe when additional gravel supplementation will occur. Because this language is not enforceable, the State Water Board

~~staff~~ has modified the condition to require the submission of a study on the need for additional gravel to the Deputy Director for review and approval within eight years of license issuance. Consistent with the timeline to complete the initial supplementation of gravel, additional gravel supplementation must be completed within two years following submission of the study. This measure is necessary to protect the cold freshwater, spawning, and migration beneficial uses of the Feather River.

Channel Improvement Program

The Oroville Facilities prevent passage of migratory fishes to historic spawning and rearing habitat. The quantity and quality of historic steelhead and spring-run Chinook spawning habitat was reduced after construction of the Project. Historic spawning habitat for steelhead would have been small streams or creeks, probably ranging between 5 and 75 cfs flow. Studies conducted by DWR identified small side channels in the lower Feather River as primary rearing habitat for juvenile steelhead. The SA includes a measure establishing a Channel Improvement Program. The Channel Improvement Program includes habitat improvement measures to increase the quality and complexity of salmonid spawning and rearing habitat in two existing side channels, Moe's Ditch and Hatchery Ditch. The SA also includes development of five additional side channel riffle/glide complexes over a five-year period, which will provide a minimum of 2,460 feet in length of new spawning and rearing habitat for Chinook salmon and steelhead. This measure is included in the certification to protect the cold freshwater, spawning, and migration beneficial uses of the Feather River.

Structural Habitat Supplementation and Improvement Program

The Oroville Facilities currently block downstream movement of large woody debris in the Lower Feather River. This has resulted in a reduction in structural habitat and habitat complexity in the lower Feather River, particularly in the Low Flow Channel (LFC). Studies conducted by DWR identified areas within the ~~Low Flow Channel~~LFC that lack abundant quantities of large woody debris. The High Flow Channel (HFC) would also benefit from large woody debris. The objective for the Structural Habitat Supplementation and Improvement Program is to support the restoration and improvement of salmonid rearing habitat by providing instream cover and increasing the salmonid rearing habitat quality of shallow-edge habitats within riffles, glides, and pools, where appropriate along the lower Feather River. The primary target for these actions would be steelhead and spring-run Chinook salmon juveniles. This measure is necessary to protect the cold freshwater and spawning beneficial uses of the Feather River.

Fish Weir Program

The presence of Oroville Dam and other upper Feather River dams blocks passage of migratory fishes and causes spring-run and fall-run Chinook salmon to share spawning habitat in the Lower Feather River. Operation of the Project, including the Feather River Hatchery, has impacted the genetics of the federally and state listed threatened spring–run Chinook. Spring-run and fall-run Chinook have been genetically interbred (introgression – movement of genes from one species to another) affecting the genetic integrity of both races. Recent genetic studies have indicated that spring-run Chinook salmon in the Feather River are genetically more similar to fall-run Chinook salmon. Spring-run Chinook salmon are generally considered to begin their spawning a few weeks prior to the fall-run Chinook salmon.

The reduced amount of spawning habitat available in the lower river results in an increase of redd superimposition (subsequent spawning on top of an existing redd) resulting in increased rates of egg and alevin mortality. Early spawning fish, mostly spring-run Chinook, are more impacted by this productivity loss than later spawners. Increased competition for limited spawning habitat also contributes to increased rates of pre-spawn mortality.

The SA Fish Weir Program provides for two fish barrier weirs: Phase 1 will monitor the adult life history behavior of Chinook salmon (spring-run) and steelhead in the ~~Low Flow Channel~~LFC (anadromous fish monitoring weir), and Phase 2 will spatially separate spring-run and fall-run in the ~~Low Flow Channel~~LFC creating a dedicated spawning preserve to protect the spring-run and fall-run Chinook salmon.

The monitoring weir will be installed first to allow sufficient time to gather more information on the migration timing and abundance of adult spring-run and fall-run Chinook salmon and steelhead adults into the ~~Low Flow Channel~~LFC. Counting spring-run, fall-run, and steelhead entering the ~~Low Flow Channel~~LFC will provide the baseline data necessary to develop the segregation weir plan. The SA requires submittal of a Phase 2 Anadromous Fish Segregation Weir Plan within eight years of license issuance, and installation of the weir within 12 years of license issuance. ~~Commission staff stated in the Draft Environmental Impact Statement (DEIS) that the existing competition for spawning habitat, genetic introgression, and mortality support the development of the first weir within three years of license issuance (consistent with the SA,) and the Phase 2 segregation weir within six years of license issuance.~~ In the Draft Biological Opinion (DBO) dated July 2, 2009, National Marine Fisheries Service (NMFS) includes terms and conditions that require DWR to install a fish segregation weir within 5 years of license issuance. NMFS requires DWR to consult on the location of the segregation weir. ~~State Water Board staff agrees that 12 years (3 to 4 life stages of salmon) is too long for installation of Phase 2 segregation weir.~~The weir is expected to reduce the interbreeding of spring and fall-run Chinook salmon and improve the genotype of the spring-run. NMFS requires DWR to minimize hybridization as a reasonable and prudent measure and states that take of spring-run will occur until they are segregated from fall-run in the ~~Low Flow Channel~~LFC. To protect the beneficial uses, ~~and consistent with Commission's Final Environmental Impact Statement (FEIS)~~ avoid the take of threatened Central Valley spring-run Chinook salmon, the water quality certification condition requires submittal of an Anadromous Fish Segregation Weir Plan within one year of license issuance. The Plan will include use of the monitoring weir, or an additional separate interim weir, to provide interim spatial and/or temporal segregation of Chinook salmon runs, and will include a timeline and study plan to implement such segregation within five years of license issuance consistent with the DBO. The condition also allows the Deputy Director to approve another implementation time frame consistent with the final Biological Opinion issued by NMFS.

Riparian and Floodplain Improvement Program

The Project has altered the hydrology and natural geomorphic processes along the Feather River and in the Oroville Wildlife Area. Oroville Dam blocks sediment recruitment from the upstream basin and has changed the high flow frequencies, altered peak flows, decreased winter flows, increased summer flows, and changed ramp down rates. Depletion of sediment

load by 97 percent has reduced the formation of sediment benches, which affects riparian colonization and succession.

As part of the SA, DWR agreed to investigate and implement projects to improve riparian habitat and habitat for associated terrestrial and aquatic species and connect portions of the Feather River to its floodplain within the Oroville Wildlife Area. The purpose of this program is to improve riparian habitat and connect portions of the Feather River with its floodplain in the ~~Low Flow Channel~~LFC and the ~~High Flow Channel~~HFC within the Oroville Wildlife Area. Projects will include excavation of Oroville Wildlife Area dredge tailings to remove or set-back non-flood levees to create vegetative benches along the Feather River channel. Higher priority will be given in the screening level analysis to those projects that maximize benefits for all species and habitats including restoring riparian vegetation and the riparian corridor, restoring habitat for terrestrial species (including special status species), reconnecting the river to its floodplain, and restoring/enhancing riparian and channel habitat for fish and other aquatic species. DWR and the California Department of Fish and Game will work with gravel operators to seek to reduce costs of gravel removal and earthwork components of the program.

Development of the floodplain habitat should result in an improvement in the quantity and quality of juvenile salmonid rearing habitat and high flow event velocity refuge for juvenile salmonid rearing. This program should result in an incidental improvement in habitat for other wildlife as well. Article A106 in the SA includes the following four phases for implementation of the Riparian and Floodplain Improvement Program:

Phase 1 – Within one year of license issuance and in consultation with the consultees listed in A106(a) above, the Licensee shall develop, and submit to the Commission a screening level analysis of proposed riparian/floodplain improvement projects, including how flood/pulse flows may contribute to floodplain values and benefit fish and wildlife species. This phase shall include the identification of a Phase 1 recommended alternative. This phase shall also include an assessment of the gravel value and potential extraction processes in order to provide guidance on the scope, timing, and magnitude of the Program.

Phase 2 – Within four years of license issuance and in consultation with the consultees listed in A106(a) above, the Licensee shall initiate Phase 2 of the Program. Phase 2 shall begin with conducting a full scope and feasibility evaluation and development of an implementation schedule of the Phase 1 recommended alternative. Within six years of license issuance, the Licensee shall submit the Phase 1 recommended alternative and implementation schedule to the Commission for approval. Within eight years of license issuance, the Licensee shall complete the final design and commence construction and implementation of the approved alternative. Within 15 years of license issuance the Licensee shall fully implement this approved alternative.

Phase 3 – Within 15 years of license issuance and in consultation with the consultees listed in A106(a) above, the Licensee shall complete an evaluation of other potentially feasible projects and the identification of a Phase 3 recommended alternative. This phase shall include a reevaluation of how flood/pulse flows may contribute to floodplain values and benefit fish and wildlife species and shall include an assessment of the gravel value and potential extraction processes similar to the one completed in Phase 1.

Phase 4 – Upon Commission approval, and within 25 years of license issuance, the Licensee shall complete construction of the Phase 3 recommended alternative.

As described above, the first ~~50 percent~~ two phases of the project will be fully implemented within 15 years of license issuance, and the second ~~50 percent~~ two phases will be implemented within 25 years of license issuance. The abilities and limitations of gravel extraction will guide the scope, timeframe and magnitude of the program.

Feather River Fish Hatchery Improvement

The proposed measure in the SA includes funding, water temperature requirements, a hatchery management program, a conditional requirement for a water supply disinfection system, and a commitment to conduct a comprehensive facility assessment. The Feather River Fish Hatchery is currently operated by the California Department of Fish and Game in conjunction with DWR. Hatchery operations have been successful in meeting production goals under the current license. The Section B104 of the SA requires DWR to provide ~~operational and maintenance~~ all necessary funding to ~~ensure the continued operation of the~~ the California Department of Fish and Game to implement the Feather River Fish Hatchery Program in Article 107 ~~Hatchery, in cooperation with the California Department of Fish and Game~~, for the production of anadromous salmonids. DWR will also be required to prepare a comprehensive management plan, including production goals, for the Feather River Fish Hatchery within two years of license issuance. The SA also includes a commitment from DWR to expand or improve the existing water disinfection system for the hatchery spawning and rearing area, if anadromous salmonids are passed upstream of the hatchery. The State Water Board ~~staff~~ has determined the operation of the hatchery is necessary to offset the impacts of reduced spawning habitat, and has included a condition in the water quality certification to require continued ~~funding~~ operation of the hatchery.

The SA measure includes two water temperature tables: Temperature targets are shown in Table 107A, and maximum temperatures that cannot be exceeded are shown in Table 107B. Table 107B temperatures are higher than temperatures in Table 107A. DWR is allowed 10 years to complete facilities modifications during which time temperatures in Table 107A are not requirements. The baseline temperature requirements in Table 107A are the equivalent to temperatures required by the 1983 Agreement between DWR and the California Department of Fish and Game and currently required by the Oroville license. Table 107A represents the upper limit of the 1983 agreement temperatures for the hatchery. Historic water temperatures have been sufficient for the hatchery to meet its production goals. However, DWR and the Agencies agreed that cooler temperatures would aid in managing disease outbreaks. Consistent with this approach, and understanding that it is supported by the California Department of Fish and Game, the water quality certification contains two sets of water temperature requirements. Upon license issuance DWR will be required to maintain water temperature for the hatchery below those in Table S7, of this certification. After facility modifications, but no later than 10 years after license, DWR will be required to meet the water temperature requirements in Table S7A. The water quality certification condition also includes the commitment in the SA to curtail pump-back operations, remove shutters on the Hyatt intake, and use the river valves (after refurbishment) up to a maximum of 1500 cfs.

In Section B108, DWR committed to begin studies for the refurbishment or replacement of the river valve after signing of the SA. Because implementation of this measure preceded license issuance, it was included in Appendix B of the Settlement Agreement. In the SA, DWR retains the ability to refurbish or replace the river valve as necessary at its sole discretion. In the past, DWR has used the river valve along with other operational measures to meet hatchery temperature requirements. Impacts of water temperature were evaluated in the Draft Environmental Impact Report with a model using Temperature Control Actions that include the use of the river valve. More recently, on July 22, 2009, an accident occurred that injured five personnel who were testing the valve after an April 2009 repair which was intended, at least partially, to increase the amount of water which could flow through the valve. In light of this incident, additional study is necessary to determine the appropriate conditions under which the river valve and supporting infrastructure may be safely used in the future. The SA anticipates that DWR will use the river valve, among other measures, for meeting the hatchery temperature requirements. The river valve also will benefit temperatures in the ~~Low Flow~~ ChannelLFC. Access to cold water during certain years when Oroville water elevations are low is critical to protect listed species and beneficial uses. The accident has created uncertainty around the use of the river valve and the timelines for repair or refurbishment. Because of the importance of the river valve for temperature control a measure has been added to the water quality certification that requires a timeline be submitted within six months of license issuance that includes the steps necessary to finalize the repair or refurbishment of the river valve. The condition also allows DWR to propose an alternative method for meeting temperature requirements should use of the river valve prove unfeasible.

Flow/Temperature to Support Anadromous Fish

DWR's studies showed that water temperatures in the LFC and HFC were contributing stressors for anadromous salmonids. Studies also showed the higher flows would increase the amount of habitat for anadromous fish. Operation of the Oroville Facilities to meet the water temperature objectives and increase minimum flows will lower water temperatures in the LFC and HFC improving the quality and increasing the quantity of available coldwater fisheries habitat in the lower Feather River. The SA includes a measure that sets minimum flows in the LFC and HFC, establishes a process for facility modification to improve water temperatures in the LFC and HFC, requires consultation during dry years, and creates a notification process if DWR is unable to meet temperature requirements due to uncontrollable forces.

Minimum Flows - This measure requires an increased minimum flow from the current 600 cfs to a new minimum flow of 700 cfs in the LFC during most of the year, but increasing flow to 800 cfs during the Chinook salmon spawning season from September 9 through March 31. The volume of increased flows was determined from the results of instream flow investigations and spawning habitat utilization studies. Increasing the minimum instream flow in the LFC will reduce the high levels of redd superimposition. Higher flows should reduce competition for habitat, which potentially contributes to increased rates of Chinook salmon pre-spawn mortality. DWR determined that the maximum weighted usable area for Chinook salmon spawning would occur at approximately 800 cfs. The measure also includes specific requirements for minimum flows in the HFC. During dry years when the April 1 forecast is projected to drop below 733 feet under normal operations, the measure limits reduction of the minimum flow in the HFC to less than 25 percent. Normal operation is the operation of the State Water Project (SWP) based on standard factors such as hydrology, storage, routine maintenance and SWP obligations.

Changes in operation that are a result of unusual events such as flood control releases, accidents, project failures, and major or unusual maintenance are not considered normal operation. The State Water Board ~~staff~~ has determined that these flows are appropriate to protect the beneficial uses.

Water Temperature - The SA agreement contains a complex set of measures that address improvements to water temperature in the Lower Feather River. The SA includes similar requirements as in the hatchery measure to improve water temperature in the LFC. Until facilities modifications are complete DWR will curtail pump-back operations, remove shutters on the Hyatt Intake, and increase flow releases in the LFC up to 1500 cfs to reduce water temperatures if necessary. The measure includes water temperature targets (Table 1) for the LFC at the Robinson Riffle (River Mile 61.6), near where the LFC meets the HFC. The water temperatures in Table 1 meet the terms of the 2004 National Marine Fisheries Service Biological Opinion which specifies that mean daily water temperatures shall not exceed 65°F from June 1 to September 30. The measure states that prior to facility modification, if DWR is unable to meet the Table 1 water temperature objectives by implementing the water temperature control actions, DWR will not be in violation of the license terms. After facility modification DWR will be required to meet the temperatures in Table 1. The SA does not include temperature targets or objectives for the HFC.

The SA requires DWR to submit a Feasibility Study and Implementation Plan for Facility Modification(s) to improve temperature conditions for spawning, egg incubation, rearing and holding habitat for anadromous fish in the LFC and HFC within three years of license issuance. This plan will recommend a specific alternative for implementation and will be prepared in consultation with the resource agencies. The SA does not state when the facilities modifications will be completed, although the associated explanatory statements provides a 10-year timeline after license issuance for facilities development. Under the SA, there would be a testing period of at least five years in length to monitor water temperature and develop final water temperature requirements. The water temperatures in SA Table 2 would be modified, and would then become targets during a five-year testing period following completion of Facilities Modification(s). The proposed water temperature objectives for the HFC will be measured at the southern Commission project boundary. The SA identifies two main challenges associated with compliance with Table 2 water temperature objectives: the dynamic water temperatures in both the LFC and at the Thermalito Afterbay outlet and the proportional blending of these~~;~~ and the delay in time from the implementation of a water temperature control action to a water temperature change in the HFC. The parties believe these challenges require the development of final water temperature requirements after project modifications are completed and tested for five years.

Studies have shown it is unlikely that adult Chinook salmon can use the Feather River below the Thermalito Afterbay Outlet except as a migration corridor. Water temperature monitoring in 2002 and 2003 showed that the temperature of water released from Thermalito Afterbay was as much as 11.3°F higher than that of incoming water. DWR concluded that increased incidence of disease, developmental abnormalities, increased in-vivo egg mortality, and temporary cessation of migration could occur due to elevated water temperatures in some areas of the lower Feather River. Operation of the Project currently does not ~~fully~~ protect the cold-water beneficial uses. Populations of Sacramento/San Joaquin Valley Chinook salmon are at the lowest levels ever recorded. The State Water Board ~~staff~~ believes it is necessary to require

more specific timelines in the water quality certification for completion of measures to improve water temperature so as to demonstrate protection of the cold water beneficial uses of the Feather River.

DWR completed a Reconnaissance Study of Potential Future Facility Modifications in December 2006. The report compares the benefits and costs of all of the potential water temperature improvements. In the EIS, Commission staff support a phased approach to meet water temperature objectives in the LFC and HFC. They state that the water temperature targets would become the license requirements 10 years after license issuance or upon completion of the facilities modifications. Commission staff state that even if DWR does not modify its facilities, the lower water temperatures would become requirements to ensure colder water in the Feather River.

Compliance with the water temperatures in the Tables 1 ~~and 2~~ in the SA ~~are~~ is necessary for the protection of cold freshwater, spawning, and migration beneficial uses of the Feather River. The State Water Board ~~staff~~ understands the complexities of designing, permitting, and constructing some of the proposed facilities modifications. ~~However, the SA lacks the required level of assurances that the water temperatures will be reduced in a timely manner.~~ To achieve compliance with the water quality standards, the water quality certification includes conditions that will assure water temperature objectives are met.

The water quality certification requires DWR to meet the water temperatures in Table 1 at Robinson Riffle, consistent with the SA. If DWR cannot meet these water temperature requirements, they must submit a plan within one year of license issuance to the Deputy Director for facility modification(s) that will allow compliance with the temperature requirements. The plan must: include ~~evidence~~analyses showing that compliance is impossible or unreasonable using existing facilities; include interim measures to reduce water temperatures; and demonstrate compliance within 10 years of license issuance.

The water quality certification requires DWR to operate the project to protect the COLD beneficial use in the high flow channel, as measured in the Feather River at the downstream Project Boundary, to the extent reasonably achievable. Within one year of license issuance, DWR must submit a plan for project operations to reasonably protect COLD beneficial uses before facility modification. This interim plan must include a table of proposed interim temperature requirements, as well as interim measures to reduce water temperatures. Within five years, DWR must submit a long-term facility modification and operations plan which shall include a table of proposed temperature requirements to fully protect the COLD beneficial use within 10 years of license issuance.

Conference Year - The purpose of the "conference year" provision which relaxes the water temperature table requirements is to accommodate combinations of water year types and low reservoir storage conditions, when it is not possible to meet the water temperature goals with the available coldwater pool. This allowance is included in the water quality certification.

Habitat Expansion Agreement

Construction of the Oroville Facilities and Pacific Gas and Electric Company's (PG&E) construction of other hydroelectric facilities on the upper Feather River tributaries blocked

passage and reduced available habitat for ESA listed anadromous salmonids Central Valley spring-run Chinook salmon *(Oncorhynchus tshawytscha)* ("spring-run") and Central Valley steelhead *(O. mykiss)* ("steelhead"). The reduction in spring-run habitat resulted in spatial overlap with fall-run Chinook salmon and has led to increased redd superimposition, competition for limited habitat, and genetic introgression. Relicensing of hydroelectric projects in the Feather River basin has focused attention on the desirability of expanding spawning, rearing and adult holding habitat available for Central Valley spring-run and steelhead. The SA includes a habitat enhancement program to address the loss of habitat associated with both the Project and with upstream hydroelectric facilities owned by PG&E. The SA includes a habitat enhancement program with an approach for identifying, evaluating, selecting and implementing the most promising action(s) to expand such spawning, rearing and adult holding habitat in the Sacramento River Basin as a contribution to the conservation and recovery of these species. The specific goal of the Habitat Expansion Agreement (HEA) is to expand habitat sufficiently to accommodate an estimated net increase of 2,000 to 3,000 spring-run Chinook salmon for spawning.

Within two years of signing the Settlement Agreement, the Licensees will complete identification, evaluation and selection of habitat expansion action(s) using the Evaluation Criteria and Selection Criteria listed in the agreement. Potential habitat actions will occur in the Sacramento River basin and include, but are not limited to, dam removal, dam re-operation, flow and water temperature improvements, fish passage, and physical habitat improvements. Habitat expansion actions would be selected in consultation with National Marine Fisheries Service, U.S. Fish and Wildlife Service, State Water Board, U.S. Forest Service, and California Department of Fish and Game. Prior to approving the final HEA, National Marine Fisheries Service will initiate a 60-day consultation process with the parties to the HEA and the State Water Board.

Section 11.2.2 of the HEA contains specific allowances for withdrawal for all parties should the State Water Board either issue water quality certification that is materially inconsistent with the HEA, exercise any reserved authority relative to fish passage in a manner that is inconsistent with the HEA, or deny water quality certification.

~~The~~ State Water Board ~~staff concludes that in order to provide reasonable protection for the cold freshwater, spawning, and migration beneficial uses from the ongoing impacts the Project is having and will continue to have on those uses, expansion of habitat as envisioned in the HEA, to at least partially offset the loss of habitat caused by the Project, is necessary.~~ The process provided for by the HEA is still underway, however, making it impossible for this certification to specify the locations for habitat expansion actions. In addition, while the State Water Board ~~staff~~ anticipates that DWR is likely to rely on the activities identified pursuant to the HEA to comply with this aspect of the water quality certification, it is preferable to establish the reservation of authority of the State Water Board, through its Deputy Director, to modify conditions of the water quality certification~~a performance goal consistent with the HEA~~, instead of prescribing the HEA as the manner of compliance. ~~This provides DWR with the flexibility to substitute some actions that are not included in the HEA for actions that are included, for purposes of complying with this water quality certification, without establishing any requirement that is inconsistent with the HEA. Therefore, the water quality certification requires that the Licensee submit a plan to the Deputy Director within two years of issuance of a new license by the Commission that will result in a net increase of spawning habitat for 2,000 to 3,000 spring-~~

~~run Chinook salmon in the Sacramento River Basin. The water quality certification also reserves the authority to modify the condition if the goals of the habitat expansion plan are not met within the timelines in the plan, if Pacific Gas and Electric Company does not implement or participate in the plan, or if the DWR withdraws from the HEA before the approved, final habitat expansion plan is fully implemented.~~

Lake Oroville Warm Water Fishery Habitat Improvement Program

Angling for warm water game fish is an important component of the recreation that occurs at Lake Oroville. Through the Lake Oroville Warm Water Fishery Habitat Improvement Program, DWR will improve the warm water fish habitat in Lake Oroville that supports warm water game fish such as black bass and channel catfish. This is an improvement to a similar program that exists under the current license for the Project. This habitat improvement program is intended to increase and/or improve the structural complexity of the Lake Oroville fluctuation zone, which provides benefits to warm water fish that use these areas for spawning and rearing. This measure will protect the warm freshwater and spawning beneficial uses of Lake Oroville.

Lake Oroville Cold Water Fishery Improvement Program

Lake Oroville lacks suitable habitat to support self-sustaining populations of cold water sport fish, such as rainbow trout, brown trout, Chinook salmon, and coho salmon, which require cold, flowing water and clean gravels. Although some of Lake Oroville's tributaries have this habitat, they do not provide enough to support the cold water sport fishery at a level that is desirable to Lake Oroville anglers. Therefore, stocking hatchery fish is necessary to maintain these cold water fish populations.

Through the Lake Oroville Cold Water Fishery Improvement Program, DWR will stock cold water fish in Lake Oroville to improve the cold water sport fishery, which may increase recreational opportunities and tourism at the reservoir. This is an improvement of a similar program that exists under the current license for the Project. The State Water Board ~~staff~~ has determined this measure will benefit the cold freshwater beneficial uses of Lake Oroville.

Comprehensive Water Quality Monitoring Program

Water quality in Project waters is affected by many factors, including upstream tributaries and Project operations. Physical, chemical, and biological constituents contributed to Lake Oroville from upstream tributaries can settle from the water column in the reservoir arms. Water quality near the dam is indicative of water quality in the main body of the reservoir, and determines the quality of water released to the Feather River. The Comprehensive Water Quality Monitoring Program is intended to expand the program for data collection to document water quality conditions in Project-affected waters, including contributions from upstream sources, limnologic changes occurring within impoundments, pathogen levels at recreation sites, effects of Project operations on Feather River thermal regime, and long-term effects of the Project on water quality from present and future operations. DWR will develop and implement a comprehensive water quality monitoring program for surface waters within the Project area, through which DWR

will track potential changes in water quality associated with the Project, and collect data necessary to develop a water quality trend assessment through the life of the license. Water quality monitoring will focus on the identification of those organic and inorganic constituent and physical parameter levels that may affect beneficial uses for surface waters.

The Comprehensive Water Quality Monitoring Program will include components to sample water chemistry, fish tissue bioaccumulation, recreation site pathogens and petroleum product concentrations, water temperatures, bioassays, and aquatic macroinvertebrate monitoring.

The State Water Board ~~staff~~ agrees that the development of a water quality monitoring plan is important to ensure the water quality affected by the project meets the water quality standards. ~~Staff has also become aware that~~ DWR staff have observed and sampled cyanobacteria ~~have been observed~~ in Lake Oroville. ~~Certain~~The species ~~types~~ of cyanobacteria identified can produce cyanotoxins that are harmful to humans, pets, and wildlife. The water quality certification includes conditions that the water quality monitoring plan includes cyanobacteria monitoring, testing for cyanotoxins, and procedures for protecting the public from cyanotoxins. The condition in the water quality certification improves enforceability of the monitoring plan described in the SA.

Pathogen Public Health Protection

DWR conducted monitoring for bacteria at recreation areas during 2002 and 2003. Samples from the North Forebay Recreation Area beach had consistently high fecal coliform levels that exceeded Department of Health Services (DHS) guidance and Basin Plan objectives. Results also showed that nearly every sample from two sites in the North Forebay, and many sites in the South Forebay, exceeded DHS and USEPA criteria for enterococcus bacteria (Department of Water Resources, September 2004).

The measure in the SA requires DWR, in coordination with the appropriate public agencies, to perform monitoring of bacteria levels at swim areas. DWR will also be required, upon input from appropriate agencies, to notify the public if unsafe levels of bacteria are present in the water. DWR, in coordination with Parks and Recreation, will also place notices educating the public on sanitary measures to prevent contamination of the water. In addition, DWR, in consultation with the relevant public heath agencies and state and regional water boards, will determine if a companion public education program designed to inform the public about potential sources of bacteria in the water is necessary.

The Comprehensive Water Quality Monitoring Program and Monitoring of Bacterial Levels and Public Education measures in the SA contained similar but conflicting requirements. The monitoring elements have been combined in Condition S12. Condition S13 contains measures necessary to protect public health from exposure to pathogens in swimming areas.

The North Thermalito Forebay Recreation Area was developed to mitigate for the loss of recreational opportunities from the construction and operation of the Project. The design of the facility contributes to the high coliform levels. Condition S13 includes a requirement to assess

the risk to swimmers at the North Forebay Recreation Area, and if necessary, to develop a plan to reduce the risk to swimmers.

Public Education Regarding Risks of Fish Consumption

Operation of the Project may contribute to the methylation of mercury resulting in an increase in the levels of mercury in fish tissue. The SA includes a measure that requires DWR, in consultation with the Office of Environmental Health Hazard Assessment (OEHHA), State Water Board, and Central Valley Regional Water Quality Control Board, to post notices at all boat ramps and other locations within the Project boundary notifying the public about health issues associated with consuming fish taken from within the Project waters.

Condition S14 requires DWR to provide funding to OEHHA for the development of additional fish tissue consumption advisories, should this be necessary based on additional data collection. The Condition also includes a reservation of authority to develop a methyl mercury management plan should research or data indicate the Project increases methylation rates.

Oroville Wildlife Area Management Plan

DWR will develop, in conjunction with the Departments of Fish and Game and Parks and Recreation, and in consultation with the U.S. Fish and Wildlife Service, a Management Plan for the Oroville Wildlife Area for Commission approval. The Proposed License Article identifies a number of required Plan elements. The Plan will be reevaluated every five years.

Protection of Vernal Pools

Vernal pools are seasonal wetlands that support a range of sensitive plant and insect species. Approximately 49 acres of vernal pools and ephemeral swales were mapped within the project area. Protection of these pools is necessary to protect the beneficial uses and prevent the take of threatened and engendered species.

Minimization of Disturbances to Nesting Bald Eagles

On August 9, 2007, the bald eagle was removed from the federal list of threatened and endangered species. Even though they are delisted, bald eagles are still protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. These Acts require some measures to continue to prevent bald eagle "take" resulting from human activities. Bald eagles are a water dependant species that feed on fish and waterfowl. Bald eagles may be sensitive to human disturbance. U.S. Fish and Wildlife Service may require conservation measures to protect Bald Eagles that include use restrictions in bald eagle territories. Measures to protect this species may require modification of other measures in this certification. This measure is included to allow the State Water Board to adequately balance all of the beneficial uses, minimize conflicts between uses, and prevent take.

Protection of Giant Garter Snake

Giant garter snake is a threatened species under both the federal and state Endangered Species Acts. The giant garter snake is endemic to the wetlands of California's Central Valley.

Habitat for the giant garter snake primarily occurs in the Thermalito Forebay and Thermalito Afterbay and the Oroville Wildlife Area. Water level fluctuations at the Thermalito Afterbay, maintenance activities, and recreational development and use can adversely affect the habitat of the highly aquatic giant garter snake. Accordingly, DWR will implement conservation measures required by the U.S. Fish and Wildlife Service Final Biological Opinion to protect giant garter snakes within suitable habitat within the Project boundary. The State Water Board ~~staff~~ has determined that this measure will assist in protecting habitat and the rare, threatened, or endangered species beneficial use.

Protection of Valley Elderberry Longhorn Beetle

Valley elderberry longhorn beetle is a threatened species under the federal Endangered Species Act. The valley elderberry longhorn beetle is a riparian dependant species that bores into the stems of elderberry bushes. Inclusion of this measure is necessary to protect the rare, threatened, or endangered species beneficial use.

Protection of Red-Legged Frog

The California red-legged frog was federally listed as threatened in 1996, and a final Recovery Plan for the California red-legged frog was issued in 2003. The Oroville Facilities Project boundary is not included within any of the eight recovery units identified in the Recovery Plan, and no red-legged frogs were observed during the habitat surveys conducted in 2002 or during other relicensing field data collection activities. However, there is potentially suitable habitat for the red-legged frog within the Project boundary. DWR agrees to implement conservation measures required by the U.S. Fish and Wildlife Service Final Biological Opinion to protect the red-legged frog within the Project boundary. The State Water Board ~~staff~~ has determined this measure will assist in protecting habitat and the rare, threatened, or endangered species beneficial use.

Construction and Recharge of Brood Ponds

Waterfowl survival can be adversely affected by Thermalito Afterbay water level fluctuations, which increase the distance from emergent wetland cover and aquatic habitat. Existing brood ponds are designed to maintain a more stable water surface elevation than the Thermalito Afterbay and provide waterfowl cover adjacent to aquatic habitats that serve to reduce waterfowl brood losses. As water levels decrease within brood ponds (from evaporation, seepage, and evapotranspiration), the distance from aquatic habitat to brood cover increases within the pond. The SA requires DWR to develop, in conjunction with the California Department of Fish and Game and in consultation with the Ecological Committee and U.S. Fish and Wildlife Service, a plan to construct one new waterfowl brood pond every five years over a 20-year period, and maintain adequate water surface elevations. The State Water Board ~~staff~~ has determined this measure will assist in protecting the wildlife habitat beneficial use.

6.0 Findings

1. The State Water Board has reviewed and considered: (a) the Settlement Agreement for Licensing of the Oroville Facilities; (b) DWR's final FERC License Application; (c) comments on the final License Application by agencies and interested parties; (d) the U.S. Forest

Service Final 4(e) Conditions; (e) the FERC Environmental Impact Statement prepared pursuant to the National Environmental Policy Act; (f) DWR's application for water quality certification; (g) the Environmental Impact Report prepared by DWR; and (h) comments by agencies and interested parties. Further, the State Water Board has considered the Basin Plan, the existing water quality conditions, and project-related controllable factors.

2. As responsible agency under the California Environmental Quality Act (CEQA) the State Water Board has reviewed and considered the Environmental Impact Report (EIR) for this Project (State Clearinghouse Number 2001102011) prepared by DWR. A Notice of Determination for the EIR was filed with the State Clearinghouse on July 22, 2008. DWR determined the Project will not have a significant effect on the environment, and prepared a mitigation reporting and monitoring plan. CEQA requires that the responsible agency make one or more of a set of three findings whenever an EIR identifies a significant effect on the environment. These findings are set forth in section 21081 of the Public Resources Code: (1) Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment; (2) Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency; (3) Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report. (See also Cal. Code Regs., tit. 14, § 15091.) The findings identified one or more significant environmental effects of the project on water resources. CEQA requires responsible agencies to prepare a statement of overriding considerations which reflects the ultimate balancing of competing public objectives (including environmental, legal, technical, social, and economic factors) that the agency is required by law to carry out or approve. The State Water Board is concurrently adopting a Statement of Overriding Considerations for this Project, with the adoption of the certification. The State Water Board also prepared a Mitigation, Monitoring, and Reporting Plan. The CEQA Mitigation, Monitoring and Reporting Plan, and Findings are included as Attachment A to this certification. The State Water Board will file a Notice of Determination within five days from the issuance of this certification.

3. On September 2, 2009, the State Water Board issued notice pursuant to section 3858 of title 23 of the California Code of Regulations that it intended to issue water quality certification after a 21-day notice period. On ~~October XX, 2009~~ January 21, 2010, the State Water Board issued a draft water quality certification for public review.

ACCORDINGLY, BASED ON ITS INDEPENDENT REVIEW OF THE RECORD, THE STATE WATER BOARD CERTIFIES THAT THE OPERATION OF THE OROVILLE FACILITIES BY THE DEPARTMENT OF WATER RESOURCES, UNDER A LICENCE ISSUED BY THE COMMISSION, AS DESCRIBED IN ITS APPLICATIONS FOR WATER QUALITY CERTIFICATION, will comply with sections 301, 302, 303, 306 and 307 of the Clean Water Act, and with applicable provisions of state law, provided the Department of Water Resources complies with the following terms and conditions:

Specific Conditions

S1. Lower Feather River Habitat Improvement Plan

a) Within three years of license issuance, the Licensee shall develop a comprehensive Lower Feather River Habitat Improvement Plan. The Plan shall provide an overall strategy for managing the various environmental measures developed for implementation within the areas integrated in the Plan, including the implementation schedules, monitoring, and reporting. The Plan shall be developed in consultation with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, California Department of Fish and Game, California State Water Resources Control Board (State Water Board), and Central Valley Regional Water Quality Control Board (consultees). Consultation with the Ecological Committee complies with the consultation requirement, as long as the agencies listed are part of the Ecological Committee. The Licensee shall submit the Plan to the Deputy Director for Water Rights (Deputy Director) for approval. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the Plan shall be deemed approved.

b) The Licensee shall individually evaluate each of the programs and components of the Lower Feather River Habitat Improvement Plan to assess the overall effectiveness of each action within the Lower Feather River Habitat Improvement Plan. Each program or component may be updated or modified as appropriate to continue to best meet the Plan goals.

c) The following programs and plans shall be included in the comprehensive Lower Feather River Habitat Improvement Plan:

1. Gravel Supplementation and Improvement Program
2. Channel Improvement Program
3. Structural Habitat Supplementation and Improvement Program
4. Fish Weir Program
5. Riparian and Floodplain Improvement Program including the evaluation of pulse/flood flows
6. Feather River Fish Hatchery Improvement Program
7. Comprehensive Water Quality Monitoring Program
8. Oroville Wildlife Area Management Plan
9. Instream Flow and Temperature Improvement for Anadromous Fish.

d) The Plan shall provide for and include:

1. Coordination of implementation and monitoring activities agreed to in the individual components included in the comprehensive Plan;
2. Coordination with any Project-specific biological opinions and Operations Criteria and Plan findings or recommendations;
3. Annual reporting of monitoring results and activities, if appropriate, for the individual components to the consultees throughout the term of the license;
4. The integration of the programs and plans listed in subdivision (c) above, including an evaluation of synergistic effects and an evaluation and consideration of predation management; and

5. Development of a single, comprehensive monitoring and adaptive management summary report by the Licensee as set forth in (e) below.

e) During the ~~fifth~~ sixth year following license issuance and at five-year intervals for the duration of the license, the Licensee shall develop and submit a single, comprehensive monitoring and adaptive management summary report. The Lower Feather River Habitat Improvement Plan report shall be submitted to the consultees listed in S1(a) above for review and comment at least 60 days prior to filing the report with the Deputy Director. The comprehensive report shall include the results of each of the various components of each program during the implementation period. The report shall also include information on any proposed changes or updates to the individual plans or programs within the Lower Feather River Habitat Improvement Plan.

S2. Gravel Supplementation and Improvement Program

a) Within two years of license issuance, the Licensee shall develop a Gravel Supplementation and Improvement Program Plan to address gravel management for the lower Feather River throughout the term of the license. The Plan shall be developed in consultation with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, the California Department of Fish and Game, and the State Water Board (consultees). Consultation with the Ecological Committee complies with the consultation requirement, as long as the agencies listed are part of the Ecological Committee. The Licensee shall include with the Plan copies of the comments, including recommendations, made in the course of such consultation, and an explanation as to why any such comment was not adopted. The Licensee shall submit the Plan to the Deputy Director for approval. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the Plan shall be deemed approved. Upon Deputy Director approval, and after obtaining all necessary permits, the Licensee shall implement the Plan, including any changes required by the Deputy Director.

b) The Licensee, in consultation with the consultees listed in S2(a) above, shall coordinate the gravel supplementation activities with the measures conducted within the Lower Feather River Habitat Improvement Plan.

c) The Plan shall include a schedule to complete, within five years of license issuance, the supplementation of at least 8,300 cubic yards over the December 31, 2006 baseline of spawning gravels suitable for spring-run Chinook salmon or steelhead which shall be distributed over up to 15 locations in the ~~Low Flow Channel~~LFC or ~~High Flow Channel~~HFC of the Feather River.

d) The Plan shall provide for: (1) a physical assessment of the spawning riffles from River Mile 54.2 up to River Mile 67.2 of the Feather River; (2) a gravel budget for the ~~Low Flow Channel~~LFC and, if necessary, portions of the ~~High Flow Channel~~HFC within the Project Boundary; (3) a strategy to augment existing gravel recruitment beyond the 8300 cubic yards referenced in subdivision (c) above in the ~~Low Flow Channel~~LFC and ~~High Flow Channel~~HFC with gravel injections, placements, or other methods developed through site-specific investigations; (4) plans to monitor and evaluate the effectiveness of gravel

augmentation, particularly the biological response of fish species to the gravel supplementation and enhancement activities; (5) an annual summary account of the activities conducted; and (6) coordination with other components of the license and the Lower Feather River Habitat Improvement Plan to enhance natural reproduction of steelhead and Chinook salmon.

e) The Gravel Supplementation and Improvement Program Plan shall also include the following measures, criteria and timelines:

1. All work within the Ordinary High Water mark of the Lower Feather River shall take place during the months of June and July, or at other times as allowed by permit conditions to produce minimal impact to the target species (steelhead and Chinook salmon) and other river attributes (*i.e.* water quality).

2. Gravel placement or riffle rehabilitation at the treated riffles shall, where feasible, cover the extent of naturally observed spawning areas, be within an area extending between river banks, and extend at least 50 feet upstream and 50 feet downstream of the riffle, and be a depth of at least one foot.

3. Licensee shall monitor and replenish or rehabilitate gravel at individual sites every five years, as needed, for the term of the License. At five-year intervals after the initial supplementation period, the Licensee shall monitor and maintain a minimum of 10 riffle complexes in the ~~Low Flow Channel~~LFC so that approximately 80 percent of the spawning gravels randomly sampled in riffle complexes shall be in the median size range preferred by Chinook salmon or steelhead. All work will be done in consultation with the consultees listed in S2(a) above. High flow events shall be defined in the Gravel Supplementation and Improvement Plan.

4. The Licensee, in consultation with the consultees listed in S2(a) above, shall conduct a study on the need for additional gravel supplementation in the ~~High Flow Channel~~HFC of the Feather River (within the Project Boundary). The study shall be submitted to the Deputy Director for modification and approval within eight years of license issuance. If gravel supplementation will benefit spawning and rearing, it will begin within 10 years of license issuance. Gravel supplementation, if provided, shall include the staging of spawning gravel stockpiles, of up to 2,000 cubic yards, of a size distribution determined by study, below the Thermalito Afterbay Outlet.

f) The Licensee shall prepare an annual summary report describing the activities completed pursuant to the Program and submit the report to the consultees listed in S2(a) above. Throughout the term of the license, the Licensee shall compile these annual reports at least once every five years in the Lower Feather River Habitat Improvement Plan Report.

g) The Licensee, in consultation with the consultees listed in S2(a) above, shall reevaluate the Gravel Supplementation and Improvement Program Plan every five years after initial implementation. Every five years the Licensee shall submit for the Deputy Director's information a Lower Feather River Habitat Improvement Plan report that includes any Plan updates. If any changes are recommended beyond the objectives, activities, or schedules identified in this article or the Gravel Supplementation and Improvement Program Plan, the

Licensee shall submit final recommendations in a revised plan to the Deputy Director for approval. The Licensee shall include with the filing copies of the comments, including recommendations, made in the course of such consultation, and an explanation as to why any such comment was not adopted. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the revised plan shall be deemed approved.

S3. Channel Improvement Program

a) Within one year of license issuance, the Licensee shall develop and file for Commission approval a Moe Ditch and Hatchery Ditch Plan to improve two existing side channels at the upstream end of the ~~Low Flow Channel~~LFC, Moe's Ditch, and Hatchery Ditch, by modifying these channels to provide suitable discharge, velocity, depth, substrate, cover and riparian vegetation to support salmonid spawning and rearing. The Plan shall be developed in consultation with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, State Water Board, and the California Department of Fish and Game (consultees). Consultation with the Ecological Committee complies with the consultation requirement, as long as the agencies listed are part of the Ecological Committee. The Licensee shall include with the filing of the Moe and Hatchery Ditch Plans copies of the comments, including recommendations, made in the course of such consultation, and an explanation as to why any such comment was not adopted. The Plan shall include a schedule to complete the improvements to Moe's Ditch and Hatchery Ditch within three years of license issuance. The Licensee shall submit the Plan to the Deputy Director for approval. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the Plan shall be deemed approved.

b) Within four years of license issuance, the Licensee shall develop and file for Commission approval a Channel Construction Plan to identify and construct, within 10 years of license issuance, five additional side channel riffle/glide complexes of not less than a cumulative total of 2,460 feet in length of new habitat. These side channels shall be located and designed to maximize quantity/quality of suitable salmonid attributes (depth, velocity, substrate, cover, and vegetation) while minimizing the potential for warming, stranding, and predation problems. The Plan shall be developed in consultation with the consultees listed in S3(a) above. The Licensee shall include with the filing of the Channel Construction Plan copies of the comments, including recommendations, made in the course of such consultation, and an explanation as to why any such comment was not adopted. The Licensee shall submit the Plan to the Deputy Director for approval. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the Plan shall be deemed approved. Upon Commission approval, and after obtaining all necessary permits, the Licensee shall implement the Plan, including any changes required by the Commission.

c) Maintenance activities shall be developed by the Licensee in consultation with the consultees listed in S3(a) above. Maintenance activities shall occur at least once every

five years, or as often as necessary to maintain channel functions. High flow events shall be defined in the Channel Construction Plan.

d) Licensee shall annually collect data appropriate for evaluating the effectiveness of the Channel Improvement Program and the achievement of the Channel Improvement Program objectives. The Licensee shall prepare an annual summary report describing monitoring and implementation activities completed pursuant to the Program and submit the report to the consultees listed in S3(a) above for review on an annual basis. Throughout the term of the License, the Licensee shall compile these annual reports every five years in the Lower Feather River Habitat Improvement Plan Report that is submitted to the Commission.

e) The Licensee, in consultation with the consultees listed in S3(a) above shall reevaluate the Channel Construction Plan every five years after initial implementation. If any changes are recommended beyond the objectives, activities, or schedules identified in this article or the Plan, the Licensee shall submit final recommendations in a revised plan to the Deputy Director for approval. The Licensee shall include with the filing copies of the comments, including recommendations made in the course of such consultation, and an explanation as to why any comment was not adopted. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the revised plan shall be deemed approved. Upon Deputy Director approval, the Licensee shall implement the Plan, including any changes required by the Deputy Director. The Licensee shall include any Deputy Director approved revisions to the Plan into any updates to the Lower Feather River Habitat Improvement Plan set forth in Condition S1.

S4. Structural Habitat Supplementation and Improvement Program Plan

a) Within two years of license issuance, the Licensee shall develop and file for Commission approval a Structural Habitat Supplementation and Improvement Program Plan to provide additional salmonid rearing habitat in the Lower Feather River by creating additional cover, edge, and channel complexity through the addition of structural habitat, including large woody debris, boulders, and other objects. The Plan shall be developed in consultation with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, State Water Board, and California Department of Fish and Game (consultees). Consultation with the Ecological Committee complies with the consultation requirement, as long as the agencies listed are part of the Ecological Committee. The Licensee shall include with the filing of the Plan copies of the comments, including recommendations, made in the course of such consultation, and an explanation as to why any such comment was not adopted. The Licensee shall submit the Plan to the Deputy Director for approval. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the Plan shall be deemed approved. Within two years following Deputy Director approval of the Plan, and after obtaining all necessary permits, the Licensee shall implement the Plan, including any changes required by the Deputy Director.

b) The Plan shall contain the following elements:

1. Proposed locations for structural placements, including large woody debris, boulders, or other material. Large woody debris for this Program is defined as multi-branched trees at least 12 inches in diameter at chest height, and a minimum of 10 feet in length (with a preference for approximately 20 feet or longer), with approximately 50 percent of the structures containing intact rootwads. Large woody debris or other native materials shall be located within the river to maximize the instream benefit at the lowest minimum flow specified in Condition S8 with the rootwad (if attached) oriented upstream.

2. Development and implementation of a strategy to map existing large woody debris, riparian habitat, and sources of riparian and large woody debris recruitment.

3. Placement of a minimum of 2 pieces of large woody debris, boulders, or other appropriate material per riffle in the ~~Low Flow Channel~~LFC and ~~High Flow Channel~~HFC from River Mile 54.2 to River Mile 67.2 of the Feather River for a total of between 50 and 500 pieces in locations that maximize benefits for salmonids. Additional large woody debris, boulders, or other material may be placed in glide, riffle or pool habitat where appropriate.

4. Completion of a safety analysis, and any resulting necessary modifications to the Plan, prior to program implementation to ensure that issues relating to human safety are adequately addressed.

5. Monitoring of the structural placements after major high flow events, or at least once every five years in the absence of a high flow event, to collect data appropriate for evaluating the effectiveness of the Program and its objectives. High flow events shall be defined in the Structural Habitat Supplementation Improvement Program Plan.

6. Inclusion of specific maintenance criteria, including the interval for replacement of large woody debris or other structures. Replacement shall occur at a minimum of every five years.

c) The Licensee shall annually collect data appropriate for evaluating the effectiveness of the Program and the achievement of the Program objectives. The Licensee shall prepare an annual summary report describing monitoring and implementation activities completed pursuant to the Program and submit the report to the consultees listed in S4(a) above for review on an annual basis. Throughout the term of the license, the Licensee shall compile these annual reports every five years in the Lower Feather River Habitat Improvement Plan *Report that is submitted to the Commission.*

d) The Licensee, in consultation with the consultees listed in (a) above, shall reevaluate the Plan every five years after initial implementation. If any changes are recommended beyond the objectives, activities, or schedules identified in this article or the Plan, the Licensee shall submit final recommendations in a revised plan to the Deputy Director for approval. The Licensee shall include with the filing copies of the comments, including recommendations, made in the course of such consultation, and an explanation as to why the comment was not adopted. The Deputy Director may require modifications as part of the approval. If,

within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the revised plan shall be deemed approved. Upon Commission approval, the Licensee shall implement the Plan, including any changes required by the Commission. The Licensee shall include any Commission and Deputy Director approved revisions to the Plan into any updates to the Lower Feather River Habitat Improvement Plan set forth in Condition S1.

S5. Fish Weir Program

a) Within one year of license issuance, the Licensee shall develop and file for Deputy Director approval a Phase 1 Weir Construction and Operations Plan consistent with the Project biological opinion(s). The Plan shall be developed in consultation with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, State Water Board, and California Department of Fish and Game (consultees). Consultation with the Ecological Committee complies with the consultation requirement, as long as the agencies listed are part of the Ecological Committee. The Licensee shall include with the filing of the Phase 1 Plan copies of the comments, including recommendations, made in the course of such consultation, and an explanation as to why any such comment was not adopted. The Licensee shall submit the Plan to the Deputy Director for approval. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the Plan shall be deemed approved. Upon Commission and Deputy Director approval, and after obtaining all necessary permits, the Licensee shall implement the Plan, including any changes required by the Commission and Deputy Director.

b) The Phase 1 Plan shall include a schedule to install and operate a monitoring weir in the vicinity upstream of the Thermalito Afterbay Outlet within three years of license issuance.

c) The Phase 1 Plan shall be designed to document run timing for spring-run and fall-run Chinook salmon and steelhead, and include design and safety analysis including boating compatibility, detailed engineering design, and a permitting process schedule. The Plan will include use of the monitoring weir, or an additional separate interim weir, to provide interim spatial and/or temporal segregation of Chinook salmon runs, and will include a timeline and study plan to implement such segregation within five years of license issuance. After issuance of a final Biological Opinion by the National Marine Fisheries Service, and upon the request of the Licensee, the Deputy Director may approve a different time frame for implementation of the weir. The time for implementation may not exceed the time required in the final Biological Opinion issued by the National Marine Fisheries Service. The Plan shall be a part of the Lower Feather River Habitat Improvement Plan.

d) Licensee shall correlate data from the monitoring weir to carcass surveys or other existing population counts. The Licensee, in consultation with the consultees listed in S5(a) above, shall use the data collected in Phase 1 to develop recommendations to the Deputy Director and the Commission regarding Phase 2 as set forth below.

e) Within eight years of license issuance, the Licensee shall develop and file for Commission approval a Phase 2 Anadromous Fish Segregation Weir Plan for the purpose of providing spatial separation for the spawning of spring-run and fall-run Chinook salmon. The Plan

shall be developed in consultation with the consultees listed in S5(a) above. The Licensee shall include with the filing of the Phase 2 Plan copies of the comments, including recommendations, made in the course of such consultation, and an explanation as to why any such comment was not adopted. The Licensee shall submit the Plan to the Deputy Director for approval. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the Plan shall be deemed approved. Upon Commission and Deputy Director approval, and after obtaining all necessary permits, the Licensee shall implement the Plan, including any changes required by the Commission and Deputy Director.

f) The Phase 2 Plan shall include a weir operations protocol, safety analysis including boating compatibility, detailed engineering design, and identification of the required permitting process. The Phase 2 Plan shall also evaluate the installation of an egg-taking station, if appropriate, to collect fall-run Chinook salmon eggs for transport to the Feather River Fish Hatchery.

g) The Phase 2 Plan shall include a schedule to install and operate a Phase 2 anadromous fish segregation weir in the lower Feather River upstream of the Thermalito Afterbay Outlet within ~~twelve~~ 12 years of license issuance.

h) The Licensee shall annually collect data appropriate for evaluating the effectiveness of the Fish Weir(s) and Egg-Taking Station, and correlate this data to carcass surveys or other existing population counts. The Licensee shall prepare annual summary reports for Phase 1 and Phase 2 describing the monitoring results and provide these reports to the consultees listed in S5(a) above for review. Every five years the annual reports shall be compiled in the Lower Feather River Habitat Improvement Plan Report.

i) The Licensee, in consultation with the consultees listed in S5(a) above, shall reevaluate the Program every five years after initial implementation. The Licensee shall provide all Plan updates to the Deputy Director for information. If any changes are recommended beyond the objectives, activities, or schedules identified in this article or the Plan, the Licensee shall submit final recommendations in a revised plan to the Deputy Director for approval. The Licensee shall include with the filing copies of the comments, including recommendations, made in the course of such consultation, and an explanation as to why any such comment was not adopted. The Licensee shall submit the revised plan to the Deputy Director for approval. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the revised plan shall be deemed approved. Upon Commission and Deputy Director approval, the Licensee shall implement the Plan, including any changes required by the Commission and the Deputy Director. The Licensee shall include any Commission and Deputy Director approved revisions to the Plan into any updates to the Lower Feather River Habitat Improvement Plan set forth in Condition S1.

S6. Riparian and Floodplain Improvement Program

a) Within six months of license issuance the Licensee shall develop and file for Deputy Director approval a Plan for a phased program to enhance riparian and other floodplain habitats for

associated terrestrial and aquatic species. The Plan shall address the connection of portions of the floodplain habitat with the Feather River within the Oroville Wildlife Area and shall include a description of areas in which gravel extraction may take place, in anticipation of improving fish and wildlife benefits. The Plan shall also include a definition of high flow events. The Plan shall be developed in consultation with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, State Water ~~Resources Control~~ Board, and California Department of Fish and Game (consultees). Consultation with the Ecological Committee complies with the consultation requirement, as long as the agencies listed are part of the Ecological Committee. The Licensee shall include with the filing of the Plan copies of the comments, including recommendations, made in the course of such consultation, and an explanation as to why such comment was not adopted. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the Plan shall be deemed approved. Upon Commission and Deputy Director approval, and after obtaining all necessary permits, the Licensee shall implement the Plan, including any changes required by the Commission and Deputy Director.

b) The Program set forth in the Plan shall be implemented in the following four phases:

Phase 1 – Within one year of license issuance and in consultation with the consultees listed in S6(a) above, the Licensee shall develop and submit to the Deputy Director a screening level analysis of proposed riparian/floodplain improvement projects, including how flood/pulse flows may contribute to floodplain values and benefit fish and wildlife species. This phase shall include the identification of a Phase 1 recommended alternative. This phase shall also include an assessment of the gravel value and potential extraction processes in order to provide guidance on the scope, timing, and magnitude of the Program.

Phase 2 – Within four years of license issuance and in consultation with the consultees listed in S6(a) above, the Licensee shall initiate Phase 2 of the Program. Phase 2 shall begin with conducting a full scope and feasibility evaluation and development of an implementation schedule of the Phase 1 recommended alternative. Within six years of license issuance, the Licensee shall submit the Phase 1 recommended alternative and implementation schedule to the Deputy Director for approval. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the Phase 1 recommended alternative and implementation schedule shall be deemed approved. Within eight years of license issuance, the Licensee shall complete the final design and commence construction and implementation of the approved alternative. Within 15 years of license issuance the Licensee shall fully implement this approved alternative.

Phase 3 – Within 15 years of license issuance and in consultation with the consultees listed in S6(a) above, the Licensee shall complete an evaluation of other potentially feasible projects and the identification of a Phase 3 recommended alternative. This phase shall include a reevaluation of how flood/pulse flows may contribute to floodplain values and benefit fish and wildlife species and shall include an assessment of the gravel value and potential extraction processes similar to the one completed in Phase 1.

Phase 4 – Upon Deputy Director approval, and within 25 years of license issuance, the Licensee shall complete construction of the Phase 3 recommended alternative.

c) The Licensee shall annually collect data appropriate for evaluating the effectiveness of the Program and the achievement of the Program objectives. The Licensee shall prepare an annual summary report describing monitoring and implementation activities completed pursuant to the Program and submit the report to the consultees listed in S6(a) above, for review on an annual basis. Throughout the term of the license, the Licensee shall compile these annual reports every five years in the Lower Feather River Habitat Improvement Plan Report that is submitted to the Commission.

d) The Licensee, in consultation with the consultees listed in S6(a) above, shall reevaluate the Plan every five years after initial implementation. If any changes are recommended beyond the objectives, activities, or schedules identified in this article or the Plan, the Licensee shall submit final recommendations in a revised plan to the Deputy Director for approval. The Licensee shall include with the filing copies of the comments, including recommendations, made in the course of such consultation, and an explanation as to why any comment was not adopted. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the revised plan shall be deemed approved. Upon Commission and Deputy Director approval, the Licensee shall implement the Plan, including any changes required by the Commission and Deputy Director.

S7. Feather River Fish Hatchery

Hatchery ~~Funding~~ Operation

The Licensee shall ~~provide all necessary funding to the California Department of Fish and Game to implement this condition and shall~~ ensure the continued operation of the Feather River Fish Hatchery in cooperation with the California Department of Fish and Game for the production of anadromous salmonids such as steelhead, fall-run Chinook salmon, spring-run Chinook salmon, as well as other salmonids that may be stocked as part of the license.

Water Temperature

Upon License issuance, the Licensee shall not exceed the water temperatures in Table S7. From April 1 through May 31 the water temperature shall not fall below 51 degrees Fahrenheit.

Table S7

September 1-September 30	56 °F
October 1 – May 15	55 °F
May 16 – May 31	59 °F
June 1 – June 15	60 °F
June ~~15~~16 – August 15	64 °F
August 16 – August 31	62 °F

The temperatures in Table S7 shall be measured hourly ~~and averaged over 24 hours to get a mean daily average~~ year-round at the Feather River Fish Hatchery intake/aeration tower.

Upon License issuance, ~~facility modification as described in S7b, or after the first 10 years of operation under the License, whichever comes first,~~ the Licensee shall ~~not exceed~~ use the water temperatures set forth in Table S7A as targets, and shall seek to achieve them through the use of operational measures as set forth below. ~~From April 1 through May 31 the water temperature shall not fall below 51 degrees Fahrenheit.~~

Table S7A

September 1-September 30	56 °F
October 1 – May 31	55 °F
June 1 – August 31	60°F

The temperatures in Table S7A are Maximum Mean Daily Temperatures and shall be calculated by adding the hourly temperatures achieved each day and dividing by 24. Water temperatures in Table S7A shall be measured year-round at the Feather River Fish Hatchery intake/aeration tower. The licensee shall seek to not exceed these Maximum Mean Daily Temperatures through operational changes including but not limited to (i) curtailing pump-back operation and (ii) removing shutters on Hyatt intake and (iii) after river valve refurbishment, if achieved, DWR will consider the use of the river valve up to a maximum of 1500 cfs; provided however these flows need not exceed the actual flows in the HFC, but in no event would HFC flows be less than those specified in S8d). During this interim period, the Licensee shall not be in violation of this article if the Maximum Mean Daily Temperatures are not achieved through operational changes.

Upon completion of Facilities Modification(s) as provided in A108, and no later than the end of year ten following license issuance, Table S7A temperatures shall become requirements, and the Licensee shall not exceed the Maximum Mean Daily Temperatures in Table S7A for the remainder of the License term, except in Conference Years.

Licensee shall, in no instance, exceed the temperatures set forth in Table 107B during the term of the license. Temperatures in table 107B shall be measured hourly year-round at the Feather River Fish Hatchery intakelaeration tower. There shall be no minimum temperature requirement except for the period of April 1 through May 31, during which the temperatures shall not fall below 51 degrees Fahrenheit.

Table 107B

September 1 – September 30	56°F
October 1 – November 30	55°F
December 1 – March 31	55°F
April 1 – May 15	55°F
May 16 – May 31	59°F
June 1 – June 15	60°F
June 16 – August 15	64°F
August 16 – August 31	62°F

Upon completion of Facilities Modification(s) as provided in A108, the Licensee may develop a new table for hatchery temperature requirements that is at least as protective as Table 107A. If a new table is developed, it shall be developed in consultation with the Ecological Committee, including specifically U.S. Fish and Wildlife Service, National Marine Fisheries Service, California Department of Fish and Game, California State Water Resources Control Board, and Central Valley Regional Water Quality Control Board. The new table shall be submitted to the Commission for approval, and upon approval shall become the temperature requirements for the hatchery for the remainder of the license term.

During Conference Years, as defined in Condition S8, the Licensee shall confer with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, California Department of Fish and Game, and State Water Board to determine proper temperature and disease management goals.

a) Within six months of license issuance, the Licensee shall submit a status report describing any progress towards repairing or refurbishing the river valve, and a list of temperature control actions being used or contemplated to meet the Table S7 water temperatures. Within one year of license issuance, the Licensee shall submit a schedule for any repair or refurbishment of the river valve, ~~or for implementation of a proposed alternative method for meeting water temperature requirements in Table S7,~~ to the Deputy Director for approval. The schedule shall include the steps and time necessary to evaluate, design, and complete the repair or refurbishment of the river valve if considered feasible. ~~If the Licensee proposes an alternative method for meeting temperature requirements, evidence must be submitted that the alternative method will provide equivalent water temperature control as the river valve.~~ The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the schedule shall be deemed approved.

~~b)~~ ~~If the Licensee cannot meet the water temperature requirements in Table in S7A without facility modification(s), it shall within three years of license issuance, submit a long-term facility modification(s) and operations plan to the Deputy Director for approval. The Deputy Director may require modifications as part of the approval. If, within 90 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the plan shall be deemed approved.~~

Feather River Fish Hatchery Management Program

c) Within two years of license issuance, the Licensee shall develop a management plan (Plan) for the Feather River Fish Hatchery. The Plan shall be developed in consultation with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, the California Department of Fish and Game, State Water Board, and the Central Valley Regional Water Quality Control Board (consultees) and in coordination with the Feather River Technical Team. The Plan shall include a schedule to begin implementation of the Fish Hatchery Management Program (Program) within three years of license issuance. The Licensee shall include with the filing of the Plan copies of the comments, including recommendations, made in the course of such consultation, and an explanation as to why any such comment was not adopted. The Licensee shall submit the Plan to the Deputy Director for approval. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the Plan shall be deemed approved. Upon Commission and Deputy Director approval, the Licensee shall implement the Plan, including any changes required by the Commission and Deputy Director.

d) The development of this Program will include review and consideration of the recommendations for the Feather River Fish Hatchery put forth in the *Joint Hatchery Review Committee Final Report on Anadromous Salmonid Fish Hatcheries in California* (December 2001).

e) Components of the Plan shall include:

1) Hatchery and Genetics Management Plans for each anadromous fish species managed by the hatchery.

2) Adaptive management protocols for hatchery production including egg taking, spawning, incubation, hatching, rearing, and stocking of fish.

3) A methodology to implement appropriate form(s) of tagging or marking of the Feather River Fish Hatchery artificial propagation programs, along with recovery of these tags/marks.

4) A methodology to study Feather River Fish Hatchery management effects on salmonids, and the interaction between in-river and hatchery-produced salmonids.

5) A methodology to study the phenotypic or genotypic traits that may be lost due to management actions or the adverse effects of the facilities if existing literature on these subjects is insufficient.

6) Development of a disease management methodology to reduce the incidence of disease outbreaks within the Feather River Fish Hatchery facilities and a plan to implement the methodology, as well as a requirement that the Licensee monitor and

report to the consultees on disease and water quality issues. This component of the Plan shall include investigation of the mechanisms to control disease, including water supply disinfection, temperature control devices (e.g., chillers, shade screens, well water), chemical treatments, fish stress reduction methods (fish density manipulation, flow increases, aeration) and standards for acceptable loss.

7) A methodology to work with other Central Valley hatcheries to improve methods of integrating operations, marking and tag recovery, and data management.

8) A methodology to minimize straying of salmonids produced at the Feather River Fish Hatchery.

9) A methodology for the release of fish that evaluates full in-river release for the spring-run production, and in-river fall-run releases starting with 25 percent of the hatchery fall-run production, or other suitable amount to be determined by Licensee, in consultation with the consultees, and specifically the California Department of Fish and Game.

10) A methodology to use the results of studies, monitoring, and other information, in order to make changes to the operations of the Feather River Fish Hatchery.

f) Within one year of Plan approval by the Commission, the Licensee shall annually collect data appropriate for evaluating the effectiveness of the Program and the achievement of the Program objectives. The Licensee shall prepare an annual summary report describing monitoring and implementation activities completed pursuant to the Program and submit the report to the consultees listed in S7(a) above for review on an annual basis. Throughout the term of the license, the Licensee shall compile these annual reports every five years in the Lower Feather River Habitat Improvement Plan Report that is submitted to the Commission.

g) The Licensee, in consultation with the consultees listed above, shall reevaluate the Program/Plan ("Plan") every five years after initial implementation. When possible, the Plan shall be reevaluated concurrently with the renewal of the Hatchery and Genetics Management Plans. The Licensee shall provide all Plan updates to the Deputy Director for information. If any changes are recommended beyond the objectives, activities, or schedules identified in this article or the Plan, the Licensee shall submit final recommendations in a revised plan to the Deputy Director for approval. The Licensee shall include with the filing copies of the comments, including recommendations, made in the course of such consultation, and an explanation as to why any such comment was not adopted. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the revised plan shall be deemed approved. Upon Commission and Deputy Director approval, the Licensee shall implement the Plan, including any changes required by the Commission and Deputy Director.

h) The Licensee shall continue to use adaptive management practices for spring run salmonids until the Hatchery Genetics and Management Plans are developed and implemented.

i) The Licensee shall prepare an annual hatchery report beginning in the year following the calendar year the license is issued. The annual report shall contain, but not be limited to, the following information:

1. The number of each species and/or run of fish taken, along with the number of adults, grilse, steelhead and half-pounders.
2. An estimate of the number of eggs for each species and/or run.
3. The number, size and species and/or run of all fish reared at the hatchery.
4. The number, size, and release location and date of each species stocked and/or transferred.
5. An annual summary of disease management activities, including the diseases detected, the species infected and the number of losses, treatment methods, etc.
6. The egg take and stocking goal used that year.
7. A description of any significant operational changes that may have occurred as a result of the adaptive management process.

Hatchery Water Supply Disinfection System

In the event that anadromous salmonids are passed upstream of the Feather River Fish Hatchery, the Licensee shall install a water disinfection system for the Feather River Fish Hatchery water supply prior to such passage. The system shall be developed in consultation with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, California Department of Fish and Game, State Water Board and Central Valley Regional Water Quality Control Board. Prior to installing the system, the Licensee shall develop and submit a plan to the Deputy Director for approval. The Licensee shall include with the filing copies of comments, including recommendations, made in the course of such consultation, and an explanation as to why any such comment was not adopted. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the plan shall be deemed approved.

Hatchery Annual Operation and Maintenance

Within two years of license issuance, the Licensee, in coordination with the California Department of Fish and Game, shall conduct a comprehensive facility assessment of the Feather River Fish Hatchery, and shall conduct such an assessment at least once every five years thereafter. The Licensee shall include all findings of the assessment in the Lower Feather River Habitat Improvement Plan Report filed with the Deputy Director as set forth in Condition S1.

S8. Flow/Temperature to Support Anadromous Fish

Minimum Flows and Temperature Requirements in the Low Flow Channel

a) Upon license issuance, the Licensee shall release a minimum flow of 700 cfs into the Low Flow Channel (LFC). The minimum flow shall be 800 cfs from September 9 to March 31 of each year to accommodate spawning of anadromous fish, unless the National Marine Fisheries Service, U.S. Fish and Wildlife Service, California Department of Fish and Game,

and the Deputy Director provide written notice that a lower flow between 700 cfs and 800 cfs is allowed. ~~another minimum flow, recommended by the resource agencies as envisioned under the Settlement Agreement A108.1(a) is approved by the Deputy Director. The Deputy Director's evaluation of the impact of reduced flow will include its impact on anadromous fish as well as on other beneficial uses. unless another flow is approved by the Deputy Director.~~ If the Licensee receives such approval, it may operate consistent with the revised minimum flow. Within 30 days of receipt, the Licensee shall file such notice with the Commission for information.

(b) Prior to the Facilities Modification(s) described in Condition S8.g), if the Licensee does not achieve the applicable Table S8-1 temperature upon release of the specified minimum flow, the Licensee shall singularly, or in combination (i) curtail pump-back operation, (ii) remove shutters on Hyatt Intake, and (iii) increase flow releases in the LFC up to a maximum of 1500 cfs; provided however these flows need not exceed the actual flows in the HFC, but in no event would HFC flows be less than those specified in S8.e) to meet Table S8-1 temperatures or minimize exceedances thereof. Prior to the Facilities Modification(s) described in S8.e), Table S8-1 temperatures are targets and if they are not met there is no violation of the certification so long as Licensee is otherwise in compliance with this article. If in any given year the Licensee anticipates that these measures will not achieve the temperatures in Table S8-1, the Licensee shall consult with the National Marine Fisheries Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, and the State Water Board to discuss potential approaches to best managing the remaining coldwater pool in Lake Oroville, which may result in changes in the way Licensee performs the actions in (i), (ii), and (iii). Licensee shall provide prompt notice to the Deputy Director of any significant changes to the actions taken under this subdivision.

~~b)Licensee shall operate the Project to not exceed the water temperatures in Table S8 as measured at Robinson Riffle. If the Licensee demonstrates to the satisfaction of the Deputy Director that it cannot feasibly meet these water temperature requirements using current facilities, it shall within one year of license issuance submit for Deputy Director approval an interim operations plan that includes measures to reduce water temperatures. While documentation is pending to demonstrate that the Licensee cannot meet Table S8 requirements, the Licensee shall not be considered in violation of this subsection if the Deputy Director determines that exceedence of Table S8 temperatures is due to limitations of existing facilities. Similarly, if the Deputy Director determines that the Llicensee cannot feasibly meet Table S8 requirements using current facilities, exceedences of Table S8 temperatures that the Deputy Director determines to be due to the limits of the current facilities will not be considered violations of this subsection during the time period in which DWR is preparing, and the Deputy Director is reviewing, the interim operations plan. The Deputy Director may require modifications of the interim operations plan as part of the approval. If, within 90 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the plan shall be deemed approved.~~

~~c)If the Licensee cannot meet the water temperature requirements in Table in S8 without facility modification(s), it shall within three years of license issuance, submit a long-term facility modification(s) and operations plan to the Deputy Director for approval. The plan must~~

~~demonstrate compliance with Table S8 temperatures within 10 years of license issuance. The Deputy Director may require modifications as part of the approval. If, within 90 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the plan shall be deemed approved. If after facility modification(s) the Licensee demonstrates to the satisfaction of the Deputy Director that it cannot feasibly meet water temperatures in Table S8, it shall submit to the Deputy Director proposed alternative temperature requirements that provide reasonable protection of the COLD beneficial use. The Deputy Director may require modifications as part of the approval. If, within 90 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the proposed requirements shall be deemed approved. Upon approval of the Deputy Director, the Licensee shall comply with the alternate temperature requirements.~~

Table S8
LFC Measured at Robinson Riffle
(all temperatures are in daily mean value (degrees F))

MONTH	Temperature
January	56
February	56
March	56
April	56
May 1-15	56-63*
May 16-31	63
June 1 – 15	63
June 16 – 30	63
July	63
August	63
September 1-8	63-58*
September 9 – 30	58
October	56
November	56
December	56

* Indicates a period of transition from the first temperature to the second temperature.

After completion of the Facilities Modification(s), Licensee shall no longer be required to perform the measures listed above in subdivision (b)(2)(i), (ii), and (iii), unless Table S8-1 temperatures are exceeded.

Upon completion of the Facilities Modification(s), the Licensee shall operate the project to meet temperature requirements in Table S8-1 in the LFC, unless it is a Conference Year as described in S8.g). The Licensee shall monitor the effectiveness of the project facilities to achieve Table S8-1 temperatures.

Minimum Flow and Temperature Requirements in the High Flow Channel

d) Upon license issuance, the Licensee shall, based upon the April through July unimpaired runoff of the Feather River near Oroville of the preceding water-year (October 1 through September 30), maintain a minimum flow in the High Flow Channel (HFC) in accordance with the following schedule, provided that such releases will not cause Oroville Reservoir to be drawn down below elevation 733 feet (approximately 1,500,000 acre-feet).

Preceding April through July unimpaired runoff	Minimum Flow in HFC October - February	Minimum Flow in HFC March	Minimum Flow in HFC April - September

Percent of Normal			
55% or greater	1,700 cfs	1,700 cfs	1,000 cfs
Less than 55%	1,200 cfs	1,000 cfs	1,000 cfs

The preceding water-year's unimpaired runoff shall be reported in Licensee's Bulletin 120, "Water Conditions in California-Fall Report." The term "normal" is defined as the April through July 1911-1960 mean unimpaired runoff near Oroville of 1,942,000 acre-feet.

e) If the April 1 runoff forecast in a given water-year indicates that Oroville Reservoir will be drawn to elevation 733 feet (approximately 1,500,000 acre-feet) under normal operation of the Project, then the minimum flows in the HFC may be reduced on a monthly average basis, in the same proportion as the respective monthly deficiencies imposed upon State Water Project deliveries to the State Water Contractors for agricultural use; however, in no case shall the minimum flow releases be reduced by more than 25 percent. If, between October 15 and November 30, the highest total 1-hour flow exceeds 2500 cfs, Licensee shall maintain a minimum flow within 500 cfs of that peak flow, unless such flows are caused by flood flows, an inadvertent equipment failure or malfunction.

f) Upon completion of the Facilities Modification(s), the Licensee shall attempt to meet the temperature targets in Table 2A during the Testing Period. Upon Completion of the Testing Period and after the Deputy Director's approval of the Testing Period Report, Table 2A, together with any amendments to it, shall be designated as Table 2B, and the Licensee shall thereafter achieve the temperatures in Table 2B, unless it is a Conference Year as described in Condition S8.e)

g) The Licensee shall investigate and develop Facilities Modifications to improve cold water conditions in the Feather River as follows.

1) Within sixty days of license issuance, the Licensee shall submit to the Deputy Director for information the October 2006 Reconnaissance Study of Potential Facilities Modification(s) to address temperature habitat needs for anadromous fish in the LFC and HFC.

2) Within 3 years following license issuance, the Licensee shall prepare and submit to the Deputy Director for approval, a Feasibility Study and Implementation Plan for Facilities Modification(s) (Plan) to protect and improve temperature conditions for spawning, egg incubation, rearing, and holding habitat for anadromous fish in the LFC and HFC in the least costly manner (taking into account capital, operational, and maintenance costs, including foregone power generation, third-party impacts, and beneficial uses) over the term of the New License. The Plan shall include a summary of the conclusions of the Reconnaissance Study and shall be prepared in consultation with the Ecological Committee, including specifically National Marine Fisheries Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, and the Deputy Director.

3) As part of the Plan, building upon findings of the Reconnaissance Study, the Licensee shall analyze alternatives with consideration of all project purposes, including water supply, flood control, power generation, recreation, fish and wildlife protection and

other beneficial uses, and shall evaluate physical and operation effects of considered alternatives. Benefits to temperature and anadromous fishery habitat in the LFC and HFC shall be identified and quantified. The Plan shall recommend a specific alternative for implementation. The recommended alternative shall be designed to meet Table S8-1 and to meet the objectives for the HFC as stated in A108.4(a)below, except for those years that are considered severe dry years under the Oroville Temperature Management Index (OTMI). It shall also include Table S8-2A, which shall state the temperatures that the Licensee shall attempt to achieve in the HFC through implementation of the recommended alternative. The Table S8-2A temperatures shall be based upon preliminary modeling to determine where lower temperatures can be feasibly achieved in the HFC. Plan will evaluate the OTMI definition and recommend changes based upon hydrology and modeling results on how well the recommended alternative will be able to meet Table S8-1 and the applicable Table S8-2A.

Table S8-2A

HFC as measured at

Downstream Project Boundary

(all temperatures are in daily mean value (degrees F))

MONTH	Temperature
January	56
February	56
March	56
April	61
May	64
June	64
July	64
August	64
September	61
October	60
November	56
December	56

4) The Plan shall include a proposed implementation schedule and include adaptive management features. The Plan shall also propose a fisheries monitoring program, including a multi-year study of the utilization of the HFC by anadromous fish prior to installation of any Facilities Modification(s) in order to accumulate data on existing

conditions. This monitoring program shall be coordinated with and may be integrated into the Lower Feather River Habitat Improvement Plan described in Condition S1.

5) The licensee shall submit a draft Plan to the Ecological Committee, including specifically National Marine Fisheries Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, and the Deputy Director at least three months before submitting the Plan to the Commission. The recommended alternative is subject to the approval of the Executive Director of the State Water Resources Control Board.

6) The final Plan shall include the results of such consultation, response to comments, and an explanation as to why any comments were not incorporated. It shall be submitted to the Commission for public notice and approval.

7) Upon the Commission's approval, the Licensee shall implement one or more Facilities Modification(s) for the benefit of the LFC and the HFC. The Commission reserves the right to make further changes to the Plan.

f) Upon completion of the Facilities Modification(s), the Licensee shall test the adequacy of the Facilities Modification(s) to achieve Table S8-2A, and to provide other benefits for fish, for a five-year testing period (Testing Period). In the event that the Licensee considers that the five years do not include a representative sample of year-types for the generation of reliable test results, the Licensee shall confer with the Ecological Committee, including specifically U.S. Fish and Wildlife, National Marine Fisheries Service, and California Department of Fish and Game and the State Water Resources Control Board, and may recommend that the Commission approve a continuation of the Testing Period for such additional time as may be reasonable.

At the conclusion of the Testing Period (as may be extended), the Licensee shall file with the Commission for approval a Testing Period Report which: (i) describes and analyzes monitoring data for temperature, habitat use by anadromous fish, and operations; (ii) describes whether the Facilities Modification(s) has achieved Table S8-2A during the testing period, and whether the testing results confirm that the Facilities Modification(s) will likely achieve Table S8-2A over the remainder of the New License, (iii) analyzes whether the temperatures resulting from the Facilities Modification(s) have increased availability or suitability of HFC habitat for anadromous fish as predicted; (iv) if appropriate, recommends alterations to the Facilities Modification(s); (v) if appropriate, recommends changes in the definition of OTMI, and (vi) if the Facilities Modification(s) has not achieved Table S8-2A during the testing period appropriate, recommends alterations to Table S8-2A. At the end of the testing period, Table S8-2A becomes Table S8-2B either with or without alterations, consistent with Condition S8.e). The Licensee shall submit a draft Testing Period Report to the Ecological Committee, including specifically National Marine Fisheries Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, and California State Water Resources Control Board for review, comment and consultation three months prior to submitting the report to the Commission. The final Report shall be submitted to the Commission, and shall include the results of such consultation, response to comments, and an explanation as to why any comments were not incorporated. The Licensee shall operate and maintain the Facilities Modification(s), as required by or as may be modified by the

Commission's approval of the Testing Period Report, including Table S8-2B, unless it is a Conference Year.

f) Upon license issuance, Licensee shall operate the project to protect the COLD beneficial use in the HFC, as measured in the Feather River at the downstream Project Boundary, to the extent reasonably achievable. Within one year of license issuance, Licensee shall submit a plan for project operations to reasonably protect COLD beneficial uses ~~before facility modification~~ to the Deputy Director for approval. This interim plan must include a table of proposed interim temperature requirements, as well as interim measures to reduce water temperatures. ~~The Deputy Director may require modifications as part of the approval.~~ If, within 90 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the plan shall be deemed approved. Within three years of license issuance, Licensee shall submit a long-term facility modification and operations plan to the Deputy Director for approval, which shall include a table of proposed temperature requirements to protect the COLD beneficial use within 10 years after license issuance. When submitting the plan to the Deputy Director, the Licensee shall also submit the plan to parties on the FERC service list (#2100) and post the plan on its web site. The Deputy Director may require modifications as part of the approval. If, within 90 120 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the plan shall be deemed approved.

Conference Years Actions

g) By May 1 of a Conference Year, the Licensee shall consult with the Ecological Committee, including specifically the National Marine Fisheries Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, and State Water Board (consultees) and prepare a strategic plan that states the specific actions that it will take to manage the coldwater pool to minimize exceedances of Table S8A-1 and Table S8-2A or S8-2B, whichever is applicable, and the applicable water temperature requirements at the lower project boundary, consistent with its water supply and other legal obligations. After consultation, the Licensee shall submit the strategic plan to the ~~Deputy Director for approval and to the~~ Commission for information and shall implement the strategic plan. ~~The Deputy Director may require modifications as part of the approval. If, within 30 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the plan shall be deemed approved. The Licensee shall implement the approved strategic plan.~~ As part of any strategic plan, the minimum flows as described in Condition S8.a) and S8.b) shall be maintained.

h) The Licensee shall inform the U.S. Fish and Wildlife Service, National Marine Fisheries Service, State Water Board, and California Department of Fish and Game within 10 days of the initial determination of a Conference Year and subsequent updates of that year-type classification.

i) A Conference Year is defined as any year in which the Oroville Temperature Management Index (OTMI) is equal to or less than 1.35 million acre-feet. OTMI is calculated by multiplying the total volume of stored water in Lake Oroville on May 1 by one half and adding to that calculation the projected May-through-September unimpaired Feather River

flow at Oroville. The unimpaired Feather River flow at Oroville means the runoff that would be in the Feather River at Oroville if there were no human development on the Feather River. The amount of Feather River unimpaired flows used for calculating the OTMI will be the median value (with an exceedance probability of 50 percent) of May 1 forecast published in DWR Bulletin 120. As the actual amount of unimpaired flow after May 1 becomes available, the OTMI will be recomputed in the beginning of June, July, and August to account for the potential errors of the May 1 prediction. The OTMI will not be updated after the August 1 update.

Inability to Meet Temperature Requirements Due to Uncontrollable Forces

h) If the Licensee is unable to meet the temperature requirements in Conditions S7, S8.a) S8 .b), or S8.f) due to an event or circumstances beyond its reasonable control, the Licensee shall file a notice within ten days of such event or circumstance with the Commission describing the event or circumstances causing the inability to meet those temperature requirements. It shall provide a copy to the Ecological Committee, including specifically the U.S. Fish and Wildlife Service, National Marine Fisheries Service, California Department of Fish and Game, and the State Water Board (consultees) for comment and opportunity for dispute resolution. Such notice shall include a statement of specific actions that the Licensee will take to address the event or circumstance and how it will manage the coldwater pool to minimize exceedances of Table S8-1 and the applicable version of Table S8-2A, consistent with its water supply and other legal obligations. If the Commission finds that there is a pattern of exceedances that could result in adverse impacts to fishery resources, it may require the Licensee to file a plan developed in consultation with the consultees identifying any feasible measures that the Licensee may undertake, or modifications to other license requirements, to address the exceedances.

~~If the Licensee is unable to meet the temperature requirements in sections S7 and S8 of this certification due to an event or circumstance beyond its reasonable control, the Licensee shall file a notice within 10 days of such event or circumstance with the Deputy Director describing the event or circumstance causing the inability to meet those temperature requirements. Such notice shall include a statement of specific actions that the Licensee will take to address the event or circumstance and how it will manage the coldwater pool to minimize exceedances of Table S8A or of applicable temperature requirements at the lower project boundary, consistent with its water supply and other legal obligations. If the Deputy Director finds that there is a pattern of exceedances that could result in adverse impacts to fishery resources, it may require the Licensee to file a plan identifying any feasible measures that the Licensee may undertake, or modifications to other license requirements, to address the exceedances.~~

S9. Habitat Expansion

In the event the habitat expansion measures contemplated under the "Habitat Expansion Agreement for Central Valley Spring-Run Chinook Salmon and California Central Valley Steelhead" (March 2006) are not completed and the National Marine Fisheries Service seeks fish passage pursuant to its Federal Power Act Section 18 authority, the Deputy Director reserves authority to modify the conditions of this water quality certification to seek fish passage or other appropriate measures for purposes of mitigating impacts to migration and spawning

habitat on the Feather River as caused by the Oroville Facilities, in a manner this is consistent with the measures sought by NMFS and approved by FERC.

~~Within two years of license issuance, the Licensee shall complete identification, evaluation and recommendation of habitat expansion action(s) to expand spawning, rearing and adult holding habitat to accommodate a net increase of 2,000 to 3,000 spring-run Chinook salmon for spawning. If the final habitat expansion plan developed through the Habitat Expansion Agreement (HEA) includes a schedule for completion of the recommended actions, is submitted to the Deputy Director for review, modification as appropriate, and approval within two years of license issuance, and is timely and appropriately implemented, the Licensee shall be deemed to have met the requirement for habitat expansion. For the purposes of this condition, if the Deputy Director does not either act on the Licensees' request for approval of the plan or identify the need for additional information or actions within 60 days of submission, the plan shall be deemed approved.~~

~~The State Water Board reserves the authority, delegated to the Deputy Director, to modify this condition if the goals of the habitat expansion plan are not met within the timelines in the plan, or if the Licensee withdraws from the HEA before the approved, final habitat expansion plan is fully implemented. If Pacific Gas and Electric Company (PG&E) does not agree to the plan, or refuses to implement the HEA, and the Licensee so requests, the Deputy Director will modify this condition as necessary to provide that the Licensee's responsibility is consistent with only the Licensee's share of the loss of habitat attributable to both PG&E's upstream facilities and the Project.~~

S10. Lake Oroville Warm Water Fishery Habitat Improvement Program

a) Within one year of license issuance, the Licensee shall develop and file with the Deputy Director for approval a Plan to improve the habitat of the warm water fishery in Lake Oroville, primarily for the benefit of spawning and rearing. The Licensee shall consult with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, State Water Board, and California Department of Fish and Game (consultees) in developing this Plan. Consultation with the Ecological Committee complies with the consultation requirement, as long as the agencies listed are part of the Ecological Committee. The Licensee shall include with the filing of the Plan copies of the comments, including recommendations, made in the course of such consultation, and an explanation as to why any such comment was not adopted. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the Plan shall be deemed approved.

b) The Plan shall provide for: (1) construction, operation, and maintenance of projects to improve warm water fishery habitat within the reservoir or fluctuation zone; (2) implementation of the Plan in seven-year intervals, except that the final interval may be adjusted as appropriate to coincide with license expiration; (3) the annual construction of an average of 15 habitat units; (4) specific habitat units to be constructed in the first interval and that, for each subsequent seven-year interval, the Licensee shall plan further habitat units in consultation with the Ecological Committee, including specifically the consultees; (5) a monitoring program, including angler creel surveys, electrofishing, and springtime snorkel surveys, to evaluate the success of the habitat improvement program; and (6) modification

of habitat units based on monitoring results, need, or improvements in technology, within the cost limitations stated above.

c) The Licensee shall file annually with the Deputy Director a compliance report for information. The annual compliance report shall describe all work performed on such habitat improvements during the previous calendar year. The annual report at the end of each seven-year interval shall describe all such work during that interval, including monitoring results.

S11. Lake Oroville Cold Water Fishery Improvement Program

a) Within one year following license issuance, the Licensee shall develop and file with the Deputy Director for approval a Plan to provide a cold water fishery primarily for the purpose of recreational fishing. The Licensee shall consult with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, State Water Board, and California Department of Fish and Game (consultees) in developing this Plan. Consultation with the Ecological Committee complies with the consultation requirement, as long as the agencies listed are part of the Ecological Committee. The Licensee shall include with the filing of the Plan copies of the comments, including recommendations, made in the course of such consultation, and an explanation as to why any such comment was not adopted. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the Plan shall be deemed approved.

b) Any modification to the implementation measures not within the scope of the approved Plan must be filed with the Deputy Director for modification and approval.

c) The Plan shall provide for: (1) the stocking of 170,000 yearling salmon or equivalents per year, plus or minus 10 percent; (2) identification of a primary source of salmonids for stocking in the lake; (3) addressing disease issues associated with the source or handling of salmonids; (4) identification of alternative sources of salmonids for stocking in the lake; (5) analysis of the feasibility of providing a disinfection system for hatchery water resources; and (6) a monitoring program.

d) The Plan shall be reviewed and updated by the Licensee every ~~ten~~10 years. The Licensee shall consult with the consultees listed in S11(a) above, and then file the updated Plan with the Deputy Director for modification and approval. The Licensee shall include with the filing any comments, including recommendations made in the course of such consultation, and an explanation as to why any such comment was not adopted.

e) The Licensee shall submit a monitoring report every two years for information with the Deputy Director, and shall include with the filing copies of the comments, including recommendations, made by the consultees, and an explanation as to why any such comment was not adopted.

S12. Comprehensive Water Quality Monitoring Program

a) Within six months of license issuance, Licensee shall begin preparation of a Comprehensive Water Quality Monitoring Program (Program) to monitor water quality associated with the Project, and collect data necessary to develop a water quality trend assessment through the life of the Commission license. This Program shall be developed in consultation with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, California Department of Fish and Game, State Water Board, the Central Valley Regional Water Quality Control Board, as well as Butte County Health Department (consultees). Consultation with the Ecological Committee complies with the consultation requirement, as long as the agencies listed are part of the Ecological Committee. The Program will include components to sample water chemistry, fish tissue bioaccumulation, recreation site pathogens and petroleum product concentrations, water temperatures, bioassays, cyanobacteria/cyanotoxins, and aquatic macroinvertebrate monitoring. The Program shall use accepted methodologies for field sampling and laboratory analysis and shall be consistent with State of California's Surface Water Ambient Monitoring Program Quality Assurance Program Plan.

b) Within nine months of license issuance, and following the consultation set forth in S12(a), the Program shall be submitted to the Deputy Director for approval. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the Plan shall be deemed approved. Upon approval by the Deputy Director, the Licensee shall implement the Program. The Licensee may at anytime, after consultation with consultees in S12(a), submit to the Deputy for approval changes to the Program. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the Plan shall be deemed approved.

c) In each of the first five years of the Program, Licensee shall collect, analyze and compile the water quality data into annual reports. The annual reports shall be provided to the Deputy Director and the consultees listed in S12(a) above, and any other entity upon request, by May 30th of the following year. Following completion of all data collected for year five, the Licensee shall compile a summary report of the initial Program, which shall be provided to the Deputy Director, the consultees listed in S12(a) above, and any other entity upon request. A 45-day notice shall accompany the report, inviting all recipients to attend a water quality meeting, scheduled by the Licensee, to discuss the finding of the five-year data set. After consultation, the Licensee shall submit recommendations for a final Comprehensive Water Quality Monitoring Program to the Deputy Director, for approval prior to the Licensee's filing of the Program with the Commission. The Licensee shall include with the filing copies of the comments, including recommendations, made in the course of consultation with the consultees, and an explanation as to why any such comment was not adopted. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the Program shall be deemed approved. Upon Deputy Director approval, the Licensee shall implement the Program. Water quality data shall be analyzed and compiled by the Licensee into five-year reports and distributed to the consultees listed in S12(a) above, and any other entity upon request.

d) Within six months of Deputy Director approval of the final Comprehensive Water Quality Monitoring Program, Licensee shall begin implementation of the Water Chemistry Monitoring Plan component of the Program, including the following:

1. In-situ Physical Parameters: The Licensee shall monitor between 15 and 20 locations four times each year (seasonally) for in-situ physical parameters necessary for determining water quality. In-situ data collected at each sampling location shall include water temperature, dissolved oxygen (DO), pH, specific conductivity, oxidation/reduction, and turbidity. Monitoring at Lake Oroville, the Diversion Pool at Oroville Dam, and one site within the Thermalito Afterbay shall include vertical profiles for temperature, DO, pH, oxidation/reduction, and specific conductivity collected at the Diversion Pool and Thermalito Afterbay at one meter intervals from surface to substrate and at Lake Oroville as follows: at one meter intervals from surface to 30 meters depth, at three meter intervals from 33 to 60 meters depth, at five meter intervals from 65 to 100 meter depth, and at ten meter intervals from 110 meters to substrate.

~~1.~~2. Nutrients: The Licensee shall monitor between 15 and 20 locations two times each year (spring and fall), for nutrients necessary for determining water quality. Nutrient data collected at each sampling location shall include nitrate plus nitrite, ammonia, organic nitrogen, dissolved orthophosphate, and total phosphorus.

~~2.~~3. Metals: The Licensee shall monitor between 18 and 22 locations four times each year (seasonally), for metals necessary for determining water quality. The developed marinas (Bidwell and Lime Saddle) shall be included in the locations, along with sites to be specified in Lake Oroville, the Diversion Pool, Thermalito Forebay, Thermalito Afterbay, the ~~Low Flow Channel~~LFC, Mile Long Pond, and the Feather River at the southern boundary of the Project. Additional monitoring shall occur at both marinas one time each month during the recreation season (June-September). Metals shall be analyzed and reported as total concentrations and dissolved fractions for aluminum, arsenic, cadmium, chromium, copper, iron, lead, manganese, nickel, selenium, silver, zinc, and mercury; in addition, total hardness shall be analyzed for each sampling location.

~~3.~~4. Minerals and Alkalinity: The Licensee shall monitor between 15 and 20 locations two times each year (spring and fall), for minerals and alkalinity necessary for determining water quality. Minerals data collected at each sampling location shall include calcium, sodium, potassium, magnesium, sulfate, chloride, boron, and alkalinity.

~~4.~~5. Plankton: The Licensee shall monitor two locations, two times each year, for phytoplankton and zooplankton as part of the water quality assessment. The monitoring sites are Lake Oroville and Thermalito Afterbay.

e) Within three years of Deputy Director approval of the final Program, Licensee shall begin implementation of the Fish Tissue Bioaccumulation Monitoring Plan component of the Program. The Licensee shall collect resident fish species from seven locations within project waters, one time every five years, beginning five years after license issuance, and

analyze tissue for metals and organic compounds. Sampling strategy for target species, numbers of individuals, sampling locations, and analytical methods used shall be determined through Licensee consultation with the State Water Board, California Office of Environmental Health Hazard Assessment, Central Valley Regional Water Quality Control Board during development of the Comprehensive Water Quality Monitoring Program. Constituents to be analyzed include metals (arsenic, cadmium, chromium, copper, iron, lead, nickel, selenium, silver, zinc, and mercury), and organic compounds (chlordane, chlorpyrifos, DDT isomers, dieldrin, hexachlorobenzene, and polychlorinated biphenyls).

f) Within six months of Deputy Director approval of the Program, Licensee shall begin implementation of the Recreation Site Water Quality Monitoring Plan component of the Program, including the following:

1. Pathogens - The Licensee shall collect and analyze water samples for pathogens at 10 to 14 locations within project waters each summer season. Near-shore water samples shall be collected five times within a 30-day period at each location, and one time between June 15 and September 15. Potential sampling locations shall include developed beach areas, marinas, and boat launch areas along with high-use dispersed beach and shoreline locations in all waters affected by project operations. Prior to April 30th each year, the Licensee, in consultation with the State Water Board, Central Valley Regional Water Quality Control Board, Butte County Health Department, and California Department of Parks and Recreation shall select the locations to be included in the upcoming seasonal sampling program. In addition, the Licensee shall collect and analyze water samples for pathogens from June 1 through September 30 at North Forebay recreation area, South Forebay recreation area, Loafer Creek recreation area, Monument Hill recreation area, Lime Saddle recreation area, Foreman Creek boat launch area, Stringtown boat launch area, and Mile Long Pond. Additionally, at the North Forebay recreation area, individual screening samples shall be collected monthly between June 1 and September 30. Laboratory analyses for pathogens shall include: total coliform, fecal coliform, e-coli, enterococcus, and streptococcus, or other pathogens of concern for public health protection identified during annual consultation.

2. Petroleum Products - The Licensee shall monitor six locations for petroleum products in project waters (Bidwell Marina, Lime Saddle Marina, Foreman Creek Boat-in Campground, Spillway Boat Ramp/Day Use Area, Oroville Dam, and Monument Hill). Water column samples shall be collected one time each month from June through September. Field sampling methods shall include both surface and bottom samples at each location. Samples shall be analyzed for Total Petroleum Hydrocarbons, and benzene.

3. Soil Erosion - The Licensee shall inspect trails between May 1 and May 15 and following the summer recreation season to identify soil erosion and potential subsidence into reservoirs or flowing waterways.

g) Within three months of Deputy Director approval of the Program, Licensee shall begin implementation of the Water Temperature Monitoring Plan to provide information that demonstrates compliance with the water temperature requirements in this certification. The

Licensee shall site four permanent continuous temperature monitoring devices, one each at the following locations: (1) Feather River Hatchery aeration tower, (2) Robinson's Riffle, (3) Thermalito Afterbay Outlet, and (4) the Feather River adjacent to the most southern Project 2100 boundary. The permanent temperature gages shall be capable of providing real-time data to the hatchery operators and to the public via an internet-based medium such as the Department of Water Resources' California Data Exchange Center. The four permanent gages shall remain operational throughout the life of the license.

h) The Water Temperature Monitoring Plan shall be designed and implemented to provide data necessary for additional modeling or study associated with facility modification(s). The Licensee shall install and collect temperature data from temporary continuous recording devices at appropriate locations to provide data necessary for additional modeling or study associated with facility modification(s).

i) The Water Temperature Monitoring Plan shall be reviewed after five years, to determine if modifications to the Comprehensive Water Quality Monitoring Program are necessary for consistency with measures that may be implemented following decisions on water temperature management in the ~~Low Flow Channel~~LFC and High Flow Channel. Continuous temperature monitoring will include both stream stations and reservoir stations, including vertical profile data collection adequate to evaluate changes in cold water pool and stratification in other deep water bodies within the Project boundary.

j) Within three years of Deputy Director approval of the Program, Licensee shall implement the Water Quality Bioassay Monitoring Plan component of the Program. The Licensee shall collect water column samples from two locations in the ~~Low Flow Channel~~LFC, four times in a single year (seasonally), every five years, beginning five years after license issuance, to conduct bioassay tests on aquatic organisms. Aquatic organisms to be used in bioassays will be *Ceriodaphnia* and Fathead minnow (*Pimephales promelas*).

k) Within one year of Deputy Director approval of the Program, Licensee shall implement the Aquatic Macroinvertebrate Monitoring Plan component of the Program. The Licensee shall collect benthic macroinvertebrate samples from a minimum of seven stream locations during the fall index period one time every three years, beginning three years after license issuance. Field sampling, laboratory identification, and statistical analysis shall be consistent with the California Stream Bioassessment Procedures (California Department of Fish and Game) or Surface Water Ambient Monitoring Program (or successor program). A minimum of four sites shall be located in the ~~Low Flow Channel~~LFC and one site in the High Flow Channel at the southern-most project boundary. Following construction of any side channel habitat created as part of the Lower Feather River Habitat Improvement Program, sampling sites representative of each channel shall be added to the monitoring program.

l) Within six months of license issuance, the Licensee shall submit a plan to the Deputy Director for modification and approval to protect the public from harmful cyanobacteria. The plan shall include sampling locations, sampling methodology, and laboratory procedures to monitor for the presence of harmful cyanobacteria and cyantoxins within Project waters. The plan shall include procedures for protecting the public from harmful

levels of cyanotoxins. The plan shall be consistent with the Statewide Guidance for Blue-Green Algae.

m) The Licensee, in consultation with the consultees listed in (a) above shall reevaluate the Program every five years after initial implementation. Any recommendations acceptable to the Licensee for changes to the Program shall be submitted to the Deputy Director for modification and approval. The Licensee shall include with the filing copies of the comments, including recommendations, made in the course of such consultation, and an explanation as to why any such comment was not adopted. Upon Deputy Director approval, the Licensee shall implement the Program, including any changes required by the Deputy Director.

n) The State Water Board reserves the authority to require Licensee to conduct studies and, if appropriate, develop a methyl mercury management plan in conjunction with a Sacramento River basin-wide plan that addresses methyl mercury on a regional basis. If ongoing or future research and monitoring data indicate that the reservoirs or other aspects of power operations increase mercury methylation rates, the Deputy Director may require Licensee to prepare and submit for approval a study plan, including studies, to identify: (1) DWR's contribution to the methyl mercury problem; (2) potential measures to reduce the amount of methylated mercury in the waters affected by Licensee's operations, as well as to protect human health; and (3) an evaluation of the feasibility of those measures. The Deputy Director may require modifications to the study plan as part of the approval;, however, and the Licensee will not be required to shall implement the study plan as approved until such time as a Sacramenton Valley regional plan is implemented that requires implementation of methyl mercury on a basin-wide basis. If, based on the results of the study plan or other information, the Deputy Director determines that that DWR has contributed to the existence of mercury in the Feather River problem and there are appropriate and feasible measures that DWR could implement to reduce methyl mercury, Licensee shall develop an implementation plan for measures to reduce mercury and submit it to the Deputy Director for approval. The Deputy Director may require modifications as part of the approval. If, within 90 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the plan shall be deemed approved. Upon approval by the Deputy Director, the Licensee shall implement the mercury management plan.

o) The Deputy Director reserves jurisdiction to require a plan to address any Basin Plan violations identified in this monitoring which the Deputy Director finds the project causes or to which it significantly contributes.

S13. Pathogen Public Health Protection

a) The Licensee shall promptly provide results from pathogen testing at recreation areas (collected per Condition S12) to the Butte County Health Department, California Department of Health Services, State Water Board and Central Valley Regional Water Quality Control Board and confer with them on additional measures that may be necessary to inform and educate the public about bacteria levels in Project waters. Such information shall be shared with the Recreation Advisory Committee at the next meeting.

b) Upon direction from an appropriate agency, Licensee shall place notices notifying the public if unsafe levels of bacteria are present in the water. The Licensee shall also provide notices educating the public on sanitary measures designed to prevent or minimize contamination of water.

c) The Licensee, in consultation with the Butte County Health Department, California Department of Health Services, State Water Board and Central Valley Regional Water Quality Control Board shall determine if a public education program is needed to inform visitors to the project about water quality and the risks associated with recreating in contaminated waters. If needed, the Licensee shall develop the public education program in consultation with the above agencies.

d) The Licensee shall reevaluate these measures every five years. The Licensee shall file annually with the Deputy Director a compliance report for information.

e) Within six months of license issuance, the Licensee shall submit a plan to protect public health at the North Forebay recreation area to the Deputy Director for approval. The plan shall include a schedule to evaluate the current risk to swimmers and other recreation users. The Deputy Director may require modifications as part of the approval. If, within 90 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the plan shall be deemed approved. If the Deputy Director determines based on this evaluation or other reliable information there is a risk to the public, the Licensee shall have one year to submit a plan to reduce pathogens to levels necessary to protect public health.

S14. Public Education Regarding Risks of Fish Consumption

a) The Licensee shall develop a plan in consultation with the Office of Environmental Health Hazard Assessment, Central Valley Regional Water Quality Control Board, and Butte County Health Department, to advise the public regarding the risks associated with the consumption of contaminated fish. The plan shall include the collection and analysis of fish tissues and if necessary, the posting of consumption advisory notices at key locations. The plan shall be submitted to the Deputy Director for approval. The Deputy Director may require modifications as part of the approval. If, within 90 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the plan shall be deemed approved. If the Deputy Director determines levels of metals or other constituents are at levels in fish tissue that may be hazardous to humans, based on results from the Fish Tissue Bioaccumulation Monitoring, the Licensee shall provide funding to the Office of Environmental Health Hazard Assessment for the development of additional fish tissue advisories and/or publishing of written materials notifying the public about health issues associated with consuming fish taken from within Project waters.

b) The Licensee shall file annually with the Deputy Director a compliance report for information.

S15. Oroville Wildlife Area Management Plan

a) Within two years of license issuance the Licensee shall develop and file for Deputy Director approval a management plan for the Oroville Wildlife Area (OWA), including the Thermalito Afterbay. The Plan shall be developed in conjunction with the California Department of Fish and Game and the California Department of Parks and Recreation, and in consultation with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, State Water Board, and Central Valley Regional Water Quality Control Board (consultees). Consultation with the Ecological Committee complies with the consultation requirement, as long as the agencies listed are part of the Ecological Committee. The Licensee shall include with the filing of the Plan copies of the comments, including recommendations, made in the course of such consultation, and an explanation as to why any such comment was not adopted. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the Plan shall be deemed approved. Upon Commission and Deputy Director approval, and after obtaining all necessary permits, the Licensee shall implement the Plan, including any changes required by the Commission and Deputy Director.

b) The Plan shall contain the following elements:

1. Conservation measures required by Final Federal Biological Opinions
2. Resource actions included in this license that may affect the OWA
3. Strategies to minimize current and future conflicts between wildlife and recreation
4. Wildlife management goals and objectives
5. Recreation management goals and objectives (Consistent with the recreation measures outlined in the Recreation Management Plan, the Recreation Advisory Committee shall have an opportunity to provide input.)
6. Other best management practices, including fuel load management for the reduction of fire risk to nearby properties and human life
7. Common elements of the Lower Feather River Habitat Improvement Plan
8. Actions designed to improve conditions for special status species and their habitats
9. An implementation schedule
10. Monitoring and reporting requirements
11. A provision for periodic updates to the Plan as needed
12. Agency management and funding responsibilities

c) The Licensee, in consultation with the California Department of Fish and Game and the consultees listed in S15(a) above, shall reevaluate the Plan every five years after initial implementation. Consistent with the recreation measures outlined in the Recreation Management Plan, the Recreation Advisory Committee shall have an opportunity to provide input. The Licensee shall provide all Plan updates to the Deputy Director for information. If any changes are recommended beyond the objectives, activities, or schedules identified in the Plan, the Licensee shall submit final recommendations in a revised plan to the Deputy Director for approval. The Licensee shall include with the filing copies of the comments, including recommendations, made in the course of such consultation, and an explanation as to why any such comment was not adopted. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the revised

plan shall be deemed approved. Upon Commission and Deputy Director approval, the Licensee shall implement the Plan, including any changes required by the Commission and Deputy Director.

S16. Protection of Vernal Pools

a) The Licensee shall implement conservation measures required by the U.S. Fish and Wildlife Service Final Biological Opinion to protect the vernal pool invertebrate habitat within the Project boundaries.

b) The Licensee shall evaluate the effectiveness of these conservation measures in accordance with the Biological Opinion. The Licensee, in coordination with U.S. Fish and Wildlife Service, shall evaluate and report to the Deputy Director information on the effectiveness of the conservation measures by June 21, 2010. The measures shall be reevaluated in the spring every other year thereafter in accordance with the Biological Opinion. If the conservation measures implemented are deemed to be unsuccessful in protecting the vernal pool habitat, the Licensee shall coordinate with the U.S. Fish and Wildlife Service to develop and implement additional or alternative conservation measures to protect the vernal pool habitat. Proposed modifications outside the scope of the Biological Opinion shall be filed with the Deputy Director for approval prior to implementation. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the filing shall be deemed approved.

S17. Minimization of Disturbances to Nesting Bald Eagles

a) The Licensee shall include the conservation measures required by the U.S. Fish and Wildlife Service Final Federal Biological Opinion in any bald eagle management Plan(s). The Licensee shall file any bald eagle nest territory Plan(s) with the Deputy Director for approval. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the Plan shall be deemed approved. Upon Deputy Director approval, the Licensee shall implement the Plan(s), including any changes required by the Deputy Director. The Licensee shall evaluate the conservation measures in the Plan(s) according to the provisions of the Biological Opinion, and implement modifications deemed necessary accordingly. Proposed modifications outside the scope of the Biological Opinion shall be filed with the Deputy Director for consultation and approval prior to implementation.

b) The Licensee shall develop additional management Plan(s) or amend the current Plan(s) if new bald eagle nest territories are identified within the Project boundary. The Plan(s) shall be developed or amended in consultation with the U.S. Fish and Wildlife Service. The Plan(s) shall be filed with the Deputy Director for approval. The Licensee shall include with the filing copies of the comments, including recommendations, made in the course of consultation, and an explanation as to why any such comment was not adopted. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the Plan shall be deemed approved. Upon Deputy Director

modification or approval, the Licensee shall implement the Plan(s), including any changes required by the Deputy Director.

S18. Protection of Giant Garter Snake

a) The Licensee shall implement conservation measures required by the U.S. Fish and Wildlife Service Final Biological Opinion to protect the giant garter snake within the Project Boundary.

b) The Licensee shall evaluate the effectiveness of these conservation measures in accordance with the Biological Opinion. The Licensee, in coordination with the U.S. Fish and Wildlife Service, shall annually evaluate and report to the Deputy Director for information on the effectiveness of the conservation measures. If the conservation measures implemented are deemed to be unsuccessful in protecting the giant garter snake, the Licensee shall coordinate with U.S. Fish and Wildlife Service to develop and implement additional or alternative conservation measures to protect the giant garter snake. Proposed modifications outside the scope of the Biological Opinion shall be filed with the Deputy Director for approval prior to implementation. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the filing shall be deemed approved.

S19. Protection of Valley Elderberry Longhorn Beetle

a) The Licensee shall implement conservation measures required by the U.S. Fish and Wildlife Service Final Biological Opinion to protect the valley elderberry longhorn beetle within the Project Boundary.

b) The Licensee shall evaluate the effectiveness of these conservation measures in accordance with the Biological Opinion. The Licensee, in coordination with the U.S. Fish and Wildlife Service, shall annually evaluate and report to the Deputy Director for information on the effectiveness of the conservation measures. If the conservation measures implemented are deemed to be unsuccessful in protecting the valley elderberry longhorn beetle, the Licensee shall coordinate with U.S. Fish and Wildlife Service to develop and implement additional or alternative conservation measures to protect the valley elderberry longhorn beetle. Proposed modifications outside the scope of the Biological Opinion shall be filed with the Deputy Director for approval prior to implementation. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the filing shall be deemed approved.

S20. Protection of Red-Legged Frog

a) The Licensee shall implement conservation measures required by the U.S. Fish and Wildlife Service Final Biological Opinion to protect the red-legged frog within the Project Boundary.

b) The Licensee shall evaluate the effectiveness of these conservation measures in accordance with the Biological Opinion. The Licensee, in coordination with the U.S. Fish

and Wildlife Service, shall annually evaluate and report to the Deputy Director for information on the effectiveness of the conservation measures. If the conservation measures implemented are deemed to be unsuccessful in protecting the red-legged frog, the Licensee shall coordinate with U.S. Fish and Wildlife Service to develop and implement additional or alternative conservation measures to protect the red-legged frog. Proposed modifications outside the scope of the Biological Opinion shall be filed with the Deputy Director for modification and approval prior to implementation. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the filing shall be deemed approved.

S21. Construction and Recharge of Brood Ponds

a) Within one year of license issuance, the Licensee shall develop and file for Deputy Director approval a Plan to construct four waterfowl brood ponds within the Thermalito Afterbay. The Plan shall be developed in conjunction with the California Department of Fish and Game and the Licensee shall consult with the Ecological Committee, including specifically the U.S. Fish and Wildlife Service, in developing the Plan. The Licensee shall include with the filing of the Plan copies of the comments, including recommendations, made in the course of such consultation, and an explanation as to why any such comment was not adopted. The Deputy Director may require modifications as part of the approval. If, within 60 days, the Deputy Director does not either act on the request for approval or identify the need for additional information or actions, the Plan shall be deemed approved. Upon modification or approval by the Deputy Director, the Licensee shall implement the Plan, including any changes required by the Deputy Director.

b) The Plan shall contain the following elements:

1. Construction of one brood pond every five years over the 20-year period beginning upon issuance of this license. The ponds shall be constructed by creating a small earthen berm across an inlet in the Thermalito Afterbay.

2. Maintenance of adequate water surface elevations within existing and future waterfowl brood ponds located within the Thermalito Afterbay by sufficiently filling the brood ponds no later than April 15 of each year. Once the brood ponds are filled, Licensee shall ensure that the water surface level of the ponds shall not fluctuate more than one foot throughout the primary waterfowl brooding season ~~of~~ from April 15th through July 31st.

3. Monitoring of the ponds on a weekly basis to ensure that adequate water surface elevations are maintained during the period ~~of~~ from April 15~~th~~ through July 31~~st~~.

4. A requirement that the Licensee shall report to the California Department of Fish and Game's Oroville Wildlife Area Manager within 48 hours of discovering a fluctuation of more than one foot to report what the Licensee has done to remedy the situation or what the Licensee needs to further do to remedy the situation.

5. Weekly inspection of the ponds from April 15 through July 31 of each year and maintenance as needed to ensure their structural integrity.

c) The Licensee shall file an annual report with the Deputy Director for information on water elevation monitoring. In addition, the Licensee shall provide a copy of such annual report to California Department of Fish and Game and U.S. Fish and Wildlife Service.

S22. Timeline Extension Requests

Where the water quality certification conditions specify a schedule for compliance, Licensee may request from the Deputy Director an extension of the timeline specified, which may be granted upon a showing of good cause and due diligence.

General Conditions

G1. The Deputy Director reserves the authority to modify the conditions of this water quality certification to incorporate load allocations developed in a Total Maximum Daily Load developed by the State Water Board or Central Valley Regional Water Quality Control Board.

G2. This certification is contingent on compliance with all applicable requirements of the Water Quality Control Plan for the Sacramento and San Joaquin River Basins, except as may be modified by the specific conditions of the certification.

G3. Notwithstanding any more specific conditions in this certification, the Projects shall be operated in a manner consistent with all water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or section 303 of the Clean Water Act. The Licensee shall take all reasonable measures to protect the beneficial uses of waters of the Feather River.

G4. The authorization to operate the Project pursuant to this certification is conditioned upon payment of all applicable fees for review and processing of the application for water quality certification and administering the State's water quality certification program, including but not limited to timely payment of any annual fees or similar charges that may be imposed by future statutes or regulations for the State's reasonable costs of a program to monitor and oversee compliance with conditions of water quality certification.

G5. This certification does not authorize any act which results in the taking of a threatened or endangered species or any act, which is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish & Game Code §§ 2050-2097) or the federal Endangered Species Act (16 U.S.C. §§ 1531 - 1544). If a "take" will result from any act authorized under this certification or water rights held by the Licensee, the Licensee shall obtain authorization for the take prior to any construction or operation of the Project. The Licensee shall be responsible for meeting all requirements of the applicable Endangered Species Act for the Projects authorized under this certification.

G6. In the event of any violation or threatened violation of the conditions of this certification, the violation or threatened violation shall be subject to any remedies, penalties, process or sanctions as provided for under applicable state or federal law. For the purposes of section 401(d) of the Clean Water Act, the applicability of any state law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this certification. In response to a suspected violation of any condition of this certification, the State Water Board may require the holder of any federal permit or license subject to this certification to furnish, under penalty of perjury, any technical or monitoring reports the State Water Board deems appropriate, provided that the burden, including costs, of the reports shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In response to any violation of the conditions of this certification, the State Water Board may add to or modify the conditions of this certification as appropriate to ensure compliance.

G7. Licensee must submit any change to the Oroville Facilities, including project operation, that would have a significant or material effect on the findings, conclusions, or conditions of this certification, to the Deputy Director for prior review and written approval. If such a change would also require submission to the Federal Energy Regulatory Commission, the change must first be submitted to the Deputy Director.

G8. This certification is subject to modification upon administrative or judicial review, including review and amendment pursuant to Water Code section 13330 and California Code of Regulations, title 23, division 3, chapter 28, article 6 (commencing with § 3867).

G9. The State Water Board reserves authority to modify this certification if monitoring results indicate that continued operation of the project would violate water quality objectives or impair the beneficial uses of the Feather River.

G10. The State Water Board may add to or modify the conditions of this certification, as appropriate, to implement any new or revised water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or section 303 of the Clean Water Act.

G11. The State Water Board may add to or modify the conditions of this certification as appropriate to coordinate the operations of this Project and other hydrologically connected water development projects, where coordination of operations is reasonably necessary to achieve water quality standards or protect beneficial uses of water.

G12. The State Water Board shall only exercise its authority to add or modify those provisions where the authority to do so is expressly reserved, and shall provide notice and an opportunity for hearing in exercising its such authority to add or modify any of the ~~conditions of this certification~~. The State Water Board acknowledges that DWR reserves its right to challenge the exercise of such authority on any basis.

G13. Notwithstanding any more specific conditions in this certification, Licensee shall comply with mitigation measures of the mitigation monitoring and reporting plan in Attachment A.

~~DRAFT~~
~~Dorothy Rice~~
~~Executive Director~~

~~Dated:~~

~~Attachment~~

CERTIFICATION

The undersigned Clerk to the Board does hereby certify that the foregoing is a full, true, and correct copy of a water quality certification duly and regularly adopted at a meeting of the State Water Resources Control Board held on August 3, 2010.

AYE:

NAY:

ABSENT:

ABSTAIN:

DRAFT
Jeanine Townsend
Clerk to the Board

Attachment

RKanz:ds 06/30 and 7/1/2010
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