Kenai Hydro, LLC
3977 Lake Street
Homer, AK 99603

May 3, 2010

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

- FILED ELECTRONICALLY -

RE: Updated Project Description and Issues List for the Falls Creek (Project No. 13211) and Grant Lake (Project No. 13212) Hydroelectric Project

Dear Secretary Bose:

On August 6, 2009, KHL filed a Pre-Application Document (PAD), along with a Notice of Intent to file an application for an original license for a combined Grant Lake/Falls Creek Project (FERC No. 13211/13212 ["Project" or "Grant Lake Project"]) under Part I of the Federal Power Act. On September 15, 2009, FERC approved the use of the Traditional Licensing Process for development of the License Application and supporting materials. KHL is planning to file a License Application for the Project in September 2011.

The PAD identified a preliminary Project facilities proposal, which includes a diversion dam at the outlet of Grant Lake, and a powerhouse along Grant Creek. The PAD Project proposal also included diverting water from Falls Creek into Grant Lake to provide additional flows and power generation at the Grant Creek powerhouse. The Falls Creek diversion has been removed from the Project proposal and associated impacts will not be studied. Portions of the Falls Creek preliminary permit area will continue to be studied for access and transmission routes associated with the Grant Lake Project. A more detailed description of the revised Project facilities proposal is included as Attachment 1.

On February 8, 2010, KHL filed a list of potential Project impacts that summarized issues identified for analysis by KHL in the PAD and in public comment meetings. KHL has revised this issues list to reflect the revised Project description (Attachment 2).

Please feel free to contact me with any questions regarding this filing.

Sincerely,

/s/ Brad Zubeck

Brad Zubeck
Project Engineer
Kenai Hydro, LLC

cc: Service List and Mailing List for Project Nos. 13211 and 13212
Kim Nguyen, FERC
Mark Ivy, FERC
Property owners adjacent to proposed Project area and transmission line corridor

Attachment 1
Revised Section 3.1 – Section 3.3 of Pre-Application Document
(Originally Submitted August 6, 2009, revised May 3, 2010)

The following pages are complete replacements of Sections 3.1 through 3.3 in the PAD document filed with FERC on August 6, 2009 to reflect an updated Project description.

3 PROJECT LOCATIONS, FACILITIES, AND OPERATIONS

3.1. Authorized Agent for the Applicant

The name, business address, and telephone number of each person authorized to act as agent for the Applicant is as follows:

Brad Zubeck
Project Engineer
Kenai Hydro, LLC
3977 Lake Street
Homer, Alaska 99603
907-335-6204
bzubeck@homerelectric.com

3.2. Project Location

The proposed Grant Lake Hydroelectric Project would be located near the community of Moose Pass, Alaska (pop. 206), approximately 25 miles north of Seward, Alaska (pop. 3,016), just east of the Seward Highway (State Route 9); this highway connects Anchorage (pop. 279,671) to Seward. The Alaska Railroad parallels the route of the Seward Highway, and is also adjacent to the Project area. The community of Cooper Landing (pop. 369) is located 24 miles to the northwest and is accessible via the Sterling Highway (State Route 1) which connects to the Seward Highway approximately 10 miles northwest of Moose Pass. The proposed Project location is in the mountainous terrain of the Kenai Mountain Range.

Land ownership and the proposed locations for Project facilities are shown in Figure 3.2-1.

3.2.1. Grant Lake and Grant Creek Development

KHL was issued a preliminary permit to investigate a proposed hydropower development on Grant Creek near the outlet of Grant Lake. Several potential alternatives were reviewed for this project; the most promising alternative would use approximately 48,000 acre-feet of storage during operations between pool elevations of 675 and 709 feet. Storage would be obtained by raising the natural level of Grant Lake using a low diversion at the outlet and drawing down Grant Lake below its natural water level. The proposed lake level would range from

approximately 9 feet above up to 25 feet below the natural lake elevation. A multi-level intake would be constructed near the diversion structure. An approximately 2800-foot-long, 10-foot diameter tunnel will convey water from the intake to directly above the powerhouse at about elevation 650 from mean sea level (MSL). At the outlet to the tunnel a 650-foot-long section of penstock will convey water to the powerhouse located at about elevation 518-foot MSL. The tailrace would be located in order to minimize impacts to fish habitat by returning flows to Grant Creek upstream of the most productive fish habitat.

3.2.2. Falls Creek Development

KHL was issued a preliminary permit to investigate a proposed hydropower project on Falls Creek. The PAD filed with FERC on August 6, 2009 contemplated combining the Falls Creek development with the Grant Lake/Grant Creek development, to divert water from Falls Creek via an approximately 13,000-foot-long pipe into Grant Lake to create increased generation capability at the proposed generation facility located on Grant Creek. This diversion and associated facilities are no longer being considered as a part of the proposed Project.

3.3. Proposed Project Facilities

The Project will consist of the Grant Lake/Grant Creek development, including an access road near Falls Creek and an underground or overhead transmission line from the powerhouse, paralleling the access roads, that interconnects at or near Lawing substation. The Grant Lake/Grant Creek development is comprised of a diversion dam at the outlet to Grant Lake, an intake structure in Grant Lake, a tunnel, a potential surge tank, a penstock, a powerhouse, access roads, a step-up transformer, a breaker, an overhead or underground transmission line, and a switchyard. The powerhouse will contain two Francis turbine generating units with a combined rated capacity of 4.5 MW with a total design flow of 350 cfs.

Conceptual drawings of proposed Project facilities are included in Appendix 2 of the PAD.

3.3.1. Summary of Project Features

The proposed Project features have been developed based upon existing physical and environmental information and are conceptual in nature. As part of the pre-filing consultation process additional information will be obtained through technical and environmental studies, research and consultation with equipment manufacturers and resource agencies. As new information becomes available, the design features presented below can be expected to be refined and/or modified to accommodate any changed conditions, including maintenance of instream flow requirements.

Project features as currently envisioned are summarized in Table 3.3-1 and described in this section.

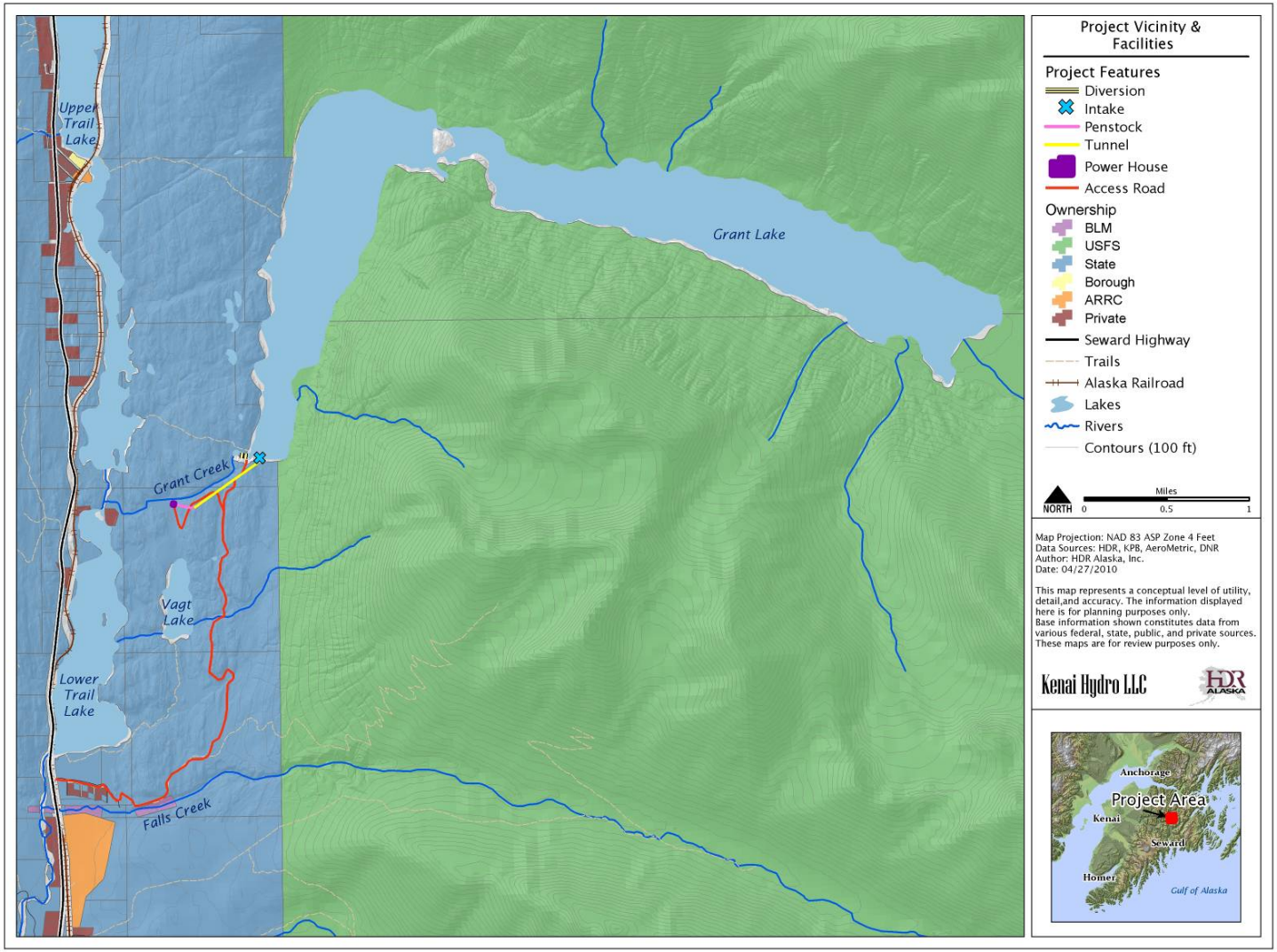

Figure 3.2-1. Proposed Project facilities and land ownership (Revised May 3, 2010).

SUMMARY OF PROJECT FEATURES	
Number of Generating Units	2
Turbine Type	Francis
Rated Generator Output	
Unit 1	1.2 MW
Unit 2	3.3 MW
Maximum Rated Turbine Discharge	
Unit 1	100 cfs
Unit 2	250 cfs
Turbine Centerline Elevation	521.0
Normal Tailwater Elevation	
Minimum	512.0
Maximum	515.0
Average Annual Energy	19,000 MWh
Normal Maximum Reservoir Elevation	709.0
Normal Minimum Reservoir Elevation	675.0
Gross Head	191.0 feet
Net Head at Maximum Rated Discharge	170.4 feet
Grant Lake	
Drainage Area	44.0 sq. mi.
Surface Area at Elevation 709.0	1,790 acres
Active Storage Volume	48,000 acre feet (Elevation 709.0 to 675.0)
Average Annual Natural Outflow	139,650 acre feet
Average Annual Natural Outflow	192.9 cfs
Grant Creek Diversion	
Type	Concrete Gravity Dam
Maximum Height	10 feet
Overall Width	120 feet
Spillway Crest Length	60 feet
Crest Elevation	709
Water Conveyance	
Intake	Tower
Invert Elevation	660
Lower Pressure Pipeline	
Type	Welded Steel
Length	200 feet
Diameter	96 inches
Pressure Tunnel	
Type	10-foot Horseshoe
Length	2,800 feet
Velocity at Maximum Turbine Discharge	3.9 fps
Surge Tank	
Diameter	96 inches
Base Elevation (Preliminary)	650
Top Elevation (Preliminary)	760

Penstock	
Type	Welded Steel
Length	650 feet
Diameter	66 inches
Powerhouse	
Approximate Dimensions	45 feet x 60 feet x 30 feet high
Finished Floor Elevation	518
Tailrace	
Type	Open Channel
Length	200 feet
Transmission Line	
Type	Overhead or Underground
Length	Approximately 3.5 miles
Voltage	115 kV/69kV/24.9kV or 12-15kV
Access Roads	
Type	Single lane gravel surfacing with turnouts
Length	Approximately 3.4 miles (portions will be new road)

Table 3.3-1. Summary of proposed Project features. (Revised May 3, 2010)

3.3.1.1. Grant Creek Diversion

A concrete gravity diversion structure will be constructed near the outlet of Grant Lake. The dam will have a maximum height of approximately 10 feet and will have an overall width of approximately 120 feet. The center 60 feet of the dam will have an uncontrolled spillway section with a crest elevation at approximately 709 MSL. The abutments will have a top elevation of 716 MSL. The spillway will have a flood capacity of 4,200 cfs with 3 feet of freeboard.

A low level outlet will be constructed on the north abutment of the diversion dam. The outlet works will be contained in a valve house constructed integral with the diversion structure. This outlet will be used during the construction of the intake on Grant Lake. The valve house will contain a regulating valve, controls, and associated monitoring equipment. The outlet will discharge into Grant Creek immediately below the diversion. This low level outlet will aid in construction of the intake by lowering the lake level. The outlet will also be available to provide instream flow to the reach of Grant Creek between the diversion structure/intake and the powerhouse tailrace. The potential need for instream flow in this reach of Grant Creek will be examined during licensing studies.

3.3.1.2. Grant Lake Intake

The water intake will be a free-standing concrete tower structure located approximately 500 feet east of the natural outlet of Grant Lake and approximately 120 feet off-shore. The intake structure will have base dimensions of approximately 20 feet by 20 feet. At the top of the intake will be a small gate house to contain the gate hoist mechanism and controls. The intake will be connected to the shore by a narrow access bridge at elevation 720 MSL.

The intake will allow for drawdown of Grant Lake to elevation 675 MSL thereby creating 48,000 acre-feet of active storage for the project between elevations 709 MSL and 675 MSL. The invert of the intake will be at elevation 660 to provide for adequate submergence. The intake will consist of multiple levels to allow the Project to draw water near the surface during all seasons of operation. The front of the intake will be protected by a steel trashrack. Downstream of the trashracks will be a shut-off gate. A 200-foot-long, 8-foot diameter steel pipeline section will connect the intake to the power tunnel.

3.3.1.3. Tunnel

An approximately 2,800-foot-long, 10-foot diameter horseshoe tunnel will convey water from the intake to directly above the powerhouse at about elevation 650 MSL. It is expected that the tunnel will be supported with rock bolts and shotcrete. It may be partially lined depending upon the geotechnical conditions encountered during excavation.

3.3.1.4. Penstock and Surge Tank

At the outlet to the tunnel a short section of penstock will convey water to the powerhouse. The penstock will be constructed of welded steel and will be approximately 650-feet-long and will have an outside diameter of 66 inches. Additional engineering work will be done to determine the feasibility of utilizing a surge tank located at the beginning of the penstock. Preliminary designs propose an 8-ft diameter by 110-ft high structure, however the height could be reduced depending on alternative generator design, constructing this tank into the slope or integral to the tunnel, or using a synchronous bypass valve. The surge tank will have a base elevation of 650 MSL with a top elevation of 760 MSL, if built to maximum height proposed. The penstock will bifurcate to the two turbines immediately upstream of the powerhouse.

3.3.1.5. Tailrace

The tailrace will be an open channel approximately 200-feet-long and will convey water back to Grant Creek at approximately elevation 508 MSL. The tailrace will be excavated from in-situ material and armored with riprap to prevent erosion.

3.3.1.6. Powerhouse

The powerhouse will be located on the south bank of Grant Creek near the end of the canyon section of the creek. The powerhouse will be approximately 45 feet by 60 feet by 30 feet high and will have a finished floor elevation of 518 MSL. The powerhouse will be a pre-engineered metal building on a concrete foundation.

The powerhouse will contain two horizontal Francis type turbine/ generator units with a rated total capacity of 4,500 kW, guard valves, and associated switchgear and controls. Unit 1 will have a design flow of 100 cfs and a rated capacity of 1,200 kW. Unit 2 will have a design flow

of 250 cfs and a rated capacity of 3,300 kW. Centerline of the turbine and generator units will be approximately 521 MSL. Tailwater elevation at the powerhouse will range from approximate elevations 512 MSL to 515 MSL depending upon output level. The turbines could operate over a range of flows from the maximum of 350 cfs to a minimum of around 30 cfs depending on conditions. The powerhouse will also contain a bypass valve to release flows during power generation outages.

3.3.1.7. Transmission Line/Switchyard

KHL will be evaluating both underground and overhead transmission lines to deliver energy from the Project to the grid. In addition to the transmission structures, the facilities will include a switchyard at the powerhouse or Lawing substation and will consist of a disconnect switch, and/or a breaker, as well as a step-up transformer. The transmission line would run from the powerhouse parallel to the access road, and connect to the grid at or near Lawing substation. At the grid interconnection a switchyard would be constructed in consultation with the existing transmission line owner. The route would attempt to incorporate setbacks to minimize visual impacts as viewed from the Seward Highway.

If utilized, the poles would be designed as tangent line structures on about 250 foot centers. Design of the line will also incorporate the latest raptor protection guidelines. Collision avoidance devices will be installed on the line at appropriate locations to protect migratory birds.

3.3.2. Proposed Project Boundary

The proposed Project Boundary will encompass each of the Project features described above in the Grant Creek and Falls Creek drainages, and the area of Grant Lake up to approximately contour elevation 720. The corridors for the access roads, penstock and transmission line will be approximately 50-75 feet from each side of the centerline. The specific delineation of the proposed Project Boundary, in terms of survey coordinates, will be made after study work has been completed and will be included as part of the License Application.

3.3.3. Proposed Construction and Development Schedule

The Project will be constructed over a 30-36 month timeframe after the issuance of the License. Construction will begin in the April timeframe with the construction of access roads. Construction of the Grant Lake diversion dam and intake will be performed by first drawing down the lake elevation using a pair of diversion trenches cut through the outlet of the lake. This method will allow the lake to be drawn down to approximately elevation 680 MSL over the winter. Next the intake will be constructed behind an in-situ rock cofferdam. Once the intake and tunnel are complete the in-situ cofferdam will be removed by blasting. The Grant Lake diversion dam will be constructed at the same time in parallel. The construction schedule and methods will be described further in the License Application.

Attachment 2
Potential Resource Impacts – Grant Lake Project (FERC No. 13211/13212)
(Originally Submitted February 8, 2010, Revised May 3, 2010)

Geology and Soils

- Impact of Project construction and operation on possible erosion and sedimentation in the fluctuation zone in Grant Lake (including the Inlet Creek delta).

Water Resources

- Impact of Project construction and operation (lake level fluctuations, changes in flow) on Grant Lake and Grant Creek water quality, hydrology, and water temperature.
- Impact of Project construction and operation on water quality, hydrology, and ice conditions of Lower Trail Lake and Trail Creek.

Fish and Aquatic Resources

- Impact of Project operation on sediment transport (relative to the availability of spawning gravels) due to changes in flow in Grant Creek.
- Impact of Project operation (fluctuating levels in Grant Lake, changes in seasonal flow in Grant Creek, reduced flows between the dam and powerhouse on Grant Creek) on fish abundance and distribution.
- Impact of Project construction and operation on biological productivity and abundance of fish food organisms in Grant Creek and Grant Lake.
- Impact of Project intake structure operation on fish populations.
- Impact of Project construction on fish habitat in Grant Creek.
- Impact of Project facilities (increased access) on fish populations due to potential increased recreational fishing.
- Impact of Project construction and operation on commercial, sport, and subsistence fisheries supported by the Kenai River watershed.

Botanical, Wildlife, and Wetland Resources

- Impact of Project construction and operation on wildlife distribution and abundance.
- Impact of Project construction and operation on wildlife during critical life stages.
- Impact of Project construction and operation (lake level fluctuations) on Grant Lake shoreline vegetation and/or habitats used by wildlife species.
- Impact of Project construction and operation (lake level fluctuations, Project roads, and facilities) on distribution and abundance of invasive plant species.

- Impact of Project construction and operation (lake level fluctuations, Project facilities) on distribution and abundance of rare plant species.
- Impact of Project operation on abundance and distribution of fish used by wildlife species.
- Impact of Project construction and operation on breeding and rearing habitat and nesting success of waterbirds in Grant Lake and Inlet Creek.
- Impact of Project construction and operation (lake level fluctuations, hydrologic changes in Grant Creek, road and facilities construction and maintenance) on wetland, forest/scrub, riparian, and littoral habitats on Grant Lake (including at Inlet Creek) and Grant Creek.
- Impact of Project construction and operation on wildlife use of wetland, riparian, and littoral habitats.
- Impact of Project operation on littoral habitats at the narrows between Upper and Lower Trail Lakes.
- Impact of Project construction and operation on wildlife movement across the bench between Grant Lake and Trail Lake.
- Impact of Project transmission lines (if not buried in road grade) on bird populations (potential collision deaths).

Quality of Life, Recreation, Land Use, and Visual Resources

- Impacts of Project construction and operation on distribution of local and tourist recreational use, access, and experience on Grant Lake, Grant Creek, and Vagt Lake.
- Impacts of Project construction and operation on the distribution and abundance of fish and wildlife for anglers and hunters.
- Impacts of Project construction and operation (including roads and facilities) on visual quality in the area.
- Impacts of Project roads and transmission line corridors (if not buried in road grade) on aesthetic and visual resources (including impacts on Scenic Byway viewpoints and views from existing recreational trails and use areas).
- Impacts of Project construction and operation on local and regional recreation resources.
- Impacts of Project facilities and operation (including road access, safety, and use) on local residential land use on Grant Creek and along the Falls Creek road corridor.
- Impact of Project construction and operation on quality of life characteristics of the area (i.e., noise, changed access to remote area, light pollution).

- Socioeconomic overview of potential effects of Project construction and operation on the area economy.

Cultural Resources

- Impacts of Project construction and operation (including changes in flows and lake level fluctuation and potential for increased recreational use and access in the area) on historic resources in the Grant Lake and Grant Creek area.
- Assessment of existing subsistence use and impacts of Project construction and operation on subsistence use in the area.