

FEDERAL ENERGY REGULATORY COMMISSION

WASHINGTON, D.C. 20426

October 03, 2014

OFFICE OF ENERGY PROJECTS

Project No. 12496-002—California
Lassen Lodge Hydroelectric Project
Rugraw, LLC

Charlie Kuffner
Rugraw, LLC
70 Paseo Mirasol
Tiburon, CA 94920

Reference: Responses to Additional Study Requests

Dear Mr. Kuffner:

After reviewing the Lassen Lodge Hydroelectric Project final license application (FLA), as well as comments filed in the record for this proceeding, staff have determined that additional information is needed. Under Section 4.32(g) of the Commission's regulations, please file, within 60 days of the date of this letter, the information requested in Schedule A. If the submission of any additional information causes other parts of the application to be inaccurate, those parts must also be revised and refiled by the due date.

Within 5 days of receipt of this letter, please provide a copy of this letter and the attached Schedule A to all agencies you will consult in response to this request. Allow the agencies consulted at least 30 days to respond before filing the information with the Commission. In your filing, you should include copies of all agency comments and recommendations, and tell how you addressed them. Then, when you file the requested information with the Commission, you must provide a complete copy of the information to each agency consulted under section 4.38 of the regulations.

Please file your response electronically via the Internet. See 18 C.F.R. 385.2001(a)(iii) and the instructions on the Commission's website (<http://www.ferc.gov/docs-filing/efiling.asp>). For assistance, please contact FERC Online Support at FERCOnlineSupport@ferc.gov; call toll-free (866) 208-3676; or, for TTY, contact (202) 502-8659. Although the Commission strongly encourages electronic filing, your response may also be paper-filed. To paper-file, mail a copy to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 888 First Street, N.E.,

Washington, DC 20426. Please put the docket number, P-12496-002 on the first page of your response.

Please note that Commission staff may determine a need for additional studies or information upon receipt and review of scoping comments/study requests from other entities.

Finally, in comments filed June 20, 2014, the California Department of Fish and Wildlife requested a study on the potential effects of proposed project operations on Foothill Yellow-legged Frogs. We are deferring our judgment on this request until further discussion during the scoping meeting.

If you have any questions, please contact Adam Beeco at (202) 502-8655 or via email at: adam.beeco@ferc.gov.

Sincerely,

Timothy J. Welch, Chief
West Branch
Division of Hydropower Licensing

Enclosures: Schedule A

cc: Mailing List
Public File

Schedule A **Study Requests**

After reviewing information presented in the final license application (FLA), and comments provided by interested agencies, Commission staff have identified a gap between existing information and the information needed to assess project effects.

Your FLA describes natural and proposed median daily flow based on historical flow data near the proposed project intake. Natural flows in the proposed project reach range from approximately 5 to 160 cubic-feet per-second (cfs), with peak flows typically occurring in late May. Proposed project operations would reduce flow in the bypassed reach between 0 – 95 cfs depending on natural stream flows. At natural flows below 18 cfs, which occur frequently in July to November and rarely in other months, all flows would stay in the bypassed reach. When natural flows are between 18 and 108 cfs, proposed project operations divert all water except the proposed minimum bypassed flow of 13 cfs. All natural flows above 108 cfs, which often occur in spring, would flow through the bypassed reach. Under proposed project operations during an average hydrologic year, flows in the bypassed reach would be 13 cfs for most of the year.

Bypassed Reach Water Temperature Modeling

A reduction in flows in the bypassed reach could elevate water temperature in the bypassed reach and downstream of the proposed project, which may affect aquatic communities and availability of suitable aquatic habitat. In response to the filing of your FLA, the National Marine Fisheries Service (NMFS), California State Water Resources Control Board (Water Board), and the California Department of Fish and Wildlife (Cal Fish and Wildlife) requested additional information on changes in water temperatures that may result from proposed project operations.

Your FLA contains water temperature data for three years (2003 – 2006) in the vicinity of the proposed powerhouse site. In the fall of 2013, you installed eight water temperature probes in the project reach during natural, low flow conditions. These data characterize baseline water temperatures in South Fork Battle Creek. You state in the FLA that the project is not expected to change water temperature significantly in the bypassed reach or downstream of the powerhouse. However, you did not provide data to support this conclusion.

We need additional information to evaluate the effects of proposed project operations on water temperatures in the bypassed reach and downstream of the project. We will use this information to inform potential license requirements to protect water quality of South Fork Battle Creek. To provide this information, you must model projected water temperatures that would occur during proposed project operations, under

varying flow conditions. Therefore, to characterize the effects of proposed project operations on ambient stream temperatures, you must complete the following.

1) Use empirical data for water temperature in South Fork Battle Creek to develop a temperature model using methods that are generally accepted in the scientific community. The model should consider three sites: (a) immediately upstream of the proposed project; (b) in the bypassed reach; and (c) immediately downstream of the proposed tailrace. The model should predict water temperatures under natural and proposed flow conditions. If you are considering any alternative operational regimes, include these explicitly as model scenarios. The model should be run for a full year under scenarios and for average, wet, and dry water years. Temperature should be reported as minimum, maximum, and average temperature on a daily or finer time scale. Appropriate measures of model uncertainty should be described.

2) Consult with the NMFS, Water Board, Cal Fish and Wildlife, U.S. Fish and Wildlife Service (FWS) and any other interested entities during selection and development of modeling methodology. Within 60 days of the date of this letter, and after consultation with these agencies, you must file a study plan for Commission approval. The study plan must describe and justify modeling scenarios, methods, and data input. In addition, the study plan should include a schedule for conducting the study and filing the results with the Commission.

South Fork Battle Creek Sediment Transport Modeling

In your FLA, you propose to construct a 94 foot-long and 6 foot-high dam on the natural streambed of South Fork Battle Creek at river mile 23. You also propose to pass sediment through operation of a sluice gate in a manner that would not increase sediment deposition above background levels.

However, your FLA does not evaluate possible changes to the natural sediment transport regime that may be caused by project operations. Nor do you provide any specifics regarding how your proposed sluicing operations would affect the natural sediment transport regime. In response to the filing of your FLA, the Water Board requested additional information on sediment transport.

These proposed project operations would alter the hydrograph within the bypassed reach for much of the year and could alter the natural sediment transport regime. Effects on sediment transport could include: (1) accumulation of sediment behind the dam; (2) loss of sediment downstream of the dam; (3) changes in sediment grain size distribution downstream of the dam; and (4) changes in channel geomorphology or stability caused by flow alterations. These possible changes could have effects on water quality and biological communities, in particular spawning salmonids and macroinvertebrates that serve as forage for fish.

We need additional information to evaluate the effects of the proposed project operations on flow and sediment transport. We will use the information from this study to inform potential license requirements with regard to operational protocols for when and how much water to release to achieve geomorphic benefits of flushing flows to protect the water quality and aquatic communities of the South Fork Battle Creek. To characterize the possible effects of project operations on sediment transport, you must complete the following.

1) Use a sediment transport model, or other equivalent methodology that is consistent with generally accepted practice in the scientific community, to predict sediment transport under natural and proposed flow conditions. The model should consider three sites: (a) immediately upstream of the proposed project; (b) in the bypassed reach; and (c) downstream of the proposed project. If you are considering any alternative operational regimes, include these explicitly as model scenarios. Impacts of proposed operations on flow, sediment transport, and streambed geomorphology should be addressed including average daily discharge, hydrologic connectivity within the bypassed reach, sediment size distribution, availability of spawning gravels, and channel morphology. Appropriate measures of model uncertainty should be described.

2) Consult with the Water Board, NMFS, Cal Fish and Wildlife, FWS, and any other interested entities during the selection and development of the modeling methodology. Within 60 days of the date of this letter, and after consultation with these agencies, you must file a study plan for Commission approval. The study plan must describe and justify modeling scenarios, methods, and data to be used. In addition, the study plan should include a schedule for conducting the study and filing a final report with any recommendations for operation of the sluice gate.

Document Content(s)

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