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

Subject: Sweetheart Lake Hydroelectric Project, FERC No. 13563
ADF&G Comments on DLA, PDEA, and request for Preliminary Terms and Conditions

Dear Ms. Bose:

On October 10, 2012, the Federal Energy Regulatory Commission (FERC) published notice of receipt of Juneau Hydropower, Inc.'s (JHI) Sweetheart Lake Hydroelectric Project (No. 13563) Draft License Application (DLA) and Preliminary Draft Environmental Assessment (PDEA) and issued a request for comments and Preliminary Terms and Conditions.

The proposed project is located on Sweetheart Lake and Sweetheart Creek, approximately 30 miles southeast of Juneau, Alaska. As proposed, the project consists of 1) a concrete dam, approximately 278 feet long and 105 feet high, constructed at the outlet of Lower Sweetheart Lake, 2) a 12-foot-diameter, 9,593 foot-long unlined tunnel (with a 980 foot-long penstock installed within the lower portion of the tunnel) running from the dam to a powerhouse located approximately 2000 feet east of the outlet of Sweetheart Creek, 3) a powerhouse containing three new Francis generating units (6.6 MW each) with a total installed capacity of 19.8 MW, 4) a tailrace returning flows to Sweetheart Creek, 5) a 4400 foot-long road from the powerhouse to a dock/landing site, 6) a dock/landing site for boat, seaplane, and/or helicopter access, located on the east shore of Gilbert Bay, and 7) a 45,900 foot-long, 138-kilovolt transmission line consisting of 25,700 feet of submarine cable in two segments, 15,400 feet of overhead transmission line on Snettisham Peninsula, and 4,800 feet of buried transmission line in two segments.

The Alaska Department of Fish and Game (ADF&G) has reviewed these documents and offers the following comments on the DLA, PDEA, and request for Preliminary Terms and Conditions.

ADF&G Authorities

As the State of Alaska's principal manager of fish and wildlife resources and their habitats, ADF&G is mandated under state law to "manage, protect, maintain, improve, and extend the fish, game, and aquatic plant resources of the state in the interest of the economy and general well being of the state" (AS 16.05.020) and to "assist the United States Fish and Wildlife Service in the enforcement of federal laws and regulations pertaining to fish and game" (AS 16.05.050). Section §10(j) of the Federal Power Act authorizes ADF&G to recommend license conditions necessary to protect, mitigate damage to, and enhance fish and wildlife habitat affected by the project.

Sweetheart Creek has been specified as important for the spawning, rearing, or migration of anadromous fishes under AS 16.05.871 as Anadromous Waters Catalog number 111-35-10200. Pursuant to AS 16.05.841 (Fishway Act) and AS 16.05.871 (Anadromous Fish Act), ADF&G requires permits for any work that may affect anadromous fish habitat or fish passage including any instream work in catalogued anadromous fish streams.

Comments on the PDEA and Request for Preliminary Terms and Conditions

Based on ADF&G's review, the PDEA does not provide sufficient information to 1) describe the existing environment, 2) determine project effects on the environment, or 3) identify potential protection, mitigation, or enhancement measures for potentially affected resources. The PDEA was based on draft and incomplete study reports that first became available to agencies when they were filed along with, or after, the PDEA filing on August 31, 2012. Much of the information in the draft study reports was not summarized or integrated into the PDEA.

For example, the PDEA (pg. 54) noted that the authors of the Preliminary Draft Tidewater Study Report (filed with the PDEA) considered this report to be "40% complete" and that "the document does not go into detail of all the results of the study, and it does not include a discussion of the results". An updated Draft Tidewater Study Report was filed October 30, 2012. No written study plan was provided to ADF&G for the tidewater study so the draft study report was the first opportunity to review the study approach and methods.

The Draft Wildlife Study Report (filed with the PDEA) stated that the report was only "85% completed" and that "the document has not had a technical review" (pg. 1). This report also stated "the report does not evaluate the impact of the proposed Sweetheart Lake Hydroelectric Project on wildlife species" and that "such an impact evaluation will be covered under a wildlife analysis report" (pg. 4). An updated Wildlife Study Report was filed October 22, 2012. This report also stated that an evaluation of project impacts on wildlife would be covered under a wildlife analysis report (pg. 5). ADF&G has not seen this report.

JHI filed a draft fisheries study report (Fisheries Studies at Sweetheart Creek and Lake 2011/2012) with the PDEA. This report contained methods (but no results) for an instream flow analysis using the Physical Habitat Simulation System (PHABSIM) within an Instream Flow Incremental Methodology (IFIM) framework. This was the first time ADF&G became aware of JHI conducting an IFIM/PHABSIM study: it was not mentioned in the Draft Aquatic Resources Study Plan/Scope of Work (filed April 5, 2012) or the Draft Sweetheart Lake Fisheries Study Plan (provided to ADF&G early June, 2012). JHI subsequently filed an aquatic resource study report (Aquatic Resource Studies at Sweetheart Creek and Sweetheart Lake 2011/2012) on November 14, 2012. This report contained preliminary results from the PHABSIM study. The PDEA did not present results from the PHABSIM study.

The first step in conducting an IFIM/PHABSIM study is scoping, whereby project stakeholders collaboratively identify and agree upon information needs, study objectives, and selection of methods, target species, habitat suitability criteria, etc. This step did not happen: agencies were not consulted on the design of this study.

Under the Alternative Licensing Process, pre-filing consultation, study planning, and agency environmental review should occur prior to the filing of the DLA and PDEA. Draft study reports should go through agency review and agency comments on these draft reports should be addressed in final study reports prior to the filing of the PDEA. The Communication Protocol for this project states that stakeholders would have the opportunity to review and comment on major documents, including study reports. This did not happen: agencies did not have the opportunity to review and comment on the study reports and analyses used to prepare the PDEA.

For the reasons discussed above, ADF&G believes the filing of this DLA and PDEA is premature and incomplete; consequently, ADF&G is unable to recommend meaningful Preliminary Terms and Conditions at this time.

Additional Comments on the PDEA

Consultation Documentation

On page 5, the PDEA states that documentation of agency consultation is currently in progress. On page 233, it states that a complete list of consultation documentation will be filed in Volume 5, Technical Documents section of the Applicants License Application. We could not find this consultation list in the Volume 5 filing.

Sweetheart Lake Rainbow Trout

The PDEA states that the existing spawning habitat for rainbow trout in Sweetheart Lake would be eliminated with the raising of the lake. JHI's studies found very limited, if any, potential new spawning habitat in the inlet streams under post-project lake levels. Consequently, it appears that the proposed project could have a significant adverse impact on the rainbow trout population in

Sweetheart Lake. JHI, in conversations with ADF&G, has indicated a willingness to explore the feasibility of creating new spawning habitat in inlet streams at elevations above post-project lake levels. Given the high gradients, cold water temperatures, and unsuitable spawning substrates of the inlet streams at elevations above post-project lake levels, creating new spawning habitat may not be feasible. More discussion is needed on how impacts to rainbow trout spawning habitat can be avoided, minimized, or mitigated.

Sweetheart Lake Dolly Varden

The PDEA does not discuss potential project effects on Dolly Varden and their habitats within Sweetheart Lake and its inlet streams. More discussion on this topic is needed.

Sockeye Smolt Collection and Transfer System

Sweetheart Lake is stocked annually with sockeye fry from Douglas Island Pink and Chum (DIPAC) hatchery at Port Snettisham. These fish rear in the lake for one year (sometimes two) before outmigrating down Sweetheart Creek into Gilbert Bay. As adults, they return to Sweetheart Creek, providing a very popular personal use fishery for Alaskan residents. These adult sockeye do not migrate to Sweetheart Lake because of barrier falls and consequently do not reproduce. DIPAC carries out this stocking program as a public service to the community of Juneau and plans to continue to do so post-project. ADF&G supports and appreciates DIPAC's efforts in providing this public service.

The proposed dam would prevent sockeye smolts from out-migrating down Sweetheart Creek to Gilbert Bay. As such, JHI has proposed a sockeye smolt collection and transfer system to move sockeye smolts from the lake down to the anadromous reach of Sweetheart Creek. The PDEA provides a brief description of this system but more details and feasibility analyses are needed. We understand that JHI has been discussing this system with DIPAC. We recommend JHI continue working with DIPAC and the agencies in developing this system.

Project Intake

The PDEA/DLA does not describe the project intake at Sweetheart Lake. Fish entrainment and impingement at the penstock intake needs to be evaluated. A fish screen system may be required.

Sweetheart Creek Bypass Reach

Rainbow trout and Dolly Varden were found in the bypass reach of Sweetheart Creek. Based on genetic studies, JHI believes these fish originated from the lake and that the bypass reach probably does not support spawning populations of these species. Similar genetics between the fish in the lake and fish in the bypass reach does not preclude the possibility that the bypass reach supports spawning populations of rainbow trout and/or Dolly Varden. One would expect similar genetics given that fish from the lake probably routinely drop down into the bypass reach,

adding to the gene pool of fish in the bypass reach. While the bypass reach may have limited spawning habitat, there is no information to suggest that spawning is not occurring.

Proposed project operations would significantly reduce flows in the bypass reach. JHI is proposing to release 3 cfs from the dam into the bypass reach. How this 3 cfs was derived and how this flow release would impact the bypass reach of Sweetheart Creek is unknown and needs to be more thoroughly evaluated and discussed.

Eliminating high flows in the bypass reach would severely reduce the recruitment and movement of sediment (including spawning gravels) and woody debris from the bypass reach into the anadromous reach. The PDEA states that substrate conditions in the anadromous reach would be monitored post-project, but no plan is provided to describe what would be done if recruitment of spawning gravels into the anadromous reach does not occur post-project. Potential project effects on sediment and woody debris transport in Sweetheart Creek needs more evaluation and further discussion, as does potential channel maintenance flow requirements.

Sweetheart Creek Anadromous Reach

Water temperatures in the anadromous reach could be altered post-project depending on the depth of the project intake in Sweetheart Lake. The PDEA does not evaluate water temperatures at the project intake in relation to reservoir stage and time of year. This evaluation is needed to assess potential impacts of altered stream temperatures on spawning, rearing, and incubating fish in the anadromous reach downstream from the project tailrace.

As mentioned above, ADF&G just recently received the methods and preliminary results of an instream flow analysis for the anadromous reach. We have not had the opportunity to adequately review this information and therefore we will not be providing comments on this analysis at this time.

Plans need to be developed for providing instream flows in the anadromous reach during emergency and routine maintenance shutdowns of project operations.

See “Sweetheart Creek Bypass Reach” above for discussion of recruitment of sediment and woody debris into the anadromous reach.

Tailrace

The location of the tailrace discharge needs to be clarified. On page 2 (and elsewhere), the PDEA states the tailrace will discharge into Sweetheart Creek. On page 23, it states the tailrace will discharge into a small tributary of Sweetheart Creek.

The location of the tailrace discharge also needs to be identified with respect to the upper extent of the anadromous reach of Sweetheart Creek. Page 4 of JHI's Essential Fish Habitat document (filed with FERC October 24, 2012) states "the first two waterfalls at 22 and 28 ft elevation do not prevent fish passage, but the next at 46 ft does inhibit upstream migration. The 86 ft falls is the barrier falls whereby no anadromous fish pass." Page 12 of this same document states the tailrace will discharge into Sweetheart Creek at the base of the barrier falls at an elevation of 32 ft, placing it at the base of the waterfall at elevation 46 ft (assuming the above elevations refer to the elevations at the top of the waterfalls). If the upper extent of the anadromous reach is at the base of the waterfall at elevation 86 ft, then the upper part of the anadromous reach will be part of the bypass reach. This needs to be clarified in the PDEA.

JHI is proposing to create a salmon spawning channel in the lower part of the tailrace. A detailed description and drawings of this proposed spawning channel is needed.

Tidewater Resources

The PDEA did not discuss the potential impacts of project construction, operation, and maintenance on tidewater resources in Gilbert Bay. Gilbert Bay resource issues identified in Scoping Document 2 need to be addressed.

Wildlife Resources

For each of the following species, Sitka black-tailed deer, brown bear, black bear, mountain goats, gray wolf, marten, river otters, mink, and wolverine, the PDEA makes the following statement: "for these reasons, pending the final wildlife report, the project is not expected to have a significant impact on (each of the species listed above) habitat or their food resources and a finding of "no effect" is expected to be recommended once the final report is received." The PDEA provides little information or analyses to support these statements.

The wildlife resources sections of the PDEA contain mostly general background information on wildlife species in the area, along with a brief summary of JHI's fieldwork. Most of the fieldwork focused on documenting species presence/absence. Very little site-specific information is provided on the distribution, abundance, or seasonal habitat use and movement patterns of wildlife species. More detailed information on wildlife species and analyses of the potential impacts of project construction, operation, and maintenance on wildlife species and their habitats and food sources are needed.

Thank you for the opportunity to provide comments. Please contact me if you have any questions.

Sincerely,

/S/ Shawn Johnson

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