Federal, State, and Local Government Agencies

United States Department of the Interior

FISH AND WILDLIFE SERVICE

NEVADA FISH AND WILDLIFE OFFICE
1340 FINANCIAL BOULEVARD, SUITE 234
RENO, NEVADA 89502-7147

May 13, 2002
File No: LRWQ 3

Mr. Russ Kanz
State Water Resources Control Board
Division of Water Rights
Post Office Box 2000
Sacramento, California 95812-2000

Dear Mr. Kanz:

The U.S. Fish and Wildlife Service's Nevada Fish and Wildlife Office, has reviewed the March 2002 draft Farad Diversion Dam Replacement Project Environmental Impact Report (EIR). Our comments relate primarily to project design, impacts to fish and riparian vegetation, and alternative selection.

GENERAL COMMENTS

We prefer the No Project Alternative because it avoids the action alternatives' adverse impacts on the river and aquatic biota between the point of diversion and point of return flows. Some impacts include: 1) reduced stream flows in the affected reach of the river; 2) intent to maintain a minimum instream flow of 50 cfs or 150 cfs if mitigation measures are implemented based on values placed with hydroelectric generation at the expense of the natural character of the river; 3) displacement of aquatic organisms resulting from ramping and reduced flow regimes; 4) potential to create upstream migration barriers for aquatic organisms; and 5) fragmentation of the aquatic and riparian ecosystems. Recognizing that Sierra Pacific Power Company (SPPC) has the right to the water, and if authorizing agencies decide to permit the project, the proposed design is much better than the former diversion facility. The proposed project attempts to satisfy fish passage and other needs that were adversely affected by the former structure.

The document does not explain the need for this project. Although the objective, to replace the diversion structure and restore flows to the Farad Power Plant, allowing for continued power generation, is mentioned, the actual need for continued power generation is not discussed. Therefore, the reader is unable to form a judgment regarding the costs vs. benefits to the aquatic

1-1

ecosystem and the public of the No Project alternative and the two project alternatives. The EIR states that the Farad Power Plant generates less than one percent of the electricity provided by SPPC. It is our understanding that all four of SPPC's hydro power plants on the Truckee River together generate less than one percent of the electricity provided by SPPC (U.S. Bureau of Reclamation 1998). The EIR provides no information on the cost of replacing the Farad Diversion Dam, including the cost of mitigation measures for significant adverse environmental impacts, compared to the financial benefits to SPPC and the benefits to the public of doing so. Although we are aware that the California Environmental Quality Act does not require an economic analysis, we recommend this issue be discussed in the final EIR. In addition, Chapter 14 should fully explain the benefits to aquatic and other biological resources if the dam is not replaced. 1-1 cont'd

We note that several sections of the document state that various aspects of the final design are subject to approval by our agency. We have not yet approved the final design and look forward to providing the necessary review if one of the action alternatives is selected.

SPECIFIC COMMENTS

Table 1-1 Permits, Approvals, and Consultations that May Be Required for Project Alter
The Permit/Consultation column for Federal Agencies states that "NEPA consultation pursuant to Section 7 of the Endangered Species Act (ESA) will be required. This is not correct. The National Environmental Policy Act (NEPA) and the Endangered Species Act (ESA) are separate authorities. However, both NEPA and ESA compliance will be required as part of the Army Corps of Engineers process pursuant to section 404 of the Clean Water Act. 1-2

The document does not mention the need for authorization from the Federal Energy Regulatory Commission (FERC). Although section 210(b)(17) of Public Law 101-618 exempts the existing power plant diversions as well as the former Farad diversion from the FERC process, the law specifically states that the exemption does not apply if SPPC moves a diversion to another location. The document should explain this issue and why FERC is not being consulted on replacement of the diversion structure. 1-3

Section 2.6.1.1 Adjustable-Crest Diversion Structure and Boat/Debris Chute, page 2-5. We note that an adjustable-crest dam that will be constructed of a rubber fabric that will inflate or deflate with air pressure is part of the structure design. The document should discuss the life expectancy of the rubber dam in the harsh montane environment of the Farad reach of the Truckee River and what is involved in its maintenance, including replacement if needed. 1-4

Section 2.6.1.4 Roughened Channels, page 2-7. This section describes the makeup of the roughened channels, which will consist of boulders that will be placed, secured, ce and/or grouted into the channel bottom. The document should explain how these v installed to prevent undercutting. 1-5

Section 2.6.1.5 Fine-Plate Fish Screen and Return, page 2-7, and Figure 2-6. Figure 2-6 provides a plan view of the fish screen and return but does not provide details on the screen, collection well, and conveyance of fish back to the river. Our primary concern is that fish pass through the pipe and return to the river without injury. The document should explain whether the fish screen will select for certain size fish, what the gradient of the return will be, and how the return will discharge into the river under variable flows. We also are concerned with the color of the return pipe and whether it will be buried or exposed. A dark-colored pipe and/or one that is exposed to sunlight could have the potential for increasing water temperatures inside the pipe. If water inside the pipe is warm, fish may avoid swimming into these warmer areas. The design should address efficient fish conveyance back to the river and not promote conditions for fish to rest or establish residency near the screens or return. The document states that a manual control system will regulate the amount of water in the fish return. The document should explain whether someone would visually inspect the fish return and make adjustments and, if so, how often this would occur. 1-6

Section 2.6.1.6 Sediment Detention Channel, page 2-7. This section describes an existing dirt channel that would capture suspended sediment before water is conveyed down the flume. This channel is proposed to be reconstructed. The final EIR should explain how this channel will be maintained and what the final disposition of the accumulated sediment would be. 1-7

It is our understanding that a portion of the flume that serves the Farad Power Plant was damaged in the 1997 flood that also removed the diversion structure. We found no information in the DEIR regarding whether this portion of the flume will be reconstructed and, if so, what the environmental impacts of the reconstruction would be. The final EIR should discuss this issue. 1-8

Section 2.6.1.8 Slope Stabilization, page 2-8. This section describes the use of a mechanically stabilized earthwall, soil-nail wall, armored fill, and rock netting to stabilize slopes on both sides of the river in portions of the project area. We recommend the applicant consider the use of bioengineering techniques to stabilize slopes if such an approach would provide adequate stability. 1-9

Section 2.6.1.10 Features Designed to Minimize Adverse Effects on Fish, page 2-9. This section states that the proposed diversion structure is designed to "...provide a facility with no vertical water drops greater than 12 inches and water velocities no greater than 8 feet per second...." Maximum velocities of 8 feet per second may be too high for native sucker fishes. The document should explain what is the context of the range of flows where 8 feet per second velocities may be realized and what microhabitats may be provided within the structure to lessen velocities. 1-10

Section 2.6.2.5 Removal of Former Dam Facilities, page 2-13. If allowing the former dam remnant to remain in the river would result in continuing degradation of the aquatic system compared to removing it, this impact should be analyzed in the document. 1-11

Section 2.6.2.7 Techniques to Minimize Erosion and Sedimentation, page 2-14. This section describes the temporary diversion structure and channel that will be constructed to divert and convey river flow around the construction area. The document should explain whether rock used to armor the banks and the grouted rock lining the diversion channel will be removed following project completion. This section should also describe any measures that would be implemented in the event of occurrence of severe thunderstorms during summer months. 1-12

Section 2.8 Alternative C No Project, page 2-20. This section states that the power the project applicant produced for its electric customers would have to be produced by other means if the project does not proceed. The EIR should explain where electric customers are currently getting their power and what alternative power source SPPC would resort to if the No Project alternative is selected. 1-13

We are aware that there have been several entities who have expressed interest in acquiring SPPC's hydroelectric facilities on the Truckee River with the intent of decommissioning them and restoring the affected reaches to a more natural state. If this is an option, it may be appropriate to discuss it as part of the No Action Alternative. The EIR should discuss what actions SPPC would take in the event the No Action Alternative is selected.

Section 6.3.1 Impact Assessment Methodology Analytical Approach, page 6-9. Based on comments received on the Truckee River Operating Agreement (TROA) draft Environmental Impact Statement, which used this same approach to analyze impacts of fish, we recommend further analysis. Although basing recommended minimum instream flows on life history and habitat requirements of key life stages of rainbow and brown trout and using this as the sole basis for the analysis may be adequate for these salmonids, it provides no information on impacts to other native aquatic species, particularly fish. The analysis should evaluate what the predicted stream flows will mean for other fish species, including Paiute sculpin (*Cottus beldingi*), mountain whitefish (*Prosopium williamsoni*), Lahontan redside shiner (*Richardsonius egregius*), speckled dace (*Rhinichthys osculus*), and Tahoe sucker (*Catostomus tahoensis*). 1-14

Section 6.3.1.1 Impact Assessment Methodology Flow Assessment Methods, page 6-11. The first paragraph on this page states that the PHABSIM results specific to the operation area were not available to test assumptions. Therefore, assessments of potential habitat impacts based on the overall habitat-flow relationships for Reach 1 are considered preliminary until more definitive information is available. The document should indicate whether such information will be available before preparation of the final EIR. 1-15

Section 6.4.1 Impact 6-4 Temporary Loss of Aquatic Habitat and Displacement and/or Stranding of Fish and Other Aquatic Organisms during Construction, page 6-15. The potential for take of Lahontan cutthroat trout (LCT) during construction will be discussed through consultation between the Army Corps of Engineers and our agency pursuant to section 7 of the Endangered species Act of 1973, as amended. 1-16

Section 6.4.2 Operation-Related Impacts. Impact 6-5 Mortality, or Disruption of Movements, of Fish Caused by Project Operation, page 6-15. This section states that further evaluations of the proposed design are currently underway to refine the fish screen and bypass design. Our agency has not been involved with these additional evaluations, but we request that we be consulted. 1-17

Section 6.4.2 Operation-Related Impacts. Impact 6-6 Reduction in Physical Habitat Availability in the Operation Area during Operation, page 6-18. The mitigation measure for this significant impact is to maintain a minimum flow of 150 cfs in the operation area at all times during project operation. We fully support this measure and believe it will at least partially mitigate for the adverse impacts of the project on fish and other aquatic life. 1-18

Section 6.4.2 Operation-Related Impacts Impact 6-7 Increases in the Magnitude and Frequency of Sublethal Water Temperatures, page 6-20. We are concerned with the ramping up and down of stream flows for recreation during the first weekend of each month from April to September. Such fluctuations in flows during periods when fish are spawning could be adverse to LCT, stranding and isolating eggs, fry, and juveniles. This impact would occur not only to salmoides, but other species as well, and the recommendations in mitigation measure 6-5 are not adequate to prevent harm to native fishes. During the fish spawning period (April to August), we recommend that fluctuations in flows be avoided and that they be held steady to the extent possible. The issue will by addressed in greater detail under section 7 consultation. 1-19

The mitigation measure for this impact is to monitor water temperatures during a minimum of the first two summers of diversion operation to verify that the modeled temperature effects are correct. If temperature increases exceed 0.5°C, the project applicant and regulatory agencies will determine the need for remedial measures. If warranted, the project applicant would develop such a plan. We are aware that the applicant may sell the power plants to the Truckee Meadows Water Authority (TMWA). If this occurs, there should be assurances that TMWA will assume responsibility for this and other applicable mitigation measures.

Section 7.2.2.1.4 Noxious Weeds, page 7-7 This section mentions that the noxious weed, musk thistle (*Carduus nutans*), is considered ubiquitous in California and is no longer targeted for eradication and control. This is not the case in Nevada, where musk thistle also is listed as a noxious weed but targeted for control. We recommend that appropriate measures be implemented to reduce or eliminate the potential for spread of this species downstream into Nevada. The most successful method of control is to prevent seed set. This can be accomplished by cutting the plant at its base between the first appearance of pink and the first appearance of brown on the pappus of the earliest flower heads, repeating as needed for control. The root should be dug up at least two inches below ground level and all soil removed from the roots (University of Nevada Cooperative Extension). 1-20

Section 9.4.2 Operation-Related Impacts. Impact 9-4 Impairment of Flows Affecting Designated Beneficial uses (Change in Recreational Boating Opportunities during Project Operation), page 9-17. One mitigation measure (#9-2) for this impact is to create improved recreation access at the Farad powerhouse. The EIR states that this would be accomplished by creating a take-out/put-in location for white water activities at the Farad powerhouse. No information is presented on what impacts such a facility would have on riparian or other vegetation or on wildlife. We recommend that this information be provided in the final EIR. 1-21

Section 11.4.1 Construction-Related Impacts, page 11-7 and 11-8. This section discusses the increase in noise levels resulting from blasting activities. Impacts on humans living in the area are discussed and mitigation measures proposed. However, there is no discussion of the effects of blasting on wildlife. Sudden loud noise can startle wildlife and interfere with nesting activities of birds if conducted during the avian breeding season. A bird startled during incubation could inadvertently knock an egg out of the nest (Manci et al, 1988). We recommend that blasting be conducted outside of the avian breeding season to avoid this impact. 1-22

Section 14-3 Entrapment of Fish in the Flume, page 14-3. The LCT is incorrectly referred to here as an endangered species. This fish is a threatened species. 1-23

Section 14.3 Impacts and Mitigation Measures of Alternative C No Project, page 14-6. This section neglects to discuss the many beneficial effects on fish and wildlife and their habitats if the No Project alternative is selected. We believe the positive benefits of the No Project alternative are significant and recommend they be fully discussed in the final EIR. These benefits include, but are not limited to: maintaining stream flows in the affected reach of the river; aquatic organisms not displaced by ramping and reduced flow regimes; no barriers to migration of aquatic organisms; and unfragmented aquatic and riparian ecosystems. 1-24

Section 15.2.1.3.1.1 Cumulative Impacts: Truckee River Operating Agreement, page 15-4. There is adequate information in the TROA DEIS for a more thorough analysis of the cumulative effects of the Farad Diversion Dam Replacement Project together with TROA. Of particular interest are stream flows during the driest years and the beneficial effects on the river of TROA together with the mitigation measures proposed for the diversion dam project. The 's should be carried through to the analysis of impacts to aquatic resources on page 1: 1-25

Appendix D Restoration Design Recommendations for the Farad Diversion Dam Replacement Project. In general, the recommendations presented in this section for habitat restoration are appropriate. However, we question the placement of black cottonwood 12 to 16 feet above the river. Unless these plants are irrigated in a manner that would result in their roots eventually reaching the water table, which may take several years, this portion of the revegetation proposal may not be successful. We recommend careful study of the appropriateness of this measure in consultation with experts in riparian revegetation before a final decision is made. 1-26

We also question the need for grouting on-site stream boulders in place. We recommend investigation of bioengineering techniques to provide a more natural means of securing boulders in position. Grouting would eliminate habitat for small organisms that would seek shelter in the spaces among boulders.

1-27

We appreciate the opportunity to comment on this DEIR. If you have any questions regarding our comments, please contact Mary Jo Elpers for general ecological comments and Lisa Heki or William Cowan regarding comments relating to the diversion dam design and effects on fish. They can be reached at (775) 861-6300.

Sincerely,

Robert D. Williams
Field Supervisor

cc:
Chief, Wetlands Section, Environmental Protection Agency, San Francisco, California (Attn: Kathleen Dadey)
Regional Manager, California Department of Fish and Game, Rancho Cordova, California (Attn: Banky Curtis)
Chief, Nevada Regulatory Office, U.S. Army Corps of Engineers, Reno, Nevada
Director, Pyramid Lake Water Resources, Nixon, Nevada (Attn: John Jackson)
Field Supervisor, Sacramento Fish and Wildlife Office, U.S. Fish and Wildlife Service, Sacramento, California

Literature Cited

Manci, K.M., D.N. Gladwin, R. Villella, and M.G. Cavendish. 1988. Effects of aircraft noise and sonic booms on domestic animals and wildlife: A literature synthesis. Fort Collins, CO: U.S. Fish and Wildlife Service National Ecology Research Center. Report NERC-88/29.

University of Nevada Cooperative Extension. Weed Profile Musk Thistle. Undated information sheet.

U.S. Bureau of Reclamation. 1998. Draft Environmental Impact Statement/Environmental Impact Report, Truckee River Operating Agreement: California and Nevada. *Carson City, Nevada: Lahontan Basin Area Office.*

Response to Comment Letter Number 1

Response to Comment Number 1-1

The State CEQA guidelines require the project description contain a clearly written statement of objectives, including the underlying purpose of project of the project (Section 15124(b)). This is provided in the Draft EIR in Section 2.4 "Statement of Objectives." The SWRCB defined the project objectives narrowly because of the specific nature of the project. The project's objective is to replace the diversion structure and restore flows to the Farad Power Plant, thus allowing for continued power generation, while meeting water quality standards.

SPPC has determined that there is sufficient demand for power generation to submit a permit for the replacement of the diversion, and though this facility only provides a small amount of power, it contributes to SPPC's overall ability to provide electricity. A comprehensive analysis of the need for power generation is not required for the SWRCB to determine if the project meets water quality standards. The draft EIR systematically describes how water quality standards would or would not be achieved, and proposes mitigation to reduce potential adverse impacts.

CEQA does not require an economic or cost-benefit analysis of a project. The environmental effects associated with the project are described in the draft EIR. The benefits to aquatic and other biological resources if the dam is not constructed are the same as the existing conditions and these are described in Chapter 14, Section 14.3 "Impacts and Mitigation Measures of Alternative C: No Project."

Response to Comment Number 1-2

Table 1-1 changed to indicate: "~~NEPA~~ USFWS consultation pursuant to Section 7 of the Endangered Species Act (ESA)." The comment that both NEPA and ESA compliance will be integrated as part of the Army Corps of Engineers permit process is correct.

Response to Comment Number 1-3

Authorization from the Federal Energy Regulatory Commission (FERC) is not required for this project. Further, the provision of Public Law 101-618 referenced in the comment, section 210(b)(17), applies, in part, to the development of additional generating capacity, which is not a component of this project.

Response to Comment Number 1-4

Inflatable rubber dams have been constructed in extreme temperature conditions including freezing climates of northern Europe and hot climates of central Africa. This facility is expected to perform as intended under all weather conditions. The expected rubber fabric life is 25-30 years. Maintenance and replacement is expected to occur during low-flow conditions. This information was added to Section 2.6.4.1, "Maintenance Activities" as follows:

The rubber dam will be inspected annually, and will be replaced in approximately 25-30 years. Replacement will occur during low flows, unless emergency replacement is required, and is not expected to require in-water work. Replacement rubber fabric would be refastened to the same fixtures in the proposed diversion structure. No channel modifications or flow reduction is anticipated during replacement.

Response to Comment Number 1-5

Undercutting will not occur in the roughened channels because this portion of the project area will be armored with cement or grouted boulders. Larger boulders will be secured with metal bolts that will also be cemented or grouted into the channel.

Response to Comment Number 1-6

The fish screen and return are designed to minimize adverse effects on juvenile and adult fish, and the USFWS and DFG were part of the design process. Figure 2-6 has been updated to reflect the most recent fish screen design proposed. The fish screen will consist of fine plates (with approximately 1.75 mm spacing and 52% open area) thus returning the majority of all age classes except the smallest fry. The fish return will be a buried pipe, sloped at approximately 0.0141 foot/foot. The structure will minimize the possibility of fish to establish residency near the screen, and information from Chinook Engineering indicates temperatures and return velocities are not expected to adversely affect fish species (Kidder, pers. comm.). Mitigation Measure 6-2 "Prepare and implement a monitoring and evaluation program to ensure long-term fish protection" contains specific details on the operation and performance criteria for the fish screen and will be provided to the DFG for approval.

Response to Comment Number 1-7

The following additional information was added to Section 2.6.4.2, "Sediment and Debris Removal":

The sediment detention channel will be cleaned annually with a small tractor and accumulated sediment will be disposed of off-site.

Response to Comment Number 1-8

Approximately 900 feet of the flume was damaged prior to the 1997 floods. SPPC decided to wait to obtain permits for the reconstruction of the diversion before proceeding with the replacement of this portion of the flume. The replacement of a portion of the flume is not subject to the water quality certification process and is not analyzed in the draft EIR. However, additional environmental analysis will occur under the jurisdiction of the Lahontan Regional Water Quality Control Board (RWQCB) when SPPC applies for a waste discharge permit for the flume replacement.

Response to Comment Number 1-9

SPPC's engineers have determined that structural stabilization such as soil nail walls and mechanically stabilized earthwalls are needed because of the steepness of the slopes and instability of the slopes proposed for stabilization.

Response to Comment Number 1-10

The proposed project performs according to the design criteria established by National Marine Fisheries Service as was demonstrated by the physical model. Typically, the maximum velocities will occur during higher flows when passage is already restricted. Physical modeling results indicate that hydraulic conditions are sufficiently variable to permit passage of other species at a broad range of flows (SPPC 2001). The roughened channel design, with grouted boulders, will have microhabitats with lower flows due to eddies behind the larger rocks. These eddies provide refuge for upstream or downstream fish movement.

Response to Comment Number 1-11

The existing dam remnant is comprised of cured inert concrete and is large enough and chemically stable enough that it will not result in the degradation of the aquatic system. No new analysis is proposed for the Final EIR.

Response to Comment Number 1-12

The armoring associated with the temporary diversion channel will not be removed and will provide the foundation for the portage path/maintenance road which will be constructed over the top of the temporary diversion channel on river right; this was clarified in Section 2.6.2.4, "Construction Sequence."

Good housekeeping and adherence to the SWPPP will ensure that discharges are minimized after thunderstorms. The temporary diversion channel is also sized appropriately to allow for the rain events.

Response to Comment Number 1-13

SPPC has indicated that they would use other fuel sources, including natural gas, coal, or diesel to generate additional power. Because the project represents only a small portion of SPPC's generation capabilities, SPPC has not explicitly constructed or expanded their facilities to make up for lost generation.

The SWRCB is not aware of any entities who are actively pursuing purchasing the project for its restoration potential. The No-Project Alternative represents existing conditions that are described in the "Affected Environment" section of each chapter and project impacts are analyzed in comparison to those conditions. SPPC would not take further action on the project if the No-Project Alternative is selected.

Response to Comment Number 1-14

There is little scientific information available to evaluate the potential effects on Paiute sculpin, mountain whiteside, Lahontan redside shiner, speckled dace, and Tahoe sucker, and so for this analysis, information on rainbow and brown trout was used as a surrogate to evaluate overall aquatic health. By protecting the health of rainbow and brown trout, the SWRCB expects that effects on other native species will be minimized. Please see Master Response Fish 1.

Response to Comment Number 1-15

Additional information is not available at time of preparation of the Final EIR; however, the information presented in the Draft EIR is adequate to assess the potential effects on aquatic resources because it utilizes the best available

scientific data available, and the professional expertise of DFG and fish biologists. Please also see Master Response Fish 2.

Response to Comment Number 1-16
Comment noted. No Lahontan cutthroat trout have been found in the project area because Derby Dam creates an impediment to upstream migration therefore "take" is not expected. In addition, the affected area is small and contains no sensitive or critical habitat identified as essential to the recovery of LCT. However, restoration efforts are in place in the upper tributaries of the Truckee River system and Lahontan cutthroat trout may be present in the project area in the future.

Response to Comment Number 1-17
Comment noted. SPPC has involved both DFG and USFWS in the design of the facility to date and will send final passage design plans to these agencies for review and comment.

Response to Comment Number 1-18
Comment noted.

Response to Comment Number 1-19
Flow ramping for recreational boating is no longer proposed as part of project operations (See Master Response Recreation 1 and Fish 4). Conditions issued as part of the water quality certification will be applicable to the certification holder, including potential assignees (i.e., Truckee Meadows Water Authority) who may utilize the certification.

Response to Comment Number 1-20
There are measures proposed for noxious weed control in the project construction area. Mitigation Measure 7-1 "Avoid dispersing noxious weeds into the project area" applies to all noxious weeds. However, additional eradication and control methods for weeds that are common in the project area are not proposed.

Response to Comment Number 1-21
Mitigation Measure 9-2 in the Draft EIR has been removed because of the potential public safety effects and SPPC's conclusion that public access is not allowed under their legal obligations with Caltrans.

Response to Comment Number 1-22
Construction related noise effects are described in Chapter 8 "Wildlife" Section 8.4.1 "Construction Related Impacts" under Impact 8-1 "Temporary Disturbance and Loss of Breeding and Foraging Habitat for Special-Status Species." Because of the construction area's proximity to I-80 and the low quality of the breeding and foraging habitat in the construction area the possible effect of nest abandonment are unlikely and additional blasting restrictions are not warranted.

Response to Comment Number 1-23
Change made: "endangered species" was changed to "threatened species."

Response to Comment Number 1-24

Page 14-6 of the Draft EIR describes the impacts associated with the "no project" alternative. CEQA does not require an EIR to analyze the benefits of project alternatives including the no-project alternative. Instead, the EIR must compare the environmental effects of the "no project" alternative with the environmental effects that would occur if the project were approved. The Draft EIR makes this comparison.

Response to Comment Number 1-25

The comment requests a more thorough analysis of cumulative impacts of the proposed project and TROA, including an analysis of instream flows during dry years. As discussed in the Draft EIR, Impacts 15-1 and 15-6, implementation of TROA would likely result in greater streamflows in dry conditions and any cumulative impacts are less than significant. There is no information to suggest a contrary conclusion.

Response to Comment Number 1-26

Comment noted. Appendix D is a preliminary restoration plan and contains design recommendations that will likely be revised with consideration of this issue prior to construction.

Response to Comment Number 1-27

The proposed project is designed to withstand a 100-year flood event. Bioengineering techniques are not expected to provide the engineered strength necessary during a large flood event because the project is located on a bend in the river and velocities would erode bioengineered structures, and will therefore not be included in the final project design. Also, armoring associated with the project represents only a very small loss of the total aquatic habitat in the Truckee River.

STATE OF CALIFORNIA - THE RESOURCES AGENCY
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April 17, 2002

Mr. Russ Kanz
State Water Resources Control Board
Division of Water Rights
Post Office Box 2000
Sacramento, CA 95812-2000

Dear Mr. Kanz:

The California Department of Fish and Game (DFG) has reviewed the Draft Environmental Impact Report (DEIR) for the Farad Diversion Dam Replacement Project on the Truckee River (SCH#2000042074). The project is located at Floriston, Nevada County, and involves the reconstruction of a water diversion dam on the Truckee River for the generation of electricity at Farad Power Plant, 1.8 miles downstream.

The DFG has been involved with pre-project consultation as related to potential project impacts to fish and wildlife resources of the Truckee River. The proposed project incorporates a fish passage structure and fish screen design developed with DFG consultation.

In addition to the structural design of the project features, the DFG reiterates the importance of project construction, operations, and monitoring criteria to the maintenance of fish and wildlife resources in the project area. Specific DFG comments relative to these issues are as follows:

1. Mitigation Measure 6-1. Construction activities will be covered under a Streambed Alteration Agreement with the DFG (California Fish and Game Code 1600.) Under standard terms of such an agreement, it will be the responsibility of the applicant to anticipate and adjust construction activities and schedules to maintain fish passage throughout the work site. The final sentence in this section has implied some discretion on the part of the applicant in adhering to these terms in the phrase "to the extent practicable." Such discretion does not exist. 2-1

2. Mitigation Measure 6-2. The DFG suggests that the proposed Draft Monitoring and Evaluation Plan be completed and reviewed by all appropriate agencies prior to project operation. The DFG views this process as critical to the evaluation of resource impacts once project operations begin. 2-2

3. Mitigation Measure 6-3. The DFG concurs with the proposal to maintain a minimum flow of 150 cfs in the project area during project operation. The DFG 2-3

considers this component to be a critical minimum. Lesser flows would likely result in significant and cumulative losses of downstream aquatic resource values. 2-3 cont'd

4. Mitigation Measure 6-4. The DFG concurs with the importance of water temperature monitoring and the need to mitigate any resulting water temperature changes due to project operations. The DFG suggests a minimum of three years of monitoring over a range of runoff and flow events to provide more meaningful data upon which to establish project effects. 2-4

5. Mitigation Measure 6-5. The DFG believes that adherence to in-stream flow ramping rates, as described in the DEIR, are appropriate to proposed project operations. The DFG concurs with the value of using the California Stream Bio-assessment Protocol in evaluating the potential impacts of those in-stream flow fluctuations. 2-5

6. Mitigation Measure 4-2. The DFG concurs with the proposed limitation of 5 to 7 cfs diversion by the project when Truckee River flows are less than 150 cfs. The benefit of the bypassed flow to downstream aquatic resources during these critical water conditions would be considerable. 2-6

Should you have any questions regarding this subject, please contact Mr. John Hiscox, Associate Fishery Biologist, at (530) 265-0805 or e-mail jhiscox@dfg2.ca.gov.

Sincerely,

Larry L. Eng, Ph.D.
Assistant Regional Manager

cc: Mr. John Hiscox
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Response to Comment Letter Number 2

Response to Comment Number 2-1
Comment noted and change made: "…~~to the extent practicable~~…" removed from the last sentence of Mitigation Measure 6-1.

Response to Comment Number 2-2
Comment noted and change made: "…prior to project operation." was added to the end of the second to last sentence of Mitigation Measure 6-2.

Response to Comment Number 2-3
Comment noted. Please see Master Response Fish 3.

Response to Comment Number 2-4
Comment noted. The monitoring period was increased to 3 years. Please see Master Response Water Quality 2.

Response to Comment Number 2-5
Comment noted. Please see Master Response Fish 4.

Response to Comment Number 2-6
Comment noted.

STATE OF CALIFORNIA - BUSINESS, TRANSPORTATION, AND HOUSING AGENCY
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Comment Letter Number 3

02NEV0007
Farad Diversion Dam
03-NEV-80-PM-5.34

May 16, 2002, 2002

Russ J. Kanz
State Water Resources Control Board
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Sacramento, CA 95814

Thank you for the opportunity to review and comment on the above referenced document. Following are our comments.

On page 2-10, the report proposes the use of a temporary prefabricated bridge across the river. This bridge should be used for construction access even if Caltrans construction project in this area is not active. Direct access from I-80, especially during construction, should be minimized as much as possible. The installation of a six-foot tall fence may be required to discourage direct access. 3-1

The proposed project to construct a flow diversion structure along the Truckee River immediately down stream of Caltrans' Bridge No. 17-62 (Floriston Bridge, Nev80 PM 27.292) is currently under review by this office for the purpose of issuing a Caltrans Encroachment Permit to work and construct facilities within the State's highway R/W. It would appear that the request for encroachment permit is a bit premature.

Furthermore, there is a current Caltrans project that is under construction (EA 03-3A21U3) that is replacing the existing Floriston Bridge and constructing extensive Rock Slope Protection (RSP) and a maintenance road beneath the bridge that will directly influence the Farad Diversion Dam project. The project proponents must contact the Caltrans Design/Construction Engineer (Mike Mannion 916-274-6061) to confer over the correct cross section, profile, and configuration of the bridge embankment and river channel opening. 3-2

There is substantial RSP called out for on the Farad Diversion Dam project. The RSP designs should be coordinated to insure no flow regime conflicts are introduced that may lead to slope/embankment instability. 3-3

Diversion of flows within the Truckee River system at the proposed Farad structure may result in alterations of the historic flow regime down stream of the structure 3-4

which, in turn, may result in adverse hydraulic impacts to the adjacent and downstream river embankments or to other Caltrans bridge structures (Bridge No. 17-63 Nev80 PM 27.995) down stream of the Farad Diversion Dam Structure. Caltrans Division of Structures Hydraulics should be contacted to determine if such an adverse impact is likely. 3-4 cont'd

The cumulative effects of development within the project area will result in a significant alteration of the existing Truckee River flow regime. Close attention should be paid to these cumulative effects to avoid adverse impacts to the Truckee River environment. 3-5

It does not appear that at the time that the DEIR was sent out for public review that concurrence was received from the State Office of Historic Preservation about the eligibility determinations for the Floriston Pulp and Paper Company Mill Site, the Farad Hydroelectric Power System, or the Old Highway 40/Lincoln Memorial Highway/Victory Highway Segment. Concurrence by the State OHP with these determinations of eligibility or non-eligibility and any subsequent findings of effect must be achieved before distribution of the DEIR for public review. According to the DEIR, this has not happened, and the Section 106 process is incomplete. 3-6

We are requesting a copy of conditions of approval for this project issued by your department. If you have any questions, please contact me at (916) 324-5829.

Sincerely

Ann Marie Robinson
Office of Regional and Transit Planning

Response to Comment Letter Number 3

Response to Comment Number 3-1
Comment noted. SPPC has been in regular contact with Caltrans to determine appropriate ingress and egress.

Response to Comment Number 3-2
Comment noted. SPPC has been in regular contact with Caltrans to discuss potential encroachment.

Response to Comment Number 3-3
Comment noted. SPPC has been in regular contact with Caltrans to ensure bank protection efforts do not conflict.

Response to Comment Number 3-4
The proposed project will make use of an existing pool and raise water levels by a maximum of 4 feet during a 100-year flood event. No new hydraulic impacts are expected as a result of the project on Caltrans facilities. SPPC will continue to coordinate with Caltrans.

Response to Comment Number 3-5
The cumulative effects of the project are analyzed in Chapter 15 of the Draft EIR, and the effect of the project on flows are analyzed in Impact 15-1 "Change in Flow in the Truckee River under Cumulative Conditions." No additional changes for the Final EIR are required.

Response to Comment Number 3-6
The project applicant has submitted an individual permit application to the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act. As part of the processing of this permit application the USACE is responsible for submitting the cultural resources information to the State Historic Preservation Office (SHPO). The SHPO's concurrence with the project's effects on cultural resources will be obtained prior to the issuance of a final 404 permit for the project.

California Regional Water Quality Control Board
Lahontan Region

Winston H. Hickox
Secretary for Environmental Protection

2501 Lake Tahoe Boulevard, South Lake Tahoe, California 96150
Phone (530) 542-5400 • FAX (530) 544-2271
Internet: http://www.swrcb.ca.gov/rwqcb6

Gray Davis
Governor

Comment Letter Number 4

MEMORANDUM

TO: Russ Kanz
State Water Resources Control Board
PO Box 2000
Sacramento, CA 95812-2000
Division of Water Rights

FROM: Scott Ferguson, Chief
Northern Watersheds Unit

DATE: May 13, 2002

SUBJECT: **COMMENTS ON THE PUBLIC DRAFT FARAD DIVERSION DAM REPLACEMENT PROJECT ENVIRONMENTAL IMPACT REPORT NEVADA COUNTY**

Thank you for providing Regional Board staff the opportunity to comment on the above referenced document. We have the following comments:

1. The discharge, or threatened discharge, attributable to human activities, of solid or liquid waste materials, including soil, silt, clay, sand and other organic and earthen materials to lands within the 100-year floodplain of the Truckee River is prohibited by the Water Quality Control Plan for the Lahontan Region (Basin Plan). All drainage features, including perennial and intermittent drainages and jurisdictional wetlands, at the project site are subject to this prohibition. The Regional Board may grant exemptions to the Basin Plan prohibitions for projects that satisfy criteria specified in the Basin Plan (see attachment).

   a. It is unclear what portions of the project are located within prohibition areas and if the proposed impacts are temporary or permanent. The Final Environmental Impact Report (FEIR) should clearly identify all portions of the project that propose disturbance to the prohibition areas. The description shall include, but not be limited to the spatial extent of impact, volumetric extent of impact, habitat type, and nature of impacts (temporary vs. permanent). 4-1

b. Please describe within the FEIR what portions of the following project components, if any, are located in the Basin Plan prohibition areas: temporary bridge crossing, access roads, retaining walls, fish screen structure, intake structure, diversion conduit, recreational portage trail, staging areas, sediment detention channel, aggregate and oil sealed road. 4-2

c. Support structures and foundations (if in the floodplain) or floodplain disturbing maintenance or construction activities associated with any of the project components are subject to the Basin Plan prohibitions. Page 2-10 states that equipment staging within the floodplain will not occur until the risk of seasonal flooding has passed. Page 2-14 also refers to staging equipment within the floodplain. Similarly, mitigations 3-1 on page 3-9 and 4-1 on page 4-15 refer to structures and/or equipment and supplies being placed within the floodplain during non-flood season. The Basin Plan 100-year Floodplain Prohibitions apply to the threatened discharge of waste materials regardless of the flood season. 4-3

The exemption criteria include demonstrating that there is no alternative to staging equipment or placing structures within the floodplain. It appears that there are alternatives to staging equipment and placing other project components within the floodplain that would prevent this activity from occurring within the floodplain. The FEIR should evaluate alternatives and must demonstrate that there are no reasonable alternatives to the proposed project or components of the proposed project that would reduce the extent of impacts to the prohibition areas. At this time, the document does not adequately address project component alternatives. Pages 4-8 and 4-9 describe the Basin Plan Prohibitions and Exemption Criteria in part. However, it is up to the project proponent to demonstrate which type of project the exemption falls under and that all six (6) findings have been met. In order for Regional Board staff to agree with a less than significant impact, the FEIR must demonstrate that any staging of equipment and supplies or placement of structures within the floodplain have met all of the Basin Plan prohibition exemption criteria. 4-4

d. Where the project proponent demonstrates that floodplain impacts are unavoidable and qualify for an exemption, there must be mitigation at a *minimum* ratio of 1:1 (replacement:loss). The FEIR must include a description of the mitigation measures proposed for floodplain losses. If the project proponent intends to use the restoration plan included in Appendix D of the DEIR, this restoration plan must specifically address how it is mitigating floodplain losses. This may include describing the spatial extent of restoration, volumetric extent of restoration, vegetation type and how floodplain function will be restored. Please address these issues in the FEIR. 4-5

e. The DEIR states that the project will not reduce the flood flow attenuation capacity of the Truckee River. Please describe the mitigation measures proposed 4-6

to offset the fill created by the dam and associated structures located within the Truckee River and its floodplain. Without mitigating this fill, it appears that the flood flow attenuation capacity of the Truckee River is reduced. Mitigation will be required at a *minimum* of 1:1. 4-6 cont'd

2. Please note on page 2-11, section 2.6.2.3 Construction Schedule, that according to the *Truckee River Hydrologic Unit Project Guidelines for Erosion Control,* land disturbance associated with project construction is prohibited between October 15 and May 1 unless authorized by the Regional Board Executive Officer. 4-7

3. The Regional Board staff consider the discharge from baker tanks as described on page 2-14 of the DEIR to be a discharge of waste to surface waters. Regional Board staff request that the FEIR detail alternatives to discharging this waste to the Truckee River. Alternatives explored should include pumping the water to an upland location. This could be achieved by the use of an irrigation system to spread the water out over an upland area location. Without an analysis of upland alternatives to discharging this waste, it appears that this component of the project may have significant impacts. Discharges from the baker tank to surface waters would require a separate NPDES Permit. 4-8

4. As described on page 3-8, Impact 3-1, it appears that the construction of the temporary bypass channel could result in a significant impact by introducing fine sediment to the Truckee River. However, the description of the construction of the temporary diversion channel differs on page 2-11 where a hardened surface of grouted boulders, concrete and rocks is described. It appears that this hardened surface would mitigate the condition described on page 3-8 where the channel is dug into the natural substrate with fine sediments exposed to the flow. Please rectify this discrepancy within the FEIR. 4-9

5. Impact 3-5 on page 3-10 refers to the inboard ditch along Old Highway 40 constructed to channel flow to an existing culvert. Regional Board staff are concerned that the existing culvert is in disrepair with signs of failure and of previous erosion occurring around and underneath this culvert. We are also concerned about the highly erosive upper bank contributing sediment to the road and to the inboard ditch. Concentrating and directing flows in this area adjacent to the Truckee River could have a significant impact without mitigation. While Regional Board staff support the construction of the ditch, staff would like the discussion of Impact 3-5 to include measures for routine road maintenance, repair or replacement of the failed culvert with the addition of stabilized inflow and outflows, and a discussion of opportunities to remove sediment from storm water flows via sediment basins or similar structures. Please address the above issues in the FEIR. 4-10

6. The project will be required to retain on-site runoff from all impervious surfaces resulting from the 20-year, 1-hour storm (.7 inches of rain). Please show all aspects of the storm water management system, which may include detention basins, infiltration trenches, etc. and how flow will be directed to these facilities within the FEIR. Calculations used to determine sizing and capacity of storm water treatment and detention facilities should 4-11

also be included. Regional Board staff disagree with the statement on page 3-10 of the DEIR that there will be a less than significant effect to the rate or amount of surface runoff because of the small amount of additional paved surface created by the project. The 20-year, 1-hour storm requirements apply to all impervious surfaces, not just paved surfaces. This may include the diversion conduit in addition to the permanent access roads for the project. 4-11 cont'd

7. Regional Board staff support the 150 cfs minimum flow recommended in mitigation measure 6-3. We feel strongly that mitigation measure 6-4 be adopted along with mitigation measure 6-3 as part of the FEIR approval process. Mitigation measure 6-4 describes monitoring of water temperatures to verify the assumptions of the water temperature modeling. We understand that mitigation measure 6-4 prescribes the development of a water temperature management plan should dam operations be shown to have a greater than 0.5 degrees Celsius increase in mean daily temperatures. Regional Board staff would like to see the following or similar wording from mitigation measure 6-3, "Higher minimum flows may be necessary in some years and months for water temperature control" also incorporated into the wording of mitigation measure 6-4. 4-12

8. Regional Board staff also support the "ramping" of flows and bioassessment monitoring as described in mitigation measure 6-5 as long as *pre-project* bioassessment monitoring is added to this mitigation and the mitigation allows for adaptive flow management as stated in the DEIR. 4-13

9. Please clarify within the FEIR what the proposed function is for the sediment detention channel. Please describe what level of flow/seepage you expect to be carried to the baker tanks and sediment detention channel. Will there be an outflow from this channel to the Truckee River? Please detail what is proposed both during and after construction and why this detention channel is necessary to the construction process and/or ongoing operation of the dam and why other areas or methods cannot be used. The FEIR should also describe the ongoing maintenance activities that are proposed for this channel. Please include a diagram or detail of the components of this system within the FEIR. Please note that it is not appropriate to rely on a regulatory authority enacting its permit authority as part of the CEQA process. The CEQA document itself needs to describe how impacts to the Truckee River will be avoided and/or mitigated. 4-14

10. Regional Board staff are the least supportive of alternative B, "In-kind Replacement" of the dam which appears to have potentially greater impacts to water quality than either alternative A, "Proposed Project", or Alternative C, "No Project". 4-15

11. This project will be permitted, in part, under an NPDES General Storm Water Permit for Construction Activities that is administered by the State Board. Regional Board staff oversee the implementation of this permit. While Regional Board staff have received a Storm Water Pollution Prevention Plan we have no record of a Notice of Intent (NOI) being filed with the State Board. 4-16

The project proponent can obtain an NOI for storm water discharge associated with construction projects on the web at http://www.swrcb.ca.gov/stormwtr/construction.html. 4-16 cont'd

It is possible that non-storm water discharges to land and surface waters may be covered by Waste Discharge Requirements (WDRs) and/or additional components of the National Pollution Discharge Elimination System (NPDES). Regional Board staff will determine if additional permits are required based upon information that is being provided by SPPC. We will inform SPPC if it is necessary to submit any additional permit applications after reviewing the information being provided by SPPC. 4-17

Additionally, it appears that SPPC will be required to formally apply for a Basin Plan Prohibition Exemption in order to implement the proposed project. This exemption can only be granted by the Regional Board. Regional Board staff need to have a complete application including a final CEQA document which clearly evaluates alternatives and specifies appropriate mitigation measures in order to bring this item before the Regional Board. We will need the additional information requested above in regards to the floodplain prohibition areas in order to proceed with the processing of this exemption request. 4-18

12. The Truckee River is federally listed as being impaired due to excessive sediment loading. The FEIR must address the issues raised above in order for us to determine the impact this project will have on sediment loads to the Truckee River. Please be aware that Regional Board staff consider any increase in sediment loading to the Truckee River to be a significant impact. 4-19

Regional Board staff would like to see more detailed analysis and consideration of alternatives that eliminate or further minimize impacts on Regional Board prohibition areas and that reduce the potential for increasing sediment loading to the Truckee River. We also request a set of project plans. Thank you for the opportunity to comment on this project. If you have any questions or comments, please contact me at 530-542-5432 or Jill Wilson at 530-52-5449. 4-20

Attachment: *Waste Discharge Prohibitions and Exception Criteria for Projects within the Truckee River Hydrologic Unit*

cc: Regional Board Members
Brad Norton, Jones & Stokes
Craig Williams, Sierra Pacific Power Company
Department of Fish and Game
Ron Perrault-Dept of Fish and Game
US Fish and Wildlife Dept.
Nevada County Planning Dept.
Town of Truckee Community Development Dept.-Tony Lashbrook
State Clearinghouse

JSW/carT:Farad Dam Public Draft Comments
[Pending, Farad Dam Reconstruction (SWRCB), 29]

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

WASTE DISCHARGE PROHIBITIONS
AND
EXCEPTION CRITERIA
FOR PROJECTS WITHIN THE TRUCKEE RIVER HYDROLOGIC UNIT

The *Water Quality Control Plan for the Lahontan Region* (Basin Plan) prohibits the discharge or threatened discharge, attributable to human activities, of solid or liquid waste[1] materials (including, but not limited to, soil, silt, clay, sand and other organic and earthen materials) to lands within the 100-year floodplain of the Truckee River or within the 100-year floodplain of any tributary[2] to the Truckee River. The Regional Board may grant exceptions to the prohibition for repair or replacement of existing structures provided that a loss of additional floodplain area or volume does not occur, and Best Management Practices and mitigation measures are used to minimize any potential soil erosion and/or surface runoff problems.

The Regional Board may also grant exceptions to the prohibition for the following types of new projects:

(1) Projects solely intended to reduce or mitigate existing sources of erosion or water pollution, or to restore the functional value to previously disturbed floodplain areas.

(2) Bridge abutments, approaches, or other essential transportation facilities identified in an approved county general plan.

(3) Projects necessary to protect public health or safety, or to provide essential public services.

(4) Projects necessary for public recreation.

(5) Projects that will provide outdoor public recreation within portions of the 100-year flood plain that have been substantially altered by grading and/or filling activities which occurred prior to June 26, 1975.

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1 Waste includes earthen material placed in a water body or carried to waters by erosive forces. Construction activity involving ground disturbance within 100-year floodplain areas is generally considered to constitute a threat of discharge.

2 Tributaries include: perennial surface waters (rivers. streams, lakes, wetlands) and ephemeral (seasonal) watercourses exhibiting evidence of the occurrence of flowing water, and having the potential to transport water and/or sediment to another water body, including, but not limited to, named and unnamed streams, wetlands, and lakes.

The Basin Plan allows an exception to the prohibitions for new projects only when the Regional Board makes all of the following findings:

- The project is included in one or more of the five categories listed above.
- There is no reasonable alternative to locating the project or portions of the project within the 100-year flood plain.
- The project, by its very nature, must be located within the 100-year flood plain. (The determination of whether a project, by its very nature, must be located in a 100-year flood plain shall not apply to projects in category (5), above, and shall be based on the type of project proposed, not the particular site proposed.)
- The project incorporates measures which will ensure that any erosion and surface runoff problems caused by the project are mitigated to levels of insignificance.
- The project will not individually or cumulatively with other projects, directly or indirectly, degrade water quality or impair beneficial uses of water.
- The project will not reduce the flood flow attenuation capacity, the surface flow treatment capacity, or the ground water flow treatment capacity from existing conditions. All 100-year flood plain areas and volumes lost as a result of the project must be completely mitigated by restoration of previously-disturbed floodplain within or as close as practical to the project site.[3] The restored, new, or enlarged floodplain shall be of sufficient area and volume to more than compensate for the flood flow attenuation capacity, surface flow treatment capacity and ground water flow treatment capacity which are lost as a result of the project.

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[3] This finding will not be required for new projects necessary to protect public health and safety. For new projects necessary to provide essential public services, this finding will not be required when the Regional Board finds mitigation measures to be infeasible because the financial resources of the project proponent are severely limited.

Response to Comment Letter Number 4

Response to Comment Number 4-1

Supplemental text, tables, and a figure identifying the type of disturbance, location (within or outside the 100-year floodplain) and amount of fill was added to Chapter 2 and is provided below. Habitat types affected by the project include approximately 1.5 acres of big sagebrush scrub, 0.06 acres of woody riparian vegetation, 3 pine trees described in Chapter 7 "Vegetation and Wetland Resources." Operations are expected to have a less than significant impact on downstream riparian scrub as described in Chapter 7. The new text follows.

2.6.2.7 Disturbance Areas

Cut and Fill Quantities

Approximate cut and fill quantities associated with construction of the Farad Diversion Project have been estimated and are provided below.

Total Project Cut: 1,790 cy

Total Project Fill: 1,750 cy

Temporary and Permanent Disturbance in the Project Area

Areas anticipated to be temporarily or permanently disturbed are summarized in Table 2-1, 2-2, and 2-3. The approximate pre-project and post-project 100-year floodplain is depicted in Figure 2-8. During construction the temporary diversion and temporary diversion channel will be located in the 100-year floodplain. The temporary bridge will span the 100-year floodplain during construction and the baker tanks will be located outside of the 100-year floodplain. Facilities within the Basin Plan prohibition areas upon completion of construction include: the intake structure, portions of the diversion conduit, fish passage areas, boat/debris chute, the terminus of the portage path, south access road, and the fish return.

Table 2-1 – Project Disturbed Area Totals

Disturbance Type	Area (acres)
Permanently Disturbed Area	3.79
Temporarily Disturbed Area	3.26

Notes:

1. Sediment detention channel, radial intake, and fish return included in permanently disturbed areas.

Table 2-2 - Temporarily Disturbed Areas

Project Element	Area Within 100-Yr Floodplain (sq ft)	Area Outside 100-Yr Floodplain (sq ft)	Total (sq ft)
Channel Bottom Upstream of Intake	14,000	0	14,000
Channel Bottom Downstream of Intake	43,500	0	43,500
Temporary Bridge Crossing	3,000	0	3,000
River-Right Bank	0	29,900	29,900
River-Left Bank	15,200	27,400	42,600
Existing Diversion Channel	0	9,100	9,100
Total (sq ft)	**75,700**	**66,400**	**142,100**
Total (acres)	**1.74**	**1.52**	**3.26**

Notes:

1. Temporarily disturbed areas do not include existing roads to be used by contractor.

Table 2-3. Permanently Disturbed Areas

Project Element	Area Within 100-Yr Floodplain (sq ft)	Area Outside 100-Yr Floodplain (sq ft)	Total (sq ft)
South Access Road	600	900	1,500
Intake Structure	1,600	0	1,600
Diversion Conduit (including radial gate and soil nail wall)	9,400	6,200	15,600
Fish Passages	3,500	0	3,500
Boat Chute	1,300	0	1,300
Boat Chute Portage path	500	2,000	2,500
Roughened Channel Bottom	28,200	0	28,200
Roughened Channel Banks	18,000	22,900	40,900
Sediment Detention Channel	0	17,800	17,800
Fish Screen Structure	0	17,900	17,900
Sediment Channel/Fish Screen Access Road	0	5,200	5,200
Rock Netting	0	29,300	29,300
Total (sq ft)	**63,100**	**102,200**	**165,300**
Total (acres)	**1.45**	**2.35**	**3.79**

Notes:

1. Permanently disturbed bank areas take into account ground slopes.
2. Post-project floodplain utilized in analysis.
3. Permanently disturbed areas do not include channel bank areas to regraded and restored.

Floodplain Elevation and Volume

Hydrologic modeling of the proposed project provided a summary of effects on the floodplain elevation and volume. This information indicates the project will increase 100-year flood elevations for approximately 400 feet (200 feet upstream of the diversion and 200 feet downstream of the diversion). The maximum increase in water surface elevation in this reach is approximately 4 ft. The 100-year inundation area would be increased by approximately 0.1 ac. This, in conjunction with a small net increase in river cross section, will result in an increase in the 100-year floodplain storage volume of approximately 3.8 acre-feet.

Response to Comment Number 4-2

The facilities within the Basin Plan prohibition areas are included in Tables 2-2 and 2-3. The discussion in Section 2.6.2.7 of the Final EIR includes a description of the project components located in the Basin Plan prohibition areas. Please see response to comment 4-1.

Response to Comment Number 4-3

SPPC is seeking an exemption to the floodplain prohibition due to the difficulty of constructing a river dependent facility within the Truckee River. Equipment staging, including loading and unloading, parking longer than several days, and materials storage, will occur outside the 100-year floodplain. These changes have been made to Chapter 2 of the EIR (Appendix A). Equipment and materials needed for immediate construction activities will need to be located within the 100-year floodplain.

Response to Comment Number 4-4

SPPC has selected two locations to stage equipment and store materials outside the 100-year floodplain: Old Highway 40 and between the frontage road and I-80 at the south end (upstream) of the construction area. This issue is described in more detail in response to comment 4-1. However, it will be necessary to locate some equipment and project components within 100-year floodplain. Therefore, to avoid any violation of Basin Plan prohibition, SPPC must obtain an exception to the Basin Plan prohibition. In deciding whether to allow an exception, the Regional Board must make the following findings:

- The project falls within a particular category of new projects.
- There is no reasonable alternative to locating the project or portions of the project within the 100-year floodplain.
- The project, by its very nature, must be located within the 100-year floodplain. (The determination of whether a project, by its very nature, must be located in a 100-year floodplain shall be based on the kind of project proposed, not the particular site proposed.)
- The project incorporates measures that will ensure that any erosion and surface runoff problems caused by the project are mitigated to levels of insignificance.

- The project will not, individually or cumulatively with other projects, directly or indirectly degrade water quality or impair beneficial uses of water.
- The project will not reduce the flood flow attenuation capacity, the surface flow treatment capacity, or the groundwater flow treatment capacity from existing conditions.

SPPC has the responsibility to apply for the Basin Plan exception. SPPC will likely seek an exception on the following grounds.

- the Regional Board may grant an exception for a new project that is necessary to provide an essential public service—in this case, the generation of electricity;
- there are no reasonable alternatives to locating the project or portions of the project outside the 100-year floodplain because a diversion dam must be located within the river and all described facilities are an integral part of the project;
- the project, by its very nature, must be located in the 100-year floodplain because a diversion dam must be located within the floodplain to divert water for power generation;
- the project incorporates measures either in the project design or as mitigation measures to ensure that erosion and surface runoff problems are mitigated to a level of insignificance;
- measures are included in the proposed project and as mitigation measures to ensure that water quality is not degraded and beneficial uses are not impaired; and
- the project will not reduce the flood flow attenuation capacity, surface flow treatment capacity, or the groundwater flow treatment capacity of the Truckee River.

Response to Comment Number 4-5

Based on the cut and fill information added to Chapter 2 (see the response to comment number 4-1) there would be a net increase in floodplain capacity as a result of the project; therefore, floodplain capacity mitigation of 1:1 should not be required. This increase in capacity is large enough to also offset vegetation plantings described in Appendix D. A final restoration plan has not been prepared, but riparian dependent, flood tolerant species would be selected.

Response to Comment Number 4-6

Please see response to comment 4-1. Because the floodflow attenuation capacity would not be reduced, floodplain capacity mitigation of 1:1 should not be required.

Response to Comment Number 4-7

The in-river construction period will be consistent with RWQCB standards. This information has been changed in Chapter 2, Section 2.6.2.3 (Appendix A).

Response to Comment Number 4-8

The SWRCB has discussed alternative methods of disposing of baker tank water with SPPC. Because of the nature of the project and its location in a narrowly confined canyon bound by a steep slope and I-80 there are few alternatives to discharging back to the Truckee River. A suitable upland location is more than ½ mile from the construction area and would result in other effects such as vegetation removal and localized erosion.

The Storm Water Pollution Prevention and Spill Prevention and Recovery Program specifies sediment turbidity limits and will ensure that water discharges are within acceptable limits. SPPC has indicated that some baker tanks containing water that is not suitable for discharge will be transported off-site. For example, water requiring neutralization may not be suitable for discharge back to the Truckee River. Chapter 2, Section 2.6.2.7 was modified to remove the reference to neutralizing alkalinity.

Response to Comment Number 4-9

This impact has been revised to be consistent with the project description. These changes are provided below.

Impact 3-1: Erosion and Siltation Resulting from Project Construction

The proposed project would require a temporary diversion of the course of the Truckee River to facilitate construction of project facilities. As described in chapter 2, "Description of Project Alternatives," the river would be diverted to a ~~bypass~~ temporary diversion channel east of the existing channel. The ~~bypass~~ diversion channel would be excavated in fluvial deposits that have accumulated along the inside bend of the river, and would be constructed of grouted boulders, concrete, and rocks. By diverting and isolating the river via the temporary diversion erosion and siltation due to other activities in the construction area would be minimized. ~~Although likely containing more fine material than the substrate in the active river channel, the deposit primarily consists of large boulders and cobbles that have been overlain by finer materials. T~~ Upon rewatering, the fine materials may be winnowed from the bypass channel's bed and banks, but the large caliber of the remaining deposits would inhibit substantial erosion and ~~failure of the bypass channel~~ siltation. The temporary diversion channel will provide the basis of the roughened channel. Therefore, this impact is considered ***less than significant***. No mitigation is required.

Response to Comment Number 4-10

SPPC has included improvements to the culvert outfall in the project description including a stabilized outfall or sediment trap at the end of the culvert outfall. This change has been added to Chapter 2 Section 2.6.1.8, and into Impact 3-5.

Response to Comment Number 4-11

The project facilities are located in areas currently composed of large granite boulders on river left and consolidated compacted sediments, consisting of an impervious access road adjacent to I-80, on river right. Currently a 20-year, 1

hour storm event runs immediately and directly into the river in the project area. The construction of the project facilities would be similar to existing conditions and have no appreciable effect on the rate or amount of runoff. Furthermore, the removal of the road and restoration plantings may increase local retention times.

Response to Comment Number 4-12

Mitigation measures 6-3 and 6-4 are proposed for adoption to protect aquatic species and beneficial uses. In the event the temperature model is inaccurate, Mitigation Measure 6-4 requires a management plan that would identify "criteria that would trigger operational changes" such as reduced diversions. Please see Master Response Water Quality 1 with respect to water temperature effects.

Response to Comment Number 4-13

Please see Master Response Fish 4. In the unlikely event that ramping is required, a pre-ramping rapid bioassessment will be required if SPPC implements ramping for recreational purposes.

Response to Comment Number 4-14

The sediment detention channel and baker tanks will be used to settle suspended sediment then clean water will be discharged to the Truckee River. Estimates of construction dewatering (Slovensky, pers. comm.) indicate that approximately 3,000 – 6,000 gpm (6.5 – 13.5 cfs) could pass under the temporary diversion. This range assumes: hydraulic conductivity of 1,000 ft/day; bedrock topography; and an impermeable liner of grouted rock under the temporary diversion channel that will prevent leakage of diverted flows into excavated areas. All of these factors have a significant impact on estimates of groundwater inflow. The hydraulic conductivity value was derived from a pump test carried out by another company along the river at a location downstream of the project site. Pump tests were not carried out at the project site.

The fine and coarse materials that settle in the sediment detention channel will be removed periodically, approximately annually, and disposed of off-site – this information was added to the Final EIR under Section 2.6.4 Maintenance Activities (Appendix A).

Because of the potential volume of construction dewatering, the distance to other potential disposal areas, and the need to minimize water removed from the Truckee River, the sediment detention channel is needed as a temporary storage area for water to settle fines. Use of the sediment detention channel, baker tanks, and other measures specified in the SWPPP (including discharge limits) will ensure that potential impacts to the Truckee River will be minimized.

Response to Comment Number 4-15

Comment noted. No change required.

Response to Comment Number 4-16

SPPC filed for a Notice of Intent (NOI) with the SWRCB in Sacramento for a NPDES General Stormwater Permit on January 14, 2003.

Response to Comment Number 4-17
Comment noted. No change required.

Response to Comment Number 4-18
Please see response to comment 4-3 and 4-4.

Response to Comment Number 4-19
Additional information was added to Chapter 4 "Water Quality" regarding the sediment issues in the Truckee River. Mechanisms proposed by the project applicant and integrated into the project description serve to avoid or minimize the effects of additional sediment in the Truckee River. Appendix C of the Draft EIR also indicates that the project applicant will keep suspended sediment concentrations within 10 percent of baseline concentrations and turbidity will not be raised more than 3 Neophelometric Turbidity Units above mean of monthly means. Furthermore, due to the temporary nature of the impact - during initial project dewatering and rewatering, and the small area and volume of water proposed for discharge relative to the operation area - these effects are expected to become diluted quickly and return to ambient conditions within several hundred feet of the construction area. Overall sediment loading is not expected and the project will comply with water quality standards. Therefore, the SWRCB considers this impact less than significant.

Response to Comment Number 4-20
Under CEQA, the SWRCB has conducted an appropriate analysis of alternatives. The alternatives analysis proposed by the RWQCB pertains to measures to minimize discharges and reduce the size of the footprint of the project. The SWRCB is satisfied that the project has included measures to avoid or minimize adverse effects on water quality. Based on the site constraints and the engineering analysis provided by the project applicant, a smaller footprint is not recommended because the facility needs to be capable of withstanding a 100-year flood event. SPPC has provided a set of project plans to the RWQCB.