



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NOAA FISHERIES SERVICE  
WEST COAST REGION  
650 Capitol Mall, Suite 5-100  
Sacramento, California 95814-4706

January 21, 2015

In response, refer to:  
WF/WCR/FERC P-12496-002

Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, NE  
Washington, D.C. 20426

Re: NOAA Fisheries Service's Comments on the Sediment Transport and Water Temperature Modeling Study Plans for the Lassen Lodge Hydroelectric Project, Federal Energy Regulatory Commission Project No. 12496-002, South Fork Battle Creek, California.

Dear Secretary Bose:

NOAA Fisheries Service (NMFS) submits comments below regarding the following Study Plans: Sediment Transport and Water Temperature modeling. Rugraw, LLC's (Applicant) filed these study plans on December 3, 2014, for the Lassen Lodge Hydroelectric Project, Federal Energy Regulatory Commission (FERC) Project No. 12496-002 (Project). We also incorporate by reference our June 2014 Letter (NMFS 2014a) regarding the Applicant's unacceptable Final License Application (FLA) and our December 4, 2014, Letter (NMFS 2014b), which detailed our concerns with an inadequate Joint Scoping Document 1, provided by the State Water Resources Control Board and FERC.

NMFS provides the following comments regarding the above modeling plans:

- (1) Throughout the development of these modeling plans, NMFS Staff has been corresponding with the Applicant's modelers and providing suggestions.
- (2) At this time, NMFS has no additional comments on the Sediment Transport Model Plan beyond what was already provided to the Applicant: Suggesting calibrating the HEC-RAS model to observed stage and discharge data rather than basing the roughness coefficient on grain size distributions from pebble counts. The Applicant replied that they were changing the plan to incorporate this suggestion.
- (3) Regarding the Water Temperature Modeling Plan, NMFS recommends that the Applicant use a HEC-RAS model to analyze both sediment transport and water temperatures, instead of the proposed W3T water temperature model. The HEC-RAS modeling platform represents a proven, robust, industry standard package for analyzing one-dimensional steady and unsteady flow, sediment transport and mobile bed computations, and water temperature modeling. In addition to providing a proven platform that is capable of analyzing changes in water temperatures as the result of small changes in discharge (a resolution necessary for the proposed Project), there will be additional synergies and efficiencies gained from using the same platform to look at sediment

transport and water temperature. In order to use the HEC-RAS model for water temperature modeling, a continuous model will need to be developed throughout the proposed Project reach, whereas the current proposed sediment transport modeling approach is to develop two discrete HEC-RAS models in short reaches. If the Applicant were to develop a HEC-RAS model over the entire proposed Project reach, this would allow for sediment transport calculations to be computed throughout the reaches potentially affected by the Project and mechanistically analyze changes in stage, velocity, and wetted channel width at different discharges throughout the proposed Project reach. The Applicant is currently attempting to look at changes in depth, velocity, and channel width at different discharges by estimating these parameters using coarse hydraulic geometry relationships – an effort that is limited by the limited number of direct field observations driving the hydraulic geometry relationships.

Thank you for the opportunity to provide comments. If you have questions regarding these documents, please contact William E. Foster (916-930-3617) of my staff.

Sincerely,

A handwritten signature in black ink, appearing to read 'S. Edmondson', with a stylized flourish at the end.

Steve Edmondson  
FERC Branch Supervisor  
NMFS, West Coast Region

Enclosures

cc: FERC Service List for P-12496.

**Enclosure A**

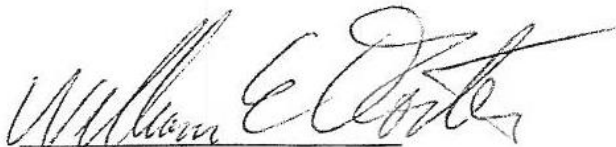
**UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION**

**Lassen Lodge, LLC** ) **Project No. P-12496-002**  
**Lassen Lodge Hydroelectric Project** )  
**South Fork Battle Creek** )

**CERTIFICATE OF SERVICE**

I hereby certify that I have this day served, by first class mail or electronic mail, a letter to Secretary Bose, Federal Energy Regulatory Commission containing the NOAA Fisheries Service's comments on the Sediment Transport and Water Temperature modeling Study Plans for the Lassen Lodge Hydroelectric Project (P-12496-002). This Certificate of Service is served upon each person designated on the official Service List compiled by the Commission in the above-captioned proceeding.

Dated this 21st day of January 2015



William E. Foster  
National Marine Fisheries Service

Document Content(s)

NMFS\_P12496\_coms.2StudyPlans.Final\_21Jan15.PDF.....1-3