COVER SHEET

FEDERAL ENERGY REGULATORY COMMISSION

FINAL ENVIRONMENTAL IMPACT STATEMENT FOR THE
UPPER NORTH FORK FEATHER RIVER PROJECT
Project No. 2105-089

SUMMARY

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FEIS

SUMMARY

On October 23, 2002, Pacific Gas and Electric Company (PG&E) filed an application with the Federal Energy Regulatory Commission (Commission or FERC) for a new license for the existing Upper North Fork Feather River (UNFFR) Project. The UNFFR Hydroelectric Project is an existing 342.6-megawatt (MW) hydroelectric facility located on the North Fork Feather River (NFFR) and Butt Creek, in Plumas County, California. The project occupies 1,024 acres of lands of the United States administered by the U.S. Department of Agriculture, Forest Service, and the U.S. Department of the Interior, Bureau of Land Management. The UNFFR Project consists of five hydraulically connected developments, with a total of three dams and reservoirs, five powerhouses, associated tunnels, surge chambers, and penstocks. The project has a combined average annual generation of 1,171.9 gigawatt-hours. PG&E proposes no increased capacity.

In this final environmental impact statement (EIS), we analyze the environmental effects associated with the issuance of a new license for the existing hydropower project and recommend conditions for inclusion in any license issued. For any license issued, the Commission must determine that the project adopted will be best adapted to a comprehensive plan for improving or developing the waterway. In addition to the power and development purposes for which licenses are issued, the Commission must give equal consideration to energy conservation and the protection and enhancement of fish and wildlife, aesthetics, cultural resources, and recreational opportunities. The final EIS for the UNFFR Project reflects the staff's consideration of these factors.

On April 30, 2004, PG&E filed with the Commission a Settlement Agreement (SA) reached by the Project 2105 Licensing Group on proposed protection, mitigation, and enhancement measures pertaining to streamflow management, recreation river flow management, reservoir operations, water year types, water quality monitoring, wildlife habitat enhancement, recreation, and land management and visual resource protection. PG&E's proposed action is to relicense the project including the terms of the SA.

PG&E proposes to continue operating the UNFFR Project with the following protection and enhancement measures:

- Operate the project in accordance with the provisions of the SA, including streamflow management, recreation river flow management, reservoir operations, water year types, water quality monitoring, wildlife habitat enhancement, recreation, and land management and visual resource protection.

- Continue to implement the road maintenance agreement between PG&E and the Plumas National Forest.

- Remove the Gansner Bar fish barrier on the Belden reach.

- Modify the project boundary to include approximately 34 additional acres of the Plumas National Forest in the vicinity of the Caribou powerhouse and near Belden dam for the purposes of penstock maintenance and spoil management.

- Finalize and implement a Historic Properties Management Plan.

Our analysis shows that the best alternative for the UNFFR Project is to issue a new license consistent with PG&E's proposed environmental measures (unless noted otherwise) with the following additional measures (staff's alternative):

- Include details that we specify in the following PG&E-proposed plans:

    - Lake Almanor water quality monitoring.

    - Bioaccumulation (methylmercury and PCBs) monitoring in catchable-sized fish.

    - Bacteriological monitoring.

    - Fish and benthic macroinvertebrate monitoring.

    - Gravel monitoring.

    - Amphibian monitoring.

    - Recreation flow implementation plan.

    - Shoreline management.

- Develop and implement a spoil disposal plan.

- Develop and implement a plan that addresses the timing of use of the upper-level gates in the Canyon dam outlet tower for releases to the Seneca bypassed reach.

- Develop and implement a water level and flow gaging plan.

- Develop and implement a woody debris management plan.

- Develop and implement an adaptive management plan for environmental resources.

- Develop and implement a vegetation and invasive weed management plan that incorporates protection and management of valley elderberry longhorn beetle habitat for all project lands.

- Develop and implement a plan for the protection of threatened, endangered, proposed for listing, and sensitive species.

- Develop and implement a peregrine falcon monitoring plan.

- Develop and implement an interagency bald eagle management plan.

- Develop and implement a road management plan.

- Develop and implement a fire prevention, response, and investigation plan.

On November 4, 2004, the FS submitted its final Section 4(e) conditions, which reflect many of the SA measures. We recommend that most of the terms of the SA be approved and made conditions of any license that may be issued for the UNFFR Project. However, a specific 4(e) condition (and SA measure) that we do not include in the staff alternative is the funding for a river ranger position. We conclude that this should be the responsibility of the FS and/or Plumas County because the primary responsibility of this position would be for law enforcement, which is the responsibility of these agencies. We also recommend modifications to some of the SA measures, including five that are also FS Section 4(e) conditions, as listed below:

- Monitoring fish and benthic macroinvertebrates in the Belden and Seneca reaches: PG&E proposes and the FS specifies initiating monitoring between 10 and 12 years after license issuance, with sampling occurring every 2 years over a 6-year period, for a total of three sampling periods; we recommend initiating this monitoring during years 4 and 5 of the new license and then monitoring every fifth year. We recommend this modification because we are concerned that changes, negative or positive, to the fish, amphibian, and macroinvertebrate communities would not be evident in a timely manner under the monitoring program proposed by PG&E and specified by the FS.

- Pulse flows from Canyon and Belden dams: PG&E proposes and the FS specifies providing one pulse flow release from both Canyon dam and Belden dam in January, February, and March if the forecasted water year type for that month indicates that the water year is anticipated to be either normal or wet (no pulse flows are proposed in any of those months if the forecasted water year type is dry or critically dry); in addition to the pulse flows proposed by PG&E and specified by the FS, we recommend providing a pulse flow of 700 cubic feet per second below Canyon dam and Belden dam in March of dry years, unless the water temperature exceeds 10°C for two consecutive days in March and if a flow of this magnitude was not measured in the preceding January or February at NF4 (Seneca) and NF7 (Belden). We recommend this modification to ensure that periodic flows of the magnitude necessary to flush fine substrates from spawning gravels, redistribute small gravels, and activate

floodplain habitat would occur with enough frequency to improve conditions for the aquatic biota in the bypassed reaches, especially during periods of drought.

- Gravel monitoring plan: PG&E proposes and the FS specifies developing and implementing a gravel monitoring plan to evaluate the movement of sediment that occurs in the Belden and Seneca reaches during scheduled pulse flow events and other flow events of similar magnitude; we recommend that the gravel monitoring plan include specific contingency actions for the enhancement of substrate distribution and abundance in the bypassed reaches. We recommend this modification in the event that our recommended pulse flow schedule should be modified to improve the abundance and distribution of spawning-sized gravels, or if gravel supplementation or vegetation management is necessary, based on monitoring results.

- Recreation flow implementation plan: PG&E proposes and the FS specifies implementing the recreation flow implementation plan, including test flows and monitoring, in the Belden reach, in year 1 of the license; we recommend delaying implementation of the plan until year 6. We recommend this modification because it provides an opportunity for the biotic community to adapt to the revised instream flow schedule without being disrupted by recreational release flows, which would improve the likelihood of enhancing macroinvertebrate and fish populations.

- Scheduled recreation flow releases: PG&E proposes and the FS specifies releasing recreation flows in the Belden reach beginning in year 4 of the license, following implementation of the recreation flow implementation plan; we recommend delaying the recreation flow releases in the Belden reach until year 9, also following the implementation of the recreation flow implementation plan.

- Lake Almanor water quality monitoring: PG&E proposes monitoring once every 5 years beginning in year 3 from license issuance; we recommend monitoring only in years 1 to 3.

- Bioaccumulation (methylmercury and PCBs) monitoring in catchable-sized fish: PG&E proposes monitoring once every 5 years beginning in year 1 from license issuance; we recommend monitoring only in years 5, 10, and 15. PG&E also proposes monitoring for bioaccumulation of silver; we do not recommend monitoring for bioaccumulation of silver because previous sampling indicates that silver body burdens are low, silver does not typically biomagnify, and we are not aware of an established action or screening level that represents the risk to human health.

- Bacteriological monitoring: PG&E proposes monitoring in years 1 to 5 from license issuance, then every other year; we recommend monitoring only in years 1 to 3.

- Cadmium and specific conductance monitoring: PG&E proposes monitoring in years 1 and 2 from license issuance, at a minimum; we recommend monitoring for up to 3 years in years 1 to 3.

- Monitoring the effectiveness of seasonal switching of the Canyon dam outlet tower gates: PG&E proposes monitoring for 6 water years (not necessarily consecutive) beginning in year 1 from license issuance; we recommend monitoring only in years 1 to 3, only if those 3 water years are normal, dry, or critically dry.

- Shoreline management plan: PG&E proposes implementing the shoreline management plan included in the license application; the FS specifies and we recommend revising the shoreline management plan prior to implementation.

PG&E evaluated numerous potential measures to reduce water temperatures in the Belden reach and the lower NFFR reaches to make these reaches more suitable for coldwater fish. At this time, PG&E has not proposed implementing any of the measures it has evaluated. The implementation of some of these measures would require modifying UNFFR Project facilities and/or operations. Therefore, we evaluate these measures in this final EIS. We determined that the use of thermal curtains in Lake Almanor and/or Butt Valley reservoir would reduce NFFR temperatures downstream of the Caribou powerhouses; however, we do not recommend it given the adverse effects that these measures would have on the lakes' environmental, cultural, and recreational resources (e.g., coldwater fishery of Lake Almanor, the existing trophy rainbow and brown trout fishery of Butt Valley reservoir, potential disturbance of Native American burial grounds, boating safety, and viewsheds) and its high cost. While we do not recommend modifying the Prattville intake to provide cooler water to downstream reaches, PG&E's proposed, and our recommended, minimum instream flows generally would reduce water temperatures in July and August by about 0.5 to 2.0°C in the Belden reach, and also, albeit to a lesser degree, in the lower NFFR bypassed reaches.

On March 14, 2005, NOAA Fisheries submitted a modified Section 18 fishway prescription for the UNFFR Project to the Commission. The modified prescription calls for the release of adult Central Valley spring-run Chinook salmon and Central Valley steelhead into the Seneca bypassed reach and into Yellow Creek, an unregulated stream that enters the UNFFR in the vicinity of the Belden powerhouse. Both species are listed as threatened under the Endangered Species Act (ESA) but do not currently occur in the project area. The prescription also calls for the trap and transfer of outmigrants (e.g., smolts and post-spawned steelhead) from the Seneca bypassed reach and Yellow Creek to below Oroville dam, part of FERC Project No. 2100.

In this final EIS, we determine that it is likely that the implementation of the modified NOAA Fisheries Section 18 prescription would provide access to approximately 15 miles of spawning and juvenile rearing habitat for Central Valley spring-run Chinook salmon and Central valley steelhead (assuming the prescription is included in the license for the UNFFR Project and a complementary prescription is implemented for the Oroville Project) by trapping adults below the Oroville Project and transporting them to the Seneca reach and Yellow Creek. The minimum instream flows that PG&E proposes and we and the resource agencies recommend for the Seneca reach, combined with the existing physical conditions in the UNFFR, would likely provide suitable habitat for anadromous salmonids. However, as discussed in section 3.3.2.2 of this final EIS, the potential success of this program is uncertain, and there would likely be many adverse effects associated with the implementation of the fish passage prescription (e.g., adverse effects on the existing fish community and on riparian habitat and instream habitat due to construction). Therefore, we do not recommend the implementation of the NOAA Fisheries' fishway prescription.

We estimate that the net annual benefit of the project as currently operated (the no-action alternative) is $52,484,700. The net annual benefit of the project as proposed by PG&E is estimated to be $43,921,000. The net annual benefit of the proposed project with our additional recommended measures would be about $43,825,300. The net annual benefit of the proposed project with our additional recommended measures and additional mandatory measures that we do not recommend is estimated to be $41,363,700.