

FEDERAL ENERGY REGULATORY COMMISSION  
Washington, D. C. 20426

OFFICE OF ENERGY PROJECTS

Project No. 13563-003—Alaska  
Sweetheart Lake Hydroelectric Project  
Juneau Hydropower, Inc.

Duff Mitchell  
Juneau Hydropower, Inc.  
P.O. Box 22775  
Juneau, AK 99802

July 22, 2014

**Reference: Acceptance Letter and Request for Additional Information**

Dear Mr. Mitchell:

Your license application for this project has been accepted by the Commission for filing as of May 29, 2014, but is not ready for environmental analysis at this time.

At this time, we will need additional information from you to complete our review of the license application. A listing of the information needed is enclosed in Schedule A.

Under Section 4.32(g) of the Commission's regulations, please file within 90 days from the date of this letter the information requested in the enclosed Schedule A. If the submission of additional information causes any other part of the application to be inaccurate, that part should also be revised and refiled by the due date.

Within 5 days of receipt, please provide a copy of this letter and the attached schedule to all agencies you will consult in response to this additional information request. Then, when you file the requested information with the Commission, provide a complete copy of the information to each agency and other entity consulted, and to all parties on the service list.

Specific questions included in this request for additional information require your consultation with various entities. Where appropriate, you should request consultation in writing. Allow the entities consulted at least 30 days to respond before filing the additional information with the Commission. In your filing, you should include copies of all responses received from the entities you consulted, and tell us how you addressed any comments and recommendations made. If the entities you attempted to consult with do not reply, you should provide us dated copies of your letters requesting consultation.

The Commission strongly encourages electronic filing. Please file the requested information using the Commission's eFiling system at <http://www.ferc.gov/docs-filing/efiling.asp>. For assistance, please contact FERC Online Support at [FERCOnlineSupport@ferc.gov](mailto:FERCOnlineSupport@ferc.gov), (866) 208-3676 (toll free), or (202) 502-8659 (TTY). In lieu of electronic filing, please send a paper copy to: Secretary, Federal Energy Regulatory Commission, 888 First Street NE, Washington, D.C. 20426. The first page of any filing should include docket number P-13563-003.

You may call John Matkowski at (202) 502-8576, if you have any questions concerning this additional information request.

Sincerely,

Jennifer Hill, Chief  
Northwest Branch  
Division of Hydropower Licensing

Enclosure: Schedule A

cc: Service List  
Public Files

Schedule A  
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## ADDITIONAL INFORMATION

### **License Application**

#### Exhibit A

Page A-18: You provide the turbine rated capacity as 6.6 megawatts (6,600 kilowatts). However, table A-4 on page A-27 indicates that the turbine power is rated as 7,081 kilowatts (kW), and Exhibit F-10 indicates that the turbine is rated as 9,500 horsepower (approximately 7,125 kW). Please resolve these discrepancies.

Page A-18: You provide the rated capacity of each generator as 6,600 kW at 0.8 power factor. To confirm the generator capacity, please provide the generator rating in kilovolt-amperes (kVA) at the stated power factor.

#### Exhibit B

Page B-29: You note that, although the total hydraulic capacity of the turbines is 650 cubic feet per second (cfs), the generators cannot accommodate the full discharge. Therefore, the normal maximum hydraulic capacity would be 460 cfs. Table B-6 on page B-30 shows discharge limited to no more than 460 cfs under maximum and normal reservoir elevations, while at minimum elevation it could reach 486 cfs. Please verify if project discharge would be limited to 460 cfs, or if conditions could be experienced where the discharge would be 486 cfs or another flow up to 650 cfs would be passed through the turbines.

Page B-17: You indicate that the routing of the submarine portions of the overland-submarine transmission alternative was analyzed to avoid crab, halibut, and shrimp producing and productive harvesting areas. However, no description or figure is provided to indicate where the crab, halibut, and shrimp producing and harvesting areas are located in relation to the submarine cable route. Please revise Figure B-9, or provide an alternative figure, to show the crab, halibut, and shrimp producing and productive harvesting areas.

#### Exhibit D

Page D-8 to D-14: Tables D-1 and D-2 do not include costs for several plans that have been developed and are included in Appendix Z, including the: Access Management Plan, Fire Prevention Plan, Hazardous Substances Plan, and Solid Waste and Wastewater Plan. Please provide the capital and annuals costs for implementing these plans. Additionally, please ensure the capital and annual costs for implementing

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these plans are included in Chapter 4 of the Preliminary Draft Environmental Assessment (PDEA), entitled *Developmental Analysis*.

### **Preliminary Draft Environmental Assessment**

#### **Geology and Soils**

Page 113: Section 3.3.1 describes the geology and soils in the project area, but provides no description of the geology and soils of Gilbert Bay and Port Snettisham along the submarine cable route. We will need to assess the effects of the submarine cable on the existing physical environment of the sea floor of Gilbert Bay and Port Snettisham as part of our environmental analysis. Therefore, please provide the following:

- a description of the surface geology along the cable alignment within Gilbert Bay and Port Snettisham, including the substrate type (e.g., fine sediment, gravel, cobble, and/or bedrock);
- clarification of whether the cable will be either buried or laid along the bottom of Gilbert Bay and Port Snettisham;
- a description or figure of identified areas of concern where the proposed submarine cable will be protected with clean shot rock;
- a description of the topography of the bottom (i.e., bathymetry) and shoreline of Gilbert Bay and Port Snettisham, as well as a figure if available;
- an estimate of the strengths of the currents and/or maximum wave forces in Gilbert Bay and Port Snettisham, and an analysis of the potential for currents or wave action to result in exposure and abrasion of the submarine cable;
- a description of the specific procedures that would be implemented to bury or lay the submarine cable on the sea floor; and
- the anticipated resting depth of the cable within the sediment column of Gilbert Bay and Port Snettisham sea floor.

## Schedule A

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Fisheries and Aquatic Resources

Page 284: You state that “no fish surveys were conducted in Gilbert Bay; only historical data primarily from Alaska DFG and NOAA-Fisheries were collected.” However, we were unable to locate historical fisheries data from Gilbert Bay in your PDEA. Please provide the historical fisheries data used to describe the fisheries resources in the PDEA.

Pages 291 to 300: Your discussion of fisheries and aquatic resources does not include an analysis of project effects of construction of the submarine cable on fish and benthic organisms and their habitat in Gilbert Bay or Port Snettisham. Therefore, in consultation with the National Marine Fisheries Service, please provide a discussion of the effects of submarine cable construction on aquatic resources in Gilbert Bay and Port Snettisham.

Page 301: You state “to minimize fisheries interference, the Gilbert Bay submarine cable is currently positioned to avoid impact on known Dungeness fishing grounds.” On Page B-17 of Exhibit B, you also indicate that the routing of the submarine portions of the overland-submarine transmission alternative was analyzed to avoid crab, halibut, and shrimp producing and productive harvesting areas. However, no description or figure is provided to indicate where the crab, halibut, and shrimp producing and harvesting areas are located in relation to the submarine cable route. Please provide a figure that identifies the crab, halibut, and shrimp producing and productive harvesting areas in relation to the proposed submarine cable route.

Terrestrial Resources

Page 346: You state that “based on the results of the botanical surveys of the Project-affected area, the only potential Project effect on rare, sensitive, threatened, or endangered plant species would be the loss of three two-colored sedge plants, one plant of *Carex bicolor* identified as a TNF rare species.” This statement is confusing. Please clarify whether the project would remove one, three, or four plants, and indicate if removal would be caused by construction or inundation.

Page 375: Table 3-46 quantifies effects on wildlife habitat by providing acreages of habitats within the project area. The table lists eight habitat types within the project area; however, there is no description of these habitats or what wildlife species typically occur in these areas. Please provide descriptions of the habitat types in the project area, and characterize the typical wildlife communities that occur in these habitats.

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Page 384: You state that “It is also expected that the Project would comply with the Forest Service general guidelines for waterfowl and shorebirds.” However, the PDEA does not describe the Forest Service general guidelines, or how the project would comply with these guidelines. To facilitate our analysis of project effects on waterfowl and shorebirds, please provide the guidelines referenced in this statement, and describe what specific project measures or practices would ensure the project complies with these guidelines.

Page 387: You indicate that the overhead project transmission lines would be designed according to criteria defined by the Avian Power Line Interaction Committee to reduce potential for avian collisions with power lines. The referenced documents provide a wide variety of potential methods for increasing power line visibility. However, these methods vary in effectiveness and have varying costs. To facilitate our analysis of project effects on raptors, please describe the methods that would be used to limit potential for collisions, and how these methods were selected.

Page 449: The proposed project includes two segments of submarine 138-kV transmission cables. As discussed in section 3.3.5.2 of the PDEA, these cables would create magnetic and electric fields that have the potential to affect fish and marine mammals. However, the PDEA does not provide any estimates of the magnitude of these electromagnetic fields. Please provide an estimate of the magnitude of the EMFs produced by the submarine cables.

### Recreation, Aesthetics, and Land Use

Page 492: Table 3-61 provides the number of annual personal use harvest permits for Sweetheart Creek; however, no data are provided to quantify other recreational uses that may occur at Sweetheart Creek or the Gilbert Bay anchorage and tidal areas. You also indicate the project may slightly increase visitor use but you do not quantify the expected increase. Please provide an estimate of existing and future annual recreation visitor use, along with your basis for developing the estimates.

Page 508: Section 3.3.7, *Land Use and Ownership*, does not document whether your submarine cable route would affect any existing or proposed submarine cables. Please provide an update of the status of any consultation you have completed regarding your proposed submarine cable route. If you have not consulted on the proposed submarine cable route, please consult with the U.S. Coast Guard, the National Oceanic and Atmospheric Administration’s Nautical Data Branch, the Naval Seafloor Cable Protection Office, and the Federal Communications Commission. Include in your response copies of any correspondence you have with these agencies regarding the submarine cable route.

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Socioeconomic Resources

Page 586: In figure 3-145, you provide a one-year snapshot of employment, population, and wages; however, this information is not sufficient to establish demographic trends in the project impact area. Please revise the figure to provide employment, population, and personal income trends in the impact area over the past ten years and forecasts of the population growth over the construction period.

Page 592: Section 3.3.10.2 discusses workforce requirements for the project and indicates that 50 to 60 workers would be hired from the local area for construction of the project. However, more detailed information is needed on staffing requirements, payroll, and commutes to understand the effects of the project on socioeconomics. Therefore, please provide the following information: (1) a description of estimated on site staffing and payroll by month; (2) an estimate of the project construction personnel who (a) currently reside in the local area, (b) would commute daily to the construction site, and (c) would relocate on a temporary basis within the local area; (3) an estimate of the number of other construction or operational support staff, in addition to the 50 to 60 construction personnel, that would be employed at the project, such as pilots, barge operators, etc.; and (4) a discussion of whether the existing supply of temporary and permanent housing is available within the impact region to meet the needs of any additional permanent or temporary population coming to the area for the project.

Page 593: You state “most construction housing would be on site due to the long commute distance from the worksite to Juneau.” Please provide the number of workers that would reside on site, how long they would remain on site, and where workers would likely stay when not working on the project. If construction would be reduced or suspended during the winter months, please describe where workers would likely reside during the off season.

Developmental Analysis

Page 598: On table 4-2, footnote “d” was omitted. Please provide the missing footnote.

Pages 602 to 619: The total capital cost of proposed protection, mitigation, and enhancement (PM&E) measures listed in table 4-4, as indicated by a single asterisk, does not equal the \$4,590,000 total cost stated in the footnote to table 4-4. Please correct this discrepancy.

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Appendix Z, Reservoir Management and Inundation Plan

Page 6: Your Reservoir Management and Inundation Plan summarizes several measures that will be implemented as part of the plan; however, the plan lacks detail on how these measures would be implemented to mitigate or reduce the effect of proposed construction and operation of the project on environmental resources. For example, you state that you propose to maintain water quality in Sweetheart Lake during construction, initial inundation, and commercial operation; however, you provide no details on the measures that would be implemented to maintain water quality. Please revise your plan to include more detail on how you propose to implement each measure and include an analysis of how each measure would avoid or minimize adverse environmental effects during project construction and operation.

Further, you do not identify the specific capital and annual costs to implement the Reservoir Management and Inundation Plan as a component of the Water Management Plan. Please provide the estimated capital and annual costs associated with implementation of the Reservoir Management and Inundation Plan in Chapter 4, *Developmental Analysis*, as may be revised based on your response to the additional information request.

Appendix Z, Fish Mitigation and Monitoring Plan

Page 11: In section 4.3.1 of the Fish Mitigation and Monitoring Plan, you propose to assess the relative presence of rainbow trout and Dolly Varden in Sweetheart Lake after three years of project operation, and then every five years after the initial assessment. You also indicate that if results of the assessment show a negative significant effect you may propose measures in consultation with Alaska Department of Fish and Game to address adverse effects. However, you provide no specific information on the methods that would be implemented to conduct the assessment, nor do you provide any specific information on the measures that would be implemented to address adverse effects, or the triggers that would lead to those measures. We will need to assess the benefits and costs of your proposed monitoring measures and any potential measures that you would implement based on the monitoring results, as part of our environmental analysis. Therefore, in consultation with the Alaska Department of Fish and Game and the Forest Service, please revise your Fish Mitigation and Monitoring plan to include: (1) a specific description of the methods that you would implement to assess relative presence of rainbow trout and Dolly Varden in Sweetheart Lake (e.g., sampling methods, seasonal timing and duration of sampling, anticipated level of effort); (2) a description of the criteria you would apply to determine a finding of “negative significant effect” on rainbow trout and Dolly Varden; (3) a description of the specific measures you would implement if results indicate rainbow trout and Dolly Varden are negatively affected by

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project operation; (4) a description of the location where the measures would be implemented in relation to the project boundary; and (5) an itemized cost for each monitoring event as well as any proposed measures to address adverse effects.

Because the Fish Mitigation and Monitoring Plan is a component of the Aquatic Habitat Restoration and Monitoring Plan, please provide not only the cost for the Fish Mitigation and Monitoring plan, but also a revised cost for the Aquatic Habitat Restoration and Monitoring Plan in Chapter 4, *Developmental Analysis*, based on the new information contained in your response. Additionally, please revise section 3.3.3.2 of the PDEA to include an analysis of your revised Fish Mitigation and Monitoring Plan.

Document Content(s)

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