State Water Resources Control Board

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October 27, 2004

Ms. Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E., Room 1A
Washington, DC 20426

Dear Secretary Salas:

STATE WATER RESOURCES CONTROL BOARD COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR LICENSING OF THE UPPER NORTH FORK FEATHER RIVER HYDROELECTRIC PROJECT (PROJECT NO. 2105-089)

The State Water Resources Control Board (SWRCB) has received the Federal Energy Regulatory Commission (Commission) draft Environmental Impact Statement (dEIS) prepared and circulated for relicensing of the Upper North Fork Feather River (UNFFR) Project (FERC License No. 2105). The Commission's document invites comment prior to staff preparation of the final EIS. SWRCB staff appreciates the opportunity to review this dEIS and provide comments to the Commission on issues related to the relicensing and continued operation of the project.

The SWRCB is the agency in California that is responsible for implementation of the federal Clean Water Act, and issuance of section 401 water quality certification (33 U.S.C. §§ 1341) for any potential discharge that may result from an activity that requires a federal license or permit. Cal. Water Code § 13160; Cal. Code Regs. tit. 23, § 3855 (b). Consistent with section 401 of the Clean Water Act, regulations supporting the Federal Power Act (18 C.F.R. § 16.8(d)(7)(i)) require every applicant for a federal hydropower license or amendment to provide the Commission with water quality certification prior to granting a new license. A section 401 Certification may be issued if the SWRCB determines that there is reasonable assurance that the project is in compliance with specified provision of the Clean Water Act, including water quality standards and implementation plans (33 U.S.C. § 1313). Section 401 directs the state agency responsible for certification to prescribe effluent limitations or other measures necessary to achieve compliance with the Clean Water Act and with any other applicable requirement of state law (33 U.S.C. §1341(d)).

On September 7, 2004, Pacific Gas and Electric Company (Licensee) withdrew its pending request for 401 Certification and filed with the SWRCB a new request for water quality certification on the UNFFR Project. The SWRCB will act under section 401 authority to determine adequacy of the project to meet state and federal water quality standards, including compliance with the water quality objectives defined in the Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board, Central Valley Region. Water quality conditions resulting from controllable factors must be protective of the Basin Plan's designated beneficial uses for Lake Almanor and for downstream reaches of the North Fork Feather River (NFFR). As needed, the SWRCB may condition the 401 Certification with

effluent limitations or other measures necessary to meet state and federal water quality standards, in addition to setting the requirements for a monitoring and reporting program to ensure compliance.

GENERAL COMMENTS

Issuance of a 401 Certification is a discretionary act and is therefore subject to the California Environmental Quality Act (CEQA). Cal. Pub. Res. Code §§ 21000. In letters of response (September 14, 2004 and October 1, 2003) to the Licensee's request(s) for water quality certification SWRCB staff acknowledge the necessity to complete a final CEQA document before the SWRCB can take affirmative action on the request for water quality certification. Although CEQA encourages the use of an existing NEPA document in lieu of preparing a new environmental document (Cal. Pub. Res. Code § 21083.7), the Commission timeline has guaranteed issuance of the NEPA document prior to completion of all previously requested resource data reports. It is unfortunate that the draft NEPA document does not provide disclosure of all data necessary to address the potential environmental impacts of the UNFFR Project, as required under CEQA. To issue a conditioned 401 Certification the SWRCB will need a thorough analysis of all resource data necessary to characterize the effects of the UNFFR Project on local and downstream waters, and the potential measures for mitigating these effects to bring the project into compliance with state and federal water quality standards. As Commission staff develop the final EIS, it is recommended that analysis of existing 2002, 2003, and 2004 resource data and modeling reports (referenced throughout the dEIS) be included to allow for a complete and accurate environmental document, full public disclosure, and appropriate conclusions on which to base the protection, mitigation, and enhancement measures (PM&Es).

SWRCB staff has provided guidance to the Licensee, state and federal resource agencies, local government, Non-Governmental Organizations, and individual stakeholders participating in an UNFFR collaborative process during the past several years. The goal of this collaborative process was to resolve issues between the parties and develop PM&Es that would lead to the relicensing of the UNFFR Project. Although collaborative participants came to agreement on many proposed PM&Es, the UNFFR Settlement Agreement (April 22, 2004), signed by many, clearly identifies shortcomings of this incomplete recommendation to the Commission. This proposal, submitted to the Commission on April 30, 2004, is not comprehensive in nature. The Unresolved Subjects section (Table 2, section 2.3) of the Settlement Agreement [*In Part]*, identifies water temperature and other resource issues as those areas of potential environmental impact that remain to be dealt with through the federal and state environmental review processes, where it is expected that the appropriate analysis and development of PM&Es will provide mitigation adequate to reduce impacts and allow for the Commission to complete the relicensing effort on the UNFFR Project.

After review of the dEIS, SWRCB staff finds that the following areas of the dEIS need reconsideration and further development if a final document is to meet the intent of NEPA and

also be considered for use in the CEQA environmental review required for processing of the Licensee's request for 401 Certification on the UNFFR Project.

SPECIFIC COMMENTS

Term of License

The Commission is authorized to issue hydroelectric project licenses for terms of 30 to 50 years. Although the UNFFR Settlement Agreement discusses license term, this Unresolved Subject has not been analyzed in the dEIS. SWRCB staff recommends that Commission staff consider the licensing history of other projects within this watershed, and provide discussion in the final EIS that supports a sound and conservative approach to granting the new UNFFR Project license term. A 30-year license term would be consistent with intent expressed by the Licensee and other Parties to the Rock Creek-Cresta (Project No. 1962) Settlement Agreement where it was requested that a "nominal period of 30 years" be granted.[1] The Commission acted in concurrence with the Parties' request, granting a 33-year license term on that project to allow for alignment of its future expiration date with that expected on the Poe Project (Project No. 2107) and the UNFFR Project licensings. SWRCB staff requests that the Commission weigh the value of future relicensing on a watershed scale, and cautiously set the UNFFR Project license term coincident with the expiration of the new license on the upstream Rock Creek-Cresta Project and the anticipated license for the Poe Project.

Water Quality

The Basin Plan for the Sacramento River and San Joaquin River Basins designates beneficial uses of the NFFR which include: Municipal and domestic supply, power, contact recreation (including canoeing and rafting), non-contact recreation, cold freshwater habitat, cold water spawning, and wildlife habitat. The Basin Plan provides a separate set of beneficial uses for waters of Lake Almanor, as follow: Power, contact recreation, cold freshwater habitat, warm freshwater habitat, warm water spawning, and wildlife habitat. Protection and enhancement of these beneficial uses are primary goals of water quality planning. SWRCB staff requests that the Commission prepare the final NEPA document to provide a clear assessment of how each of these designated beneficial uses can be protected with continued operation (or re-operation) of the UNFFR Project.

SWRCB staff disagrees with the Commission's staff conclusion that water quality monitoring programs for Lake Almanor, including water column sampling for compliance with Basin Plan bacteria, biostimulatory substances, chemical constituents and toxicity objectives, should be limited to the first 3 years following issuance of the license (dEIS, page 341). A new license to operate the project will span 30 years, and it would be ludicrous to assume that impacts to water quality would not have potential to manifest in any year throughout this term. Recreational use

[1] Pacific Gas and Electric Company. 2000. *Rock Creek-Cresta relicensing settlement agreement: September 2000*; section 2.8, page 7.

and activities associated with the Lake Almanor, Butt Valley Reservoir, and the NFFR are expected to increase over the next two decades. New day-use areas, swim beaches, boat ramps, campgrounds and trails with associated sanitation facilities are planned as PM&Es to the license (dEIS, pages 329-338), in anticipation of growth and increased activity, particularly at Lake Almanor. Baseline conditions developed during the first 3 years may not be at all representative of the pathogen or constituent levels measured under future use conditions. Operation of the UNFFR Project is subject to compliance with the Clean Water Act and the Basin Plan, and to assess the ongoing character of waters within that project a robust monitoring program must be in place.

The Basin Plan designates contact recreation (REC-1) as a beneficial use for Lake Almanor, Butt Valley Reservoir, and waters of the NFFR. Protection of the REC-1 beneficial use requires compliance with the bacteria objective (currently assessed using fecal Coliform as the indicator species) established in the Basin Plan. The dEIS discloses data that documents past exceedances of the fecal Coliform thresholds (pages 55-56 and 73) established to protect swimmers, anglers, water-skiers and other recreational users that have direct contact with these waters. Lake level fluctuations on Lake Almanor are controlled by the Licensee, and have the potential to allow water column interception of existing leach fields, septic systems and historic solid waste sites in addition to the potential for contamination from general activities in the vicinity of beaches and campgrounds. The dEIS presents no data to refute the contention that bacterial contamination may occur under certain surface elevations in Lake Almanor; instead, the Commission admits that increases in bacterial contamination may likely be expected (page 88). An ongoing monitoring program that spans the life of the license is required to demonstrate that human health thresholds are not approached or exceeded for bacteria exposure levels at day-use, campground, and other recreational locations along shorelines of Lake Almanor, Butt Valley Reservoir, and the Belden reach of the NFFR. Commission staff should re-assess the approach they have taken on this water quality issue, and provide a PM&E in the final EIS that can alert water quality and recreation management agencies to pathogen risks that could develop at water recreation sites over the full term of the license.

The UNFFR Settlement Agreement includes requirements for a water quality sampling program to monitor long-term trends in concentrations of metals, nutrients, minerals, petroleum products, and i*n-situ* parameters in the Lake Almanor water column (dEIS, Appendix A, pages 37-38). The sampling frequency (spring/summer/fall once in every five years, beginning in year three following license issuance) is a conservative requirement for the development of data necessary for trend analysis. SWRCB staff finds the Commission's recommendation to reduce this monitoring program to include only the first three years of the license term unacceptable and unsupported by current science. Commission staff are accurate in recognizing that inter-annual variability in meteorological, hydrological and limnological conditions may influence the value of ongoing monitoring at 5-year intervals through the life of the license (page 73). However, a trend analysis is expected to develop a general picture of the changing character of conditions under review – random sampling in any research effort is done with the intent to demonstrate representative conditions. The dEIS identifies various project-related sources and conditions that

have potential to alter water quality conditions over the extended life of a 30-year license, including: silver from Licensee's cloud seeding program (pages 56 and 87); impoundment of mercury within reservoirs and the subsequent methylation resulting from anoxic conditions (page 73); trace metals and sulfides undergoing a redox process in the hypolimnion strata (page 79); and increased recreational use at future UNFFR facilities (pages 88 and 194–205). A sampling program that covers only the first three years of the license term would totally disregard the potential for water quality changes from ongoing and cumulative effects of the project. To track continuing compliance with state and federal water quality criteria and demonstrate protection of the beneficial uses designated for this water body during the three decades of a hydroelectric license, monitoring of constituent levels must be conducted throughout the license term at intervals not to exceed 5-years. The Commission should re-evaluate the recognized risk of potential impairments to water quality over time and develop a final EIS that addresses the need for long-term monitoring and trend analysis for Lake Almanor waters.

Water Temperature

In its dEIS, the Commission acknowledges that operations at the UNFFR Project affect not only this project, but that the impoundment and re-regulation of NFFR flows also influences downstream project flows and generation (pages 3 and 87). Direct effects of the UNFFR Project are seen as changes to the thermal regimes of the Belden, Rock Creek, Cresta, and Poe reaches of the NFFR. Table 3-7 of the dEIS summarizes temperature data for project waters, and demonstrates exceedances of a 20^{o} Celsius (C) mean daily value in the diverted reach below Belden dam (NF5) 29% of the time during the months of July and September. (This statistic is significantly higher when evaluated through July and August only.) Daily average temperatures reported for the Belden stream segment reached 22.9^{o} C, and tended to increase in a downstream direction. Annual Reports submitted to the Commission for ongoing water temperature monitoring in the Rock Creek and Cresta reaches (2002 and 2003) continue to document the routine June through August exceedances of the = 20^{o} C threshold established for protection of the cold freshwater habitat in these two reaches of the NFFR. Data provided in the Poe Project First Stage Consultation Package (Table S-9) records water temperatures monitored in the NFFR just upstream of the Poe powerhouse during July and August (1999 and 2000) that exceed a daily mean of 20^{o} C in 110 of 120 days, and monitoring data presented in the Poe Application for License (December 2003, Appendix E2-3) reports hourly water temperatures climbing as high as 25.6^{o} C in June 2000, 26^{o} in July 2003, 24.7^{o} C in August 2003, and 23.4^{o} C in September 2003, just upstream of the Poe Powerhouse.

The Basin Plan designates beneficial uses for waters of the NFFR that include cold freshwater habitat and cold water spawning; designated uses of the NFFR do not include warm freshwater habitat. In the NFFR, as in most west-slope Sierran streams, the biological requirements of the rainbow trout are used as a surrogate for defining the criteria necessary to support a healthy coldwater ecosystem. Consistent with the Basin Plan water temperature standard for the NFFR, resource agencies stated (in IFIM study design) that their goal was to manage the NFFR within the project area as a coldwater rainbow trout fishery (dEIS, page 100). Optimal temperatures for growth of rainbow trout are generally recognized to be in the range of 15-18^{o} C, and extremely

high temperatures (>23° C) can be lethal.[2] SWRCB staff, in comments to Scoping Document I (June 19, 2003) and various other letters (December 20, 2002, August 14, 2003) submitted to the Commission for this UNFFR proceeding, has emphasized the need to take measures that will restore and protect a cold freshwater habitat in the Belden reach and in other reaches of the NFFR impacted by features and operations of the UNFFR Project.

Commission staff recognize that frequent exceedances of 20° C provide suboptimal conditions for trout (dEIS, page 75) and increase the susceptibility of rainbow and brown trout to infection by Ceratomyxa Shasta (page 132). Although Commission staff identify these specific impacts to cold water species occupying the Belden diverted reach, the draft NEPA document proposes no measures for reducing water temperature in the Belden reach or in other downstream reaches of the NFFR affected by the UNFFR Project. Instead, Commission staff attempt to justify "retaining" existing water temperatures in the Belden reach (page 108) by declaring this thermal regime as being "preferred" by rainbow trout, Sacramento sucker, and hardhead. This thinking is flawed not only in the misunderstanding of an appropriate temperature range for protection of the cold water species, but also in the casual selection of 140 cfs as the representative minimum flow to use in comparing proposed conditions to the existing condition. More correctly, the analysis of water temperatures resulting from existing summer flows (140 cfs in all summer months, under all water year types) should be compared to proposed summer flows which include significant reductions in July and August flows during *Dry* water years (130 cfs and 110 cfs, respectively) and June, July and August in *Critically Dry* water years (90 cfs, 80 cfs, and 75 cfs). Conclusions provided in the dEIS (pages 109 and 132) are not supported by the analyses of temperature data or by current scientific literature. Reconsideration of the temperature data and additional analysis of impacts must be done to develop accurate conclusions for the water temperature element in the final EIS.

The dEIS proposes no PM&Es to reduce seasonal water temperatures that typically climb above conditions suitable for cold freshwater biota in waters of the NFFR affected by the UNFFR. Appropriate measures to mitigate thermal impacts in Belden Reservoir, the Belden bypassed reach, and all downstream reaches of the NFFR affected by operations in the UNFFR Project must be presented and analyzed in a final EIS that can be judged to be accurate and complete. Compliance with CEQA and the subsequent development of a conditioned 401 water quality certification for licensing of the UNFFR Project will require the appropriate assurances that the Basin Plan water temperature standard for the NFFR can be protected with continued operation.

The dEIS suggests that Prattville Intake modification measures under investigation in the Rock Creek-Cresta post-licensing program may provide improvements in the water temperatures of Belden, Rock Creek and Cresta reaches of the NFFR (page 77). However, the Recommended Alternative (pages 324-345) does not include any requirement for implementation of that measure. In the recently issued Rock Creek-Cresta License (October 24, 2001), the Commission explains that requirements associated with the UNFFR Project are beyond the scope of the

[2] Moyle, Peter B. 2002. *Inland Fishes of California*. University of California Press, Berkeley, CA; page 276.

Project No. 1962 license, and must be properly considered in the context of the Project No. 2105 license.[3] The Commission deferred mitigation of the NFFR water temperature impacts to source waters of the UNFFR Project and clearly intended that this issue be dealt with in the current proceeding. Commission staff, in the environmental analysis for the UNFFR Project, must evaluate this alternative and a range of other feasible options for mitigation of environmental impacts under the direct or indirect control of the UNFFR Project features or operations.

In the final EIS, the Commission should provide information adequate to evaluate the controllable factors related to restoration and protection of cold freshwater habitat in the NFFR watershed. This information should include but not be limited to the analyses of: Selective temperature withdrawal from Lake Almanor through a modified Prattville intake structure, selective withdrawal through a modified Caribou No. 2 deepwater intake structure in combination with the Caribou No. 1 intake, seasonal re-operation of the Canyon Dam variable outlet tower, and increased minimum flows in the Seneca reach as released through the low-level outlet at Canyon Dam. In addition, the final EIS should analyze a range of non-Lake Almanor alternatives that have potential individually or in combination to reduce thermal conditions in the Belden reach, the Rock Creek and Cresta reaches, and the Poe reach of the NFFR. An adequate environmental document should analyze a full range of alternatives for mitigation of temperature impairments and must demonstrate how the UNFFR Project may be operated in a manner that achieves adequate protection of cold freshwater habitat downstream through all affected stream reaches of the NFFR.

Fishery Habitat

SWRCB staff concurs with the Commission's staff recommendation for Licensee development and implementation of a monitoring plan to document dissolved oxygen (DO) concentrations in Lake Almanor, Butt Valley Reservoir, and in the NFFR downstream of the Caribou powerhouse tailrace(s). However, a monitoring plan in and of itself is not mitigation. Data collected on DO concentrations in the hypolimnion of Lake Almanor and Butt Valley Reservoir have measured values that seasonally fall well below the 7.0 mg/l Basin Plan objective for waters designated as cold freshwater habitat and the 5.0 mg/l objective for waters designated warm freshwater habitat; August DO levels are reported at less than 1 mg/l (dEIS, pages 54-55). CE-Qual-W2 modeling conducted for Lake Almanor water quality parameters of temperature and DO indicate that under existing project operations, this water body is limited in the suitable habitat available for cold water fish species.[4] DO concentrations in the hypolimnion are observed to be a limiting factor in defining suitable fish habitat in that lake strata. Additional monitoring of DO levels in these project waters will provide important information, but measures to correct the impaired condition should be proposed and analyzed in the NEPA document. SWRCB staff requests that the Commission explore alternatives for increasing DO concentrations in the hypolimnion layer of

[3] Federal Energy Regulatory Commission. 2004. Order approving settlement and issuing new license for Project Nos. 1962-000 and 028. p. 15.

[4] Jones and Stokes. 2004. Simulation of temperature and dissolved oxygen in Lake Almanor CE-QUAL-W2 water quality model, *Draft Final Report*. Prepared for Pacific Gas & Electric Company, March 2004.

large water bodies, then provide NEPA analysis of feasible measures with potential to increase DO in Lake Almanor and Butt Valley Reservoir. Investigation of potential mitigation measures should include but not be limited to aeration devices that may be strategically located in the hypolimnion layers of Lake Almanor (near Canyon Dam and other sites) and Butt Valley Reservoir. If NEPA analysis supports the reasonable mitigation of seasonal DO impairments in these water bodies, a PM&E for implementation should be considered along with an ongoing monitoring program designed to demonstrate the effectiveness of the measure and compliance with the Basin Plan.

SWRCB staff appreciates the opportunity to comment on the UNFFR dEIS and looks forward to working with the Commission to protect the beneficial uses designated for Lake Almanor and the NFFR watershed. Should you have questions regarding this project please contact me at (916) 341-5397 or e-mail: sstohrer@waterrights.swrcb.ca.gov, or you may contact Jim Canaday, FERC Licensing Team Leader, at (916) 341-5308.

Sincerely,

ORIGINAL SIGNED BY

Sharon Stohrer
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