

US EPA ARCHIVE DOCUMENT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX

75 Hawthorne Street
San Francisco, CA 94105

December 19, 2006

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Place, N.E.
Washington, DC 20426

Subject: Draft Environmental Impact Statement (DEIS) for Hydropower License – Oroville Facilities—FERC Project No. 2100-134 California (CEQ #20060401)

Dear Ms. Salas:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act.

The Federal Energy Regulatory Commission (FERC) is considering an application from the California Department of Water Resources (DWR) for a new license for the existing Oroville Facilities. The 762-megawatt project is located on the Feather River in Butte County, California. The application includes actions agreed to by DWR and other signatories of the *Settlement Agreement for Licensing of the Oroville Facilities, FERC Project No. 2100* (March 24, 2006). FERC must decide whether to issue a new license to DWR for the Oroville Facilities and what conditions, if any, should be placed on that license. The DEIS presents FERC's evaluation of DWR's Proposed Action, FERC's alternative to the Proposed Action (Staff Alternative), and a no-action alternative.

Based on our review, we have rated the DEIS as Environmental Concerns – Insufficient Information (EC-2) (see enclosed "*Summary of Rating Definitions*"). We have concerns about the analysis of the no-action alternative and water quality impacts. We also request additional information regarding consultation with tribal governments and the analysis of cumulative impacts. If an Environmental Management System (EMS) has not been implemented, EPA recommends that the DWR consider this. Please see the enclosed Detailed Comments for a description of these concerns and our recommendations.

We appreciate the opportunity to review this DEIS. When the FEIS is released for public review, please send one (1) hard copy to the address above (mailcode: CED-2). If you have any questions, please contact me at (415) 947-4184 or Ann McPherson, the lead reviewer for this project. Ann can be reached at (415) 972-3545 or mcpherson.ann@epa.gov.

Sincerely,

/s/

Paula Bisson, Manager
Environmental Review Office
Communities and Ecosystems Division

Enclosures: Summary of EPA Rating Definitions
Detailed Comments

Project Description

The Oroville Facilities (FERC No. 2100) are owned and operated by the California State Department of Water Resources (DWR). These facilities are located on the Feather River in the foothills of the Sierra Nevada Mountains in Butte County, California. The facilities consist of three reservoirs (Lake Oroville, Thermalito Forebay, and Thermalito Afterbay), three powerhouses (Hyatt pumping-generating plant, Thermalito diversion dam power plant, and Thermalito pumping-generating plant), and associated recreational and aquatic resource protection facilities. The upstream reservoir is Lake Oroville, the state's second largest reservoir and principal water storage facility in the State Water Project (SWP), which supplies water to two-thirds of the state's population. Lake Oroville is impounded by Oroville Dam, the highest earth-filled dam in the United States, and is paired with the Hyatt pumping-generating plant. About four miles downstream lies the Thermalito Diversion Dam, which diverts water westward through the Thermalito Power Canal to the Thermalito Forebay, an off-stream regulating reservoir for the Thermalito Pumping-Generating Plant. When generating, the Thermalito Pumping-Generating Plant discharges into the Thermalito Afterbay, another off-stream regulating reservoir, which releases water back into the Feather River downstream of the Oroville Facilities.

1. Analysis of Alternatives

No-Action Alternative

Defining the no-action alternative is a critical step in the environmental analysis as it provides a baseline for comparison with the action alternatives. The no-action alternative does not necessarily constitute a no-impact baseline, as continuation of the existing practices may cause or contribute to significant environmental impacts. EPA believes that to interpret the “no action” alternative as having “no impacts” may not be consistent with the rigorous analysis described in 40 CFR 1502.14.

The DEIS does not provide sufficient information on the environmental impacts of the no-action alternative. Section 3.4 (No-Action Alternative, page 334) states, “*Under the No-action Alternative, DWR would continue to operate the Oroville Facilities under the terms and conditions of the current license. The environmental measures proposed in the Settlement Agreement would not be implemented, although the existing mitigation and enhancement measures (refer to sections 3.3.3.1, 3.3.4.1, and 3.3.6.1) would continue. Operation of the project under the current license would essentially maintain the natural resources of the Feather River basin in a “status quo” condition with some potential for enhancements in recreational resources as facilities are maintained or improved.*”

There is no analysis for each resource of the environmental impacts of implementing the no-action alternative, thereby preventing an adequate comparison of all alternatives.

Recommendation:

The Final EIS (FEIS) should provide additional information on the no-action alternative to describe the environmental impacts of continuing to operate the project under the terms and conditions of the current license. See EPA's recommendation under *Comparison of Alternatives* (below) for a suggested format to summarize this information.

Comparison of Alternatives

The DEIS describes the DWR's proposal to continue to own, operate, and maintain the Oroville Facilities. DWR proposes to: 1) implement six programs designed to enhance habitats for both coldwater fisheries and warmwater fisheries; 2) monitor water quality and bacteria levels at project waters; 3) enhance wildlife through proposed measures to manage the Oroville Wildlife Area; 4) enhance and expand recreational opportunities through the implementation of the Recreation Management Plan; and 5) implement a Historic Properties Management Plan. Construction of new facilities is planned as a component of the Recreation Management Plan. The Proposed Action includes 36 protection, mitigation, and enhancement (PM&E) measures (table 6, pg. 27) described in a Settlement Agreement filed by DWR on March 24, 2006.

Federal Energy Regulatory Commission (FERC) staff have evaluated the application, and proposed a Staff Alternative to address concerns and recommendations. The Staff Alternative contains additional measures including: 1) develop a fuel management plan on National Forest System lands; 2) prepare biological evaluations of any proposed new construction on National Forest System lands; 3) revise the Recreation Management Plan to include the development of maintenance standards, the completion of a trail condition inventory; and 4) close the Foreman Creek boat launch and develop a plan to protect cultural resources and install recreational facilities (pgs. xxi, 38-39). The third alternative is the no-action alternative.

40 CFR 1502.14 of the Council of Environmental Quality regulations describes how an EIS should present the environmental impacts of the proposed action and alternatives (including the no-action alternative) in a comparative form, sharply defining the issues and providing a clear basis for choice among options by the decision-maker and the public.

The PM&E measures proposed under the action alternatives are essentially mitigation measures to evaluate (monitor) or lessen environmental impacts from continued operation of the existing hydroelectric project. For each of the resources addressed in Chapter 3 (Environmental Analysis), the DEIS describes the affected environment, discusses the applicant's proposed actions, and reviews requirements of the Settlement Agreement and recommendations from other agencies. FERC then provides an analysis that includes the Commission's recommendations.

Although the DEIS provides a thorough analysis of the Proposed Action, as well as FERC's rationale for their preferred alternative (Staff Alternative), the information in the DEIS

is not presented in a way that provides the reader with a clear comparison of the alternatives and their environmental effects. As previously stated, the evaluation focuses on implementation of the proposed PM&E measures and does not address the potential environmental impacts of relicensing the project under the terms and conditions of the current license (i.e., the no-action alternative).

Recommendation:

The FEIS should include a concise summary of the environmental analysis performed in Section 3 that allows for a clear comparison of the impacts of all alternatives, including the no-action alternative. For each environmental resource evaluated in Section 3.3, the comparison should clarify:

- a) the impacts of the hydroelectric project operation on each resource,
- b) the PM&E measures that are proposed under each alternative, and
- c) the impacts of the project after implementing the PM&E measures under each alternative.

EPA suggests that a table format be used to summarize and display the information. For this particular DEIS, since the no-action alternative is the continuation of the existing project, the no-action alternative column should summarize the information referenced in (a), above (i.e., the impacts of the project). Information for (b) and (c) would be summarized in other columns addressing DWR's Proposed Action and FERC's Staff Alternative.

2. Requirements under the Clean Water Act (CWA)

CWA Section 401 Requirements

The DWR filed a request for a CWA Section 401 Water Quality Certification (WQC) on October 26, 2005 with the State Water Resources Control Board (SWRCB) (pgs. 37 and 376). Without a 401 certificate, the Oroville Facilities project cannot be licensed. The SWRCB is required to take action within one year (October 25, 2006) of the application filing date. Additional information about the application or the status of the application was not found in the DEIS.

Recommendation:

The FEIS should describe the status of the CWA 401 WQC that DWR has requested from the SWRCB. The FEIS should discuss the application in detail and address any water-quality issues that have been identified by the SWRCB.

CWA Section 303(d) Requirements

The CWA requires states to develop a list of water segments which do not or are not expected to meet applicable water quality standards, establish a priority ranking of those segments, and develop action plans (called Total Maximum Daily Loads (TMDLs)) to improve

water quality. The State of California's 2002 CWA Section 303(d) List of Water Quality Limited Segments indicates that the Feather River is impaired for the following compounds: mercury, diazinon, Group A Pesticides, and toxicity of unknown origin. The State of California's 2006 CWA Section 303(d) list adds chlorpyrifos to the list of compounds. The DEIS discusses the 2002 CWA 303(d) listings on page 76 but does not discuss whether TMDLs have been established for those water bodies, and what impact the proposed project might have on meeting CWA Section 303 goals.

Recommendation:

The FEIS should provide information about all CWA Section 303(d) impaired waters and efforts to develop TMDLs in the project area. It should describe existing restoration and enhancement efforts for those waters, how the proposed project will coordinate with ongoing protection efforts, and any mitigation measures that will be implemented in order to avoid further degradation of impaired waters. The FEIS should also provide a description of the CWA 303(d) program.

Concentrations of Mercury in Water Samples

The DEIS states that metal concentrations in several water samples exceeded the Basin Plan objectives in Lake Oroville and in the Feather River downstream of the dam (pg. 87). Additional detail regarding concentrations, frequencies of detection, and exceedance levels is not included or referenced in the DEIS.

The *Application for New License* (January 2005) states that several metals were found during the relicensing studies at concentrations that exceeded Basin Plan objectives, but the studies indicate the exceedances are not associated with project operations or recreational activities (pg. 5.4-55). Additional information regarding concentrations and exceedance levels was not included or referenced in this document.

Recommendation:

EPA recommends that DWR provide additional detail regarding the concentrations of metals detected in water samples in the Feather River watershed. Detected concentrations and applicable criteria should be summarized and discussed in the FEIS in greater detail. Water-quality studies containing additional information should also be referenced within the FEIS.

Concentrations of Mercury in Fish Samples

The DEIS states that fish tissues were also examined for metals and that results from the DWR fish-tissue sampling study indicate that metal concentrations in tissue samples are occasionally elevated based on comparison to recommended guidelines from various regulatory agencies (pg. 87). More exact information regarding the concentrations of metals detected in fish samples is not included in the DEIS, nor is the fish-tissue sampling study referenced in the DEIS.

The DWR states that potential health risks associated with fish consumption where advisories have been issued is considered to be low, unless the rate of fish consumption is considerably greater than the recommendations...and that there are no current fish advisories for any of the water bodies in the Feather River watershed (pg. 87). The DEIS also states that there is no evidence that operations of the Oroville Facilities have contributed to the elevated metals concentration in fish tissues. However, the Oroville Facilities provide sport fishing opportunities and thus the potential for human consumption of fish from the project area (pg. 87). The DEIS also states that DWR would sample fish tissue to detect any threats to sport anglers who ingest contaminated fish and that this practice would trigger fish consumption advisories (pg 103).

The DWR published a report in June 2005 and updated in February 2006 entitled, “*Contaminant Accumulation in Fish, Sediments, and the Aquatic Food Chain*”. The contents of this report contradict what is disclosed in the DEIS. This report states, “*Individual fish tissue analysis from Phase 2 confirms the presence of mercury consistently exceeding EPA guidelines of 0.3 parts per million (ppm) in most fish species and locations samples*” (pg. 5-5; pg. 5-12). Mercury concentrations were found to be elevated in Lake Oroville and Robinsons Pond (fig. 5.1-1; pg. 5-4; pg. 5-11). Concentrations were greater than/equal to 0.3 ppm in 94 of 212 fish fillet samples listed in appendix A (Section 8.0, pgs. 8-1 to 8-9).

The Office of Environmental Health Hazard Assessment (OEHHA) released a *Draft Health Advisory* containing *Safe Eating Guidelines for Fish from the Lower Feather River (Butte, Yuba, and Sutter Counties)* in August 2006. Mercury levels were evaluated in edible fish tissue and were collected from 1978—2002 in conjunction with the Toxic Substances Monitoring Program, the CALFED Mercury Project, and the Sacramento River Watershed Program. Concentrations in fish tissue ranged from 0.1-3.5 ppm; 88 of 114 samples exceeded EPA Guidelines of 0.3 ppm. The *Safe Eating Guidelines* in the *Draft Health Advisory* recommend that women of childbearing age, pregnant or breastfeeding women and children 17 years and younger: 1) do not eat striped bass or Sacramento pikeminnow; 2) eat nor more than 1 meal per month of largemouth, smallmouth, or spotted bass or catfish; 3) eat no more than 1 meal per week of carp or Sacramento sucker; and 4) eat up to 2 meals a week of sunfish. The *Safe Eating Guidelines* also make additional recommendations for men and women beyond childbearing age.

Recommendation:

The FEIS should disclose the metal concentrations (particularly mercury) detected in fish tissue. The FEIS should compare the results to applicable criteria and discuss the significance of the values. The DWR reports containing these data should be summarized and referenced within the FEIS.

Recommendation:

The FEIS should provide updated and more detailed information about the status of *Health Advisories* (draft and final) in the Feather River watershed. EPA believes that the mercury concentrations detected in fish tissue constitute a more substantial health risk for humans and wildlife than is acknowledged within the DEIS. The FEIS should discuss the level of risk that bioaccumulation of mercury or PCBs in fish may present to human

health and the health of other predators based on reported concentrations. The FEIS should include a discussion of the potential for mercury exposure to human populations that may be at elevated risk due to subsistence consumption of fish. The discussion should disclose, if known, information on current and historic consumptive practices of exposed populations, existing body burdens of those groups, plans to gather that information if it does not currently exist, and a strategy to advise individual consumers of the elevated exposure risks.

Recommendation:

The *Draft Health Advisory* defines the lower Feather River as the entirety of the river downstream from the Fish Barrier Dam to the confluence of the Sacramento River, not including Lake Oroville. Fish consumption advisories may be issued for Lake Oroville in the future. DWR should release their data to the State Water Control Board and OEHHA so that it can be included in the advisories evaluation process. The DWR should request guidance regarding risk assessment and fish consumption in Lake Oroville.

The DEIS states that historical gold mining practices upstream of the project area, as well as industrial and municipal land use, continue to be the primary source for most metals found in the project area. DWR's studies show that an estimated 97 percent of the sediment from the upstream watershed is trapped in Lake Oroville, resulting in sediment starvation downstream (pg. 116). Since metals are usually associated with sediment and Lake Oroville inhibits sediment transport, the Oroville Facilities probably act as a sink for metals from upstream sources. However, the DEIS states that there is no evidence that operations of the Oroville Facilities have contributed to the elevated metals concentration in fish tissues.

Recommendation:

EPA disagrees with the statement that there is no evidence that operations of the Oroville Facilities have contributed to the elevated metals concentrations in fish tissues. Contaminated sediment has been impounded within Lake Oroville, resulting in elevated levels of metals in sediment and fish in Lake Oroville. The "*Contaminant Accumulation in Fish, Sediments, and the Aquatic Food Chain*" report (2005 and 2006) noted that mercury concentrations from hatchery raised coho composites were significantly lower than Lake Oroville coho composites, indicating uptake of mercury in Lake Oroville coho (pg. 5-6, 5-13). This demonstrates a direct link to the presence of mercury in the Lake Oroville food web that has occurred as a result of the construction of the Oroville Facilities.

3. Terms of the Settlement Agreement

Section 1.4.3 of the DEIS (pgs. 8-11) discusses the Settlement Agreement filed on March 24, 2006 and includes a footnote referencing Appendix A and Appendix B in the Settlement Agreement. Table 6 in Section 2.2.3 of the DEIS lists DWR's proposed measures (Articles A100-A135) which are included in Appendix A of the Settlement Agreement. DWR agreed on several other measures (Section B100-B111) under the terms of the Settlement Agreement.

These measures are described in Appendix B of the Settlement Agreement, “*Settled Issues Not to be Included in the New Project License*”.

Recommendation:

The FEIS should include a full discussion and summary of all items in the Settlement Agreement filed on March 24, 2006, including those referenced in Appendix B. The issues discussed in Appendix B are also an integral part of the Settlement Agreement. Items discussed in Appendix B of particular importance include: Project Supplemental Benefits Fund of \$61,270,000 (Section B100), Feather River Whitewater Boating Opportunity Feasibility Study (Section B101), Development of a Fuel Load Management Plan (Section B102), and Feather River Fish Hatchery Funding (Section B104).

Section B108 in the Settlement Agreement describes a reconnaissance study for potential facility modifications for fish habitat temperature needs which is supposed to be submitted to the National Marine Fisheries Service, U.S. Fish and Wildlife, California Dept. of Fish and Game, California SWRCB, American Rivers, and the State Water Contractors by October 31, 2006 (pg. B-15). The alternatives to be considered include: 1) Palermo Canal improvements; 2) Hyatt intake extension; 3) replacement of the river valves with valves specifically designed to incrementally control water releases; 4) construction of a diversion canal around or through the Thermalito Afterbay; and 5) construction of an alternative Thermalito Afterbay Outlet and channel in the Oroville Wildlife Area to the Feather River.

Recommendation:

The FEIS should include a summary of the results of the Reconnaissance Study and any associated issues that the agencies reviewing the document have identified. The issue of fish habitat temperature needs is critical and relevant information should be disclosed.

4. Consultation with Tribal Governments/Preservation of Cultural Resources

Section 3.3.8.2 of the DEIS describes the environmental effects the proposed action may have on cultural resources. The document delineates issues related to cultural resources and sacred sites that have been raised by several tribes such as reservoir level fluctuations, operations and maintenance activities, public use, and the treatment of Native American human remains. Operations and maintenance activities have affected nearly 39 percent of the observed sites; public use has affected greater than 50 percent of the observed sites. Looting and vandalism has been recorded at about 20 percent of the recorded archeological sites.

In comments on the Settlement Agreement, the four federally recognized Tribes (Enterprise Rancheria, Mooretown Rancheria, Berry Creek Rancheria, Mechoopda Indian Tribe of Chico Rancheria) request the DWR pay the costs associated with restoring and re-burying the artifacts and remains previously removed from the area. The Berry Creek Rancheria and Mooretown Rancheria of Maidu Indians expressed concerns with proposed development and continued recreation at Foreman Creek (pg. 11). They would like to see public access prohibited

at the site except for local, federally recognized tribes. The Foreman Creek site contains a large cemetery which is highly vulnerable to vandalism and desecration.

The DEIS states that a draft Historic Properties Management Plan (HPMP) will be implemented as described under Proposed Article A128 (pg. 297). The HPMP was developed in consultation with state and federal agencies; recognized and unrecognized Tribes; the Cultural Resources Work Group; and the State Historic Preservation Officer (SHPO). It is not clear from the DEIS, however, the extent to which tribal concerns have and will be addressed, and the means of resolving conflicts. The DWR plans to upgrade and add new facilities at many sites including Foreman Creek; however, adding new facilities will likely increase use and opportunities to damage sites of concern. Although plans for recreational development are very specific, the plans for how best to protect significant cultural material are not well developed (pg. 301).

Recommendation:

The FEIS should provide additional information on how the DWR plans to protect significant cultural resources, particularly when public access is encouraged in close vicinity to cultural and historical sites. The FEIS should identify specific measures for protecting the Foreman Creek site, including restricting public access and off-highway vehicle use. The DEIS should clarify the role FERC will play to meet its trust responsibilities to the tribes in light of the issues and concerns raised by them.

Recommendation:

The FEIS should reference the HPMP and summarize measures that would cumulatively reduce the threat of destruction of these cultural resources. The FEIS should discuss the development of site-specific treatment plans for areas of known concern and include a timeline for resolving conflicts.

5. Cumulative Impacts Analysis

The DEIS identifies the following resources to be cumulatively affected by the project: geology, water quality and quantity, aquatic resources, terrestrial resources, threatened and endangered species, and cultural resources (pg. 43). Cumulative impacts are defined in the CEQ NEPA regulations as the impact on the environment that results from the incremental impact of the action when added to the other past, present, and reasonable foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such actions (40 CFR 1508.7). The DEIS does not evaluate the potential cumulative effects from the project of any activities in the surrounding area besides hydropower operations. It lacks information on projected growth, development, and other activities within the identified geographic and temporal scope of the project, and the cumulative impacts that may result from those actions.

Recommendation:

EPA recommends using the California Department of Transportation Indirect and Cumulative Impacts Analysis, which is co-authored by EPA and is applicable to impact

analyses for non-road projects outside of California. This guidance can be found at [http://www.dot.ca.gov/ser/cumulative_guidance/purpose.htm] and [http://www.dot.ca.gov/ser/Growth-related_IndirectImpactAnalysis/gri_guidance.htm].

Section 3.3.8.3 includes a paragraph on the *Cumulative Effects on Cultural Resources*. The DEIS acknowledges that increased recreational use has contributed to the inadvertent or intentional destruction of prehistoric and historic archaeological resources. The DEIS states that the measures included in the HPMP for the Oroville Facilities would cumulatively reduce the rate of destruction of these cultural resources. Specific examples of these measures are not discussed in the DEIS.

Recommendation:

The FEIS should provide a substantive discussion of, and quantify where possible, the cumulative effects of the project when considered with other past, present, or reasonably foreseeable projects, regardless of what agency or person undertakes those actions (see 40 CFR Section 1508.7). The document should also propose mitigation for all cumulative impacts, and clearly state the lead agency's mitigation responsibilities and the mitigation responsibilities of other entities.

6. Endangered Species Act (ESA)

The DEIS concludes that relicensing this project with the terrestrial habitat protection and enhancement measured proposed in the Settlement Agreement and recommended under the Staff Alternative would likely have a **beneficial** effect on the bald eagle, giant garter snake, California red legged frog, Conservancy fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, and valley elderberry longhorn beetle (pg. 377). The DEIS indicates that several terrestrial and recreational resources enhancements, such as the proposed upland habitat enhancements and construction of recreational facilities, could adversely affect vernal pool invertebrate habitat. At the end of that paragraph, the DEIS concludes that the project may be likely to **adversely** affect the bald eagle, giant garter snake, California red legged frog, Conservancy fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, and valley elderberry longhorn beetle.

Recommendation:

The FEIS should include a discussion of the project's compliance with Section 7 of the ESA. The document should provide an update of the status of consultation with the FWS regarding impacts to the Central Valley Chinook salmon, steelhead trout, bald eagle, giant garter snake, California red legged frog, Conservancy fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, and valley elderberry longhorn beetle and include the Biological Opinion if it has been issued by FWS. The FEIS should clarify the contradictions relating to beneficial effects and adverse effects in this paragraph on page 377.

7. Air Quality

The DEIS does not include an evaluation of existing air quality within the geographic scope of the project and does not examine the potential impacts to air quality from the project. Such an evaluation is necessary to assure compliance with State and Federal air quality regulations, and to disclose the potential impacts from temporary or cumulative degradation of air quality. The DEIS lists numerous PM&E measures proposed by DWR and Commission staff (sections 2.2.3 and 2.3.5) that have the potential to impact air quality from construction or prescribed burning. Those impacts are not evaluated.

Details of a recommended fuel management plan for National Forest System lands within the project boundary are not provided in the DEIS. Under Measure B102, DWR proposes to develop and file a Fuel Load Management Plan within 1 year of license issuance (pg. 279). Under the terms of the Settlement Agreement, DWR has agreed to undertake this measure but has deemed it beyond the scope of the relicensing process (Settlement Agreement, pgs. 85-87).

Recommendation:

The FEIS should include a discussion of existing air quality and conformity with State and Federal air regulations. It should describe and estimate air emissions from potential construction and other activities, as well as proposed mitigation measures to minimize those emissions.

8. Insufficient Information

There is a substantial amount of information available on the Internet regarding documents and studies that have been conducted as part of the Oroville relicensing effort. Many of these studies contain valuable information and should be referenced within the EIS.

Recommendation:

EPA recommends that additional documents and studies found on the relicensing web page (<http://orovillereicensing.water.ca.gov>) be summarized and referenced within the FEIS. This would include documents found on the Environmental Work Group Reports (http://orovillereicensing.water.ca.gov/wg-reports_envir.html).

A brief description of the existing project facilities (Oroville Facilities) is provided in Section 2.1.1 of the DEIS (pgs. 13-18; figs. 2 and 3); however, not enough detail is provided in this section of the DEIS. The reader should be able to understand how the system works as a functioning unit after reading the section. When is water diverted through the Thermalito Diversion Dam? When will water be diverted to the low flow and high flow channels? Additional clarification, discussion, and illustrations are needed.

Recommendation:

Basic operations of the Oroville Facilities should be described in greater detail in the text of the DEIS (pgs. 13-18). Additional information related to the function of the different

components of the Oroville Facilities needs to be provided. Additional figures or photographs of the components could be included and this would be beneficial to the reader. References to documents containing more specific information could be provided.

9. Incorrect link to FERC document

The Settlement Agreement is referenced in several places in the DEIS. The most common notation is listed as: The Settlement Agreement is referenced on the Commission's web site from the eLibrary feature at <http://www.ferc.gov/docs-filing/elibrary.asp>. Accession number [20060330-0215](#) (pgs. xxi, 343).

The accession number is incorrect. This link above refers to the Filing of Settlement Agreement Recreation Management Plan. The accession number for the Settlement Agreement for Licensing of the Oroville Facilities is 20060324-5019.

10. Implementation of Adaptive Management

Adaptive management is an iterative process that requires selecting and implementing management actions, monitoring, comparing results with management and project objectives, and using feedback to make future management decisions. The process recognizes the importance of continually improving management techniques through flexibility and adaptation instead of adhering rigidly to a standard set of management actions. Although adaptive management is not a new concept, it may be relatively new in its application to specific projects. As stated in a recent Council on Environmental Quality (CEQ) report, Modernizing NEPA, the effectiveness of adaptive management monitoring depends on a variety of factors including:

- a) The ability to establish clear monitoring objectives;
- b) Agreement on the impact thresholds being monitored;
- c) The existence of a baseline or the ability to develop a baseline for the resources being monitored.
- d) The ability to see the effects within an appropriate time frame after the action is taken;
- e) The technical capabilities of the procedures and equipment used to identify and measure changes in the affected resources and the ability to analyze the changes;
- f) The resources needed to perform the monitoring and respond to the results.

Recommendation:

EPA recommends that the DWR consider adopting a formal adaptive management plan to ensure implementation of mitigation measures and to provide flexibility to meet changing research needs. Action alternatives would incorporate the principles of adaptive management by using monitoring and evaluation to determine if management actions were achieving objectives and adjusting actions accordingly. EPA recommends that DWR review the specific discussion on Adaptive Management in the NEPA Task Force Report to the Council on Environmental Quality on Modernizing NEPA.