

RESPONSE TO US FOREST SERVICE COMMENTS of JULY 23, 2008

On:

Initial Consultation Document (ICD)

Blue Lake Hydroelectric Project (FERC No. 2230) Expansion

Prepared by:

City and Borough of Sitka Electric Department

November, 2008

The responses in this document are referenced either to the subject ICD pages or to the pages in the Subject US Forest Service comment letter. References to ICD pages in this response are in italics, underlined. Those to the pages in your letter are in the form “page *** of 22”. In this response we have included your comment or study request, in italics, followed by the City’s response to the comment or request.

USFS Comment:

Project Operation Changes, *page 24*

First paragraph - The CBS states "The initial goal of operations evaluation will be to retain all instream flow requirements of the existing FERC license." Forest Service requests for studies are shaped by this statement. If changes to instream flow requirements are proposed, the Forest Service will need to review and comment on any study plans needed to address the change. Second paragraph - Spill events are predicted to be less frequent after the dam is raised. With fewer flushing flows, the potential exists for gravels to become embedded in the lower reaches of Sawmill Creek due to accumulations of fine sediments. We ask the CBS develop a plan to monitor spawning gravels in the lower reaches of Sawmill Creek, including consideration of periodic controlled releases if gravels do become embedded.

City Response:

During a teleconference on 8/29/08, Margaret Beilharz asked for an analysis of the effects of changes in Sawmill Creek streamflow regime (due to dam raising and possible reduction in flushing flows) on sediment transport in Sawmill Creek. She noted that studies to address this issue might be quite complex and suggested that the City monitor certain areas. The City proposes, generally, to establish, as part of the overall Project monitoring program, measurement of bed elevation and spawning gravel composition at two locations in Sawmill Creek selected to represent potentially-affected fish habitat. The City will establish and measure bed elevations across representative transects at these locations and will obtain gravel composition through such techniques as freeze-core

sampling or other accepted methods. These surveys will be conducted beginning with the 2009 field season and continued annually for a post-Expansion time period specified in the FERC license Articles. Study planning for this monitoring program will be carried out during winter-spring, 2009.

USFS Comment:

Water Resources, Blue Lake, pages 28-29

A better understanding of the management of Blue Lake as the City's water source would assist in identifying issues and opportunities. Does an Environmental Protection Agency (EPA) approved Watershed Management Plan exist, and if so, what are its' major requirements? The ICD states "Most glacial material settles out in the upper areas of the lake." Prediction of future changes in the delta area due to settlement deposition should be evaluated by looking at the depth of deposition in the existing delta area.

City of Sitka Response:

- Chapter 15.02 of the City of Sitka General Code (attached) is the watershed control program, established under City ordinance 92.1091.
- The City has developed a sedimentation study plan, which is being finalized among city specialist contractors. City will distribute the draft plan and preliminary results for agency review.

USFS Comment:

Water Resources, Sawmill Creek, page 34

Currently, water releases to Sawmill Creek occur from an intake valve approximately 140 feet below the lake surface and is likely the reason Sawmill Creek stream temperatures are lower than those in other similar sized streams. Once the dam is raised, releases from Blue Lake into Sawmill Creek will come from an intake structure approximately 235 feet below the surface with even lower water temperatures. Post project monitoring should include monitoring the effects of colder stream temperatures on steelhead, coho, chum and pink salmon. The CBS should investigate the feasibility of an intake structure higher in the water column to provide for warmer water discharges.

City of Sitka Response:

The 2008-2009 reservoir temperature study results will be used in association with earlier Blue Lake temperature results to predict post-Expansion, seasonal temperature profiles. The city will investigate the feasibility of a higher intake structure based on the temperature and entrainment effects.

USFS Comment:

Water Resources, Blue Lake Creek, page 35

The ICD states "...general observations indicated a flow range between 350 and 550 cfs during the summer and fall months." Please define 'general observations'. Are there calculations behind these numbers or interpolations from other gages?

City of Sitka Response:

The city will estimate the flow regimes in the major Blue Lake tributaries by proportioning their respective drainage areas. This work is largely complete and will be presented in subsequent amendment application material.

USFS Comment:

Cultural Resources, page 47

With the proposal to raise the lake level by increasing the dam height, the road from Blue Lake to Glacier Lake and related facilities (including the mining which occurred near Glacier Lake) will need to be investigated as to eligibility for listing on the National Register of Historic Places. Forest Service Comments & Study Requests to SHPO, Sitka Tribe of Alaska, and Forest Service shall be consulted to determine the scope of all surveys. The Forest Service suggests the CBS consider the potential historic significance of the dam, although not yet 50 years old it should be considered for National Register eligibility and the potential effect of the proposed activities.

City of Sitka Response:

Cultural resources studies of the potentially inundated area, including the Pande Basin road, are complete and the draft cultural resources report will address eligibility of this resource.

USFS Comment:

Threatened and Endangered Species, page 48

The City states it "will complete a Biological Evaluation noting all endangered plant, fish and animal species in the Project area." In order to meet professional standards, BEs must be conducted or reviewed by journey or higher level biologists or botanists (FSM 2672.42). We recommend the CBS seek Forest Service concurrence on contractors.

ENVIRONMENTAL ISSUES AND STUDIES

USFS Comment:

Geology and Soils, Issue GSI, Page 50

Identify any existing mining claims under US Mining laws in project area. We suggest the CBS prepare a Mineral Potential Report for the area of inundation. The format and content vary but are generally prepared by certified Geologist-Mineral Examiner, Professional Mining Geologists. An example Report is included in Appendix 2. This report should put emphasis on identifying any locatable mining claimants, historical prospects, and minerals potential.

City of Sitka Response

The City intends to contract with a minerals field specialist who will work under the supervision of Dr. Dan Man of the University of Alaska geophysical institute. We expect to conduct these studies in spring of 2009.

USFS Comment:

Geology and Soils, Studies, page 50

Issue GS 1 and GS2 are separate issues and should be addressed in separate studies. Including determining whether raising the water level might decrease slope stability of the shoreline above the new water level, e.g. by cutting away the foot of the slope.

City of Sitka Response:

In Scoping Document 1, GS2 will be amended to include effects of reservoir raising on shoreline stability.

FOREST SERVICE STUDY REQUESTS

FISH AND AQUATIC RESOURCE STUDIES

STUDY: Monitor flow and temperature for Blue Lake tributaries and temperatures for Sawmill Creek and Blue Lake Reservoir. (Page 9 of 22 in USFS Comment Document)

City of Sitka Response:

The City has conducted an intensive water temperature monitoring survey in Blue Lake, Blue Lake Creek and in the lower reaches of the major Blue Lake tributaries. The City also measured discharge at a Blue Lake Creek transect as part of the Tier III habitat survey on September 6, 2008 (discharge was 155 cubic feet per second).

Discharge measurement in all Blue Lake tributaries is difficult, especially at higher Blue Lake reservoir water elevations because there is no remaining stream channel in the accessible areas. Tributary discharges, as described in an earlier comment, will be estimated using watershed areas of the respective tributaries.

STUDY: Modeling of Seasonal Blue Lake Reservoir levels. (Page 10 of 22)

City of Sitka Response:

The City will use a modified version of the operations model which produced the hydrologic baseline for the relicensing instream flow study. The model is capable of daily time steps for a thirty year sequence of flows based on monthly Sawmill Creek and Blue Lake inflows. For each monthly period under a given operation scenario, the model predicts reservoir elevation, in addition to Sawmill Creek streamflow.

STUDY: Entrainment Analysis. (Page 11 of 22)

City of Sitka Response:

The City will use a modified version of the operations model which produced the hydrologic baseline for the relicensing instream flow study. The model is capable of daily time steps for a thirty year sequence of flows based on monthly Sawmill Creek and Blue Lake inflows. For each monthly period under a given operation scenario, the model predicts reservoir elevation, in addition to Sawmill Creek streamflow.

TIMBER RESOURCES

STUDY: Timber within the inundation zone must be cruised to determine volume and appraised to determine value prior to dam construction. (Page 14 of 22).

City of Sitka Response:

The City has contacted Ray Granvall at Cascade Appraisals who has agreed to prepare a timber cruise, conduct the cruise and prepare a report. The timber cruise will be conducted in April, 2009, at the earliest.

HISTORICAL AND ARCHAEOLOGICAL RESOURCE STUDIES

STUDY: Identify and record historical and archeological resources within the Project's Area of Potential Effect (APE) (Page 15 of 22).

Paul Rushmore, the City's cultural resources contractor, prepared draft cultural resources study plans which were approved by the USFS, Alaska Department of Natural Resources State Historic Preservation Officer, and the Sitka Tribe of Alaska. Mr. Rushmore completed the field work in early October, 2009 and is preparing the report which is due in January, 2009.

RECREATION RESOURCE STUDIES

STUDY: Identify existing recreation uses along the Sawmill Creek Corridor and Blue Lake Reservoir (Page 16 of 22).

City of Sitka Response:

The city installed continuous temperature loggers in August, 2008, to begin one year of monitoring. Data from similar temperature monitoring studies taken in 2005 and 2006 will be added to the 2008 study results to provide a basis for evaluating Expansion-related effects on temperature.

SCENIC RESOURCE STUDIES

STUDY: Determination of ongoing and proposed Project effects on existing scenery (Page 17 of 22).

The City has contacted Barth Hamburg, USFS landscape architect, and has prepared preliminary renderings of Blue Lake at full pool under the El 425 dam height. We will continue our consultation with Barth to complete the visual analysis.

TRANSPORTATION STUDIES

STUDY: Evaluate the existing Blue Lake Road for safety and structural considerations (page 17 of 22).

City of Sitka Response:

The transportation study will be done late in the amendment process, after detailed design and construction process information are available.