

## Grant Lake Hydroelectric Facility

<b>Grantees</b>	Kenai Hydro, LLC (Independent Power Producer), Homer Electric Association, Inc. (Utility-Cooperative)
<b>Technology Type</b>	HYDRO
<b>Region</b>	Railbelt
<b>AEDG Project Code</b>	10037

### REF Grants Received

Round	App	Grant Title	Grant #	AEA Project #	Phase	Start Date	End Date	Status
0	-114	Grant Lk/Crk Low-Impact Hydro Assess Pre-Construction	2195333	407025	Feasibility	6/1/08	12/31/09	Closed
1	34	Grant Lake/Falls Creek Hydro Feasibility Study	2195428	407042	Feasibility	8/20/08	12/31/12	Closed
4	635	Grant Lake Hydroelectric Facility	7040035	407042	Feasibility	7/1/11	6/30/14	Closed

### Grant 2195333: Grant Lk/Crk Low-Impact Hydro Assess Pre-Construction

**Project Scope:** Grant funds will be used to evaluate the potential for a small low-impact hydro facility utilizing the water resources provided by Grant Lake and Creek. Work will be completed per the information submitted by the Homer Electric Association dated February 11, 2008 (seven total pages) and incorporated into the grant agreement.

**Project Status:** A reconnaissance report was prepared with the grant. The report concluded the project was not feasible due to environmental concerns. The grant is closed.

As of Nov. 30, 2013	Budget	Expenditures
Renewable Energy Funding	\$50,000.00	\$50,000.00
Other State Funding	\$50,000.00	\$50,000.00
<b>Total State</b>	<b>\$100,000.00</b>	<b>\$100,000.00</b>
Required Local Match	\$25,000.00	\$25,000.00
Federal Grant Funding	\$0.00	\$0.00
<b>Total Project Costs</b>	<b>\$125,000.00</b>	<b>\$125,000.00</b>

### Grant 2195428: Grant Lake/Falls Creek Hydro Feasibility Study

**Project Scope:** Kenai Hydro, LLC is an entity formed to investigate the feasibility of and develop hydro power projects on the Kenai Peninsula.

This project is located near Moose Pass, Alaska and grant funds will be used to complete Phase II of the feasibility study begun with grant funds from the Alternative Energy Solicitation issued by the Alaska Energy Authority in 2007. Kenai Hydro, LLC proposes to divert water flows from Falls Creek into Grant Lake by operating a 4.5 MW hydroelectric facility on Grant Creek. Power from the project will be available to Homer Electric Association and other areas served by the existing Railbelt transmission grid.

A Preliminary Permit from the Federal Energy Regulatory Commission was secured on October 7, 2008. Phase I studies (stakeholder consultations and preliminary identification of necessary studies and permitting) were partially funded by the grant funds from the Alternative Energy Solicitation noted. This project (Phase II) will build on the work previously completed.

**Project Status:** KHL carries out Phase II feasibility level field studies and scoping in support of FERC licensing for this project. The proposed route for the transmission line and road access to the hydro facilities are impacted by the recently discovered Iditarod National Historic Trail which has senior rights to this land. Mitigation of impacts from hydro project are being studied. Project effects on changes in lake levels and river streamflows are also being investigated to minimize impacts to fish habitat. Phase II studies will be supplemented with additional Round IV grant funds.

The earliest approval of FERC license is anticipated in March 2014.

The grantee expended all grant funds and the grant has been closed.

As of Nov. 30, 2013	Budget	Expenditures
Renewable Energy Funding	\$816,000.00	\$816,000.00
Other State Funding	\$0.00	\$0.00
<b>Total State</b>	<b>\$816,000.00</b>	<b>\$816,000.00</b>
Required Local Match	\$204,000.00	\$204,000.00
Federal Grant Funding	\$0.00	\$0.00
<b>Total Project Costs</b>	<b>\$1,020,000.00</b>	<b>\$1,020,000.00</b>

**Grant 7040035: Grant Lake Hydroelectric Facility**

**Project Scope:** Kenai Hydro LLC, a wholly-owned subsidiary of Homer Electric Association, proposes a continuation of field studies/environmental assessment and preliminary engineering/project scoping for developing a hydroelectric facility at Grant Lake. Under prior grants, Kenai Hydro received \$100,000 for reconnaissance assessment from the Alternative Energy Request for Proposals and \$816,000 in Renewable Energy Fund Round I (#34). Kenai Hydro will be providing a 25% cash match to the total grant.

The Grant Lake Hydroelectric Facility would consist of 4.5 MW of installed capacity with an average annual output of 20,600 MW of energy, installed on the Grant Lake watershed near Moose Pass. The proposed project is comprised of a diversion dam (under consideration) at the outlet to Grant Lake, an intake structure in Grant Lake, a tunnel, a surge tank, a penstock, a powerhouse, a tailrace detention pond, a switchyard with disconnect switch & step-up transformer, and an overhead or underground transmission line. The intake would be in Grant Lake near its outlet. Water would be conveyed from the intake through a 3200' penstock to a powerhouse containing two Francis-type turbines. The powerhouse would be located near the bank of Grant Creek and would discharge through a second penstock into Grant Creek. A transmission line would connect the facility to the Railbelt grid near Moose Pass. Kenai Hydro LLC (KHL), whose sole member is the Homer Electric Association (HEA), was created in 2008 to evaluate and possibly develop this site as a low impact hydroelectric facility.

KHL filed a preliminary permit application with FERC on April 28, 2008 and was issued a permit on October 7, 2008. The purpose of the preliminary permit is to determine the feasibility of the proposed project on Grant Lake and Creek in the Kenai Peninsula Borough, Alaska, and would occupy federal lands managed by the Chugach National Forest. A Pre-Application Document (PAD) was filed with FERC on August 6, 2009. FERC has approved the Traditional License Program (TLP) as the appropriate course with which to proceed and secure a FERC license.

The original grant application originally requested \$2,500,000 in grant funds to complete the Phase II studies that were commenced in 2009. However, the grant award was capped at \$1,184,000 due to the previous Round I Renewable Energy Fund grant award for this project phase. KHL has offered a cash match of \$296,000. Though not tracked in this grant, KHL is also providing an in-kind match for the cost of management and administrative staffing which they have estimated to be \$549,120. Two tasks are anticipated to be accomplished in this grant: 2011 - 2012 field studies and environmental assessment to be completed in March 2013 and 2011 - 2012 preliminary engineering and project scoping to be completed in October 2012.

**Project Status:** Aquatic and Water Resources field studies were conducted.

The grantee expended all grant funds and the grant has been closed.

As of Nov. 30, 2013	Budget	Expenditures
Renewable Energy Funding	\$1,184,000.00	\$1,184,000.00
Other State Funding	\$0.00	\$0.00
<b>Total State</b>	<b>\$1,184,000.00</b>	<b>\$1,184,000.00</b>
Required Local Match	\$296,000.00	\$296,000.00
Federal Grant Funding	\$0.00	\$0.00
<b>Total Project Costs</b>	<b>\$1,480,000.00</b>	<b>\$1,480,000.00</b>