Project Fact Sheet: Bradley Lake Hydroelectric Project

Current Status: Clearing debris from the fish water intakes has been delayed until 2015 when the lake can be lowered to below the normal minimum pool elevation in late spring. Bradley received rains late into the fall instead of snow so that the lake level is very high for this time of year. A license amendment application to divert Battle Creek into Bradley Lake will be submitted this winter to the Federal Energy Regulatory Commission (FERC).

Battle Creek Diversion Project:
The purpose of this proposed project is to divert glacial water from Battle Creek glacier to Bradley Lake thus increasing the annual energy of the Bradley Lake Hydroelectric Project. The average energy increase to the Bradley Lake project would be 34,000 MWh. The project includes construction of four miles of road and a concrete diversion dam, and six foot pipe under the road to convey the water to Bradley Lake.

Engineering design has been completed to the 95 percent level. Cost estimates with canal to convey water were deemed too high. Design has been revised to use a pipe under the road. Current capital construction cost estimate is less than $50 million.

Aquatic studies were performed on lower sections of Battle Creek for two years. No fish have been found within several miles of the diversion site, but are present near tidewater. It is thought the project could have a positive impact on salmon through the removal of the summer glacial water and moderation of flows. Terrestrial studies (eagle nest surveys, bear denning, goat surveys) occurred during 2012.

The process of amending the FERC license for the project has started. Agency consultations (Alaska Department of Fish & Game, US Fish & Wildlife Service, National Marine Fisheries) and the public have occurred. The draft license amendment application was submitted in the fall of 2012 with the final amendment application to be submitted in 2014. Amendment is likely to be received in 2015. Construction could occur in FY 2016 if the amendment is completed and permits are received in a timely manner.

Project Background: The power generation potential of Bradley Lake was first studied by the U.S. Corps of Engineers and presented in a report dated March 1955. The project was authorized by Congress in 1962, but despite its feasibility, federal funds were not available for its construction. The Alaska Energy Authority (then Alaska Power Authority) assumed responsibility for the project in 1982. Preliminary plans and field investigations began in 1982. In April 1984, the Authority submitted an application for license to FERC. The license to construct the project was issued on December 31, 1985. In December 1987, the Authority and the Railbelt utilities entered into a Power Sales Agreement to delineate responsibilities. The project was declared in commercial operation September 1, 1991. Bradley has been producing power for 22 years. From 1995 to 2013 Bradley has averaged 380,094 MWh a year at $.04 per kWh.

A Bradley Project Management Committee (BPMC) was formed in 1993 with representatives from each of the power purchasers and AEA. The BPMC is responsible for the management, operation, maintenance, and improvement of the project, subject to the non-delegable duties of AEA.
Under the Power Sales Agreement, 100% of the project’s capacity has been sold to the power purchasers:

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<tbody>
<tr>
<td>Chugach Electric Association, Inc. (30.4%)</td>
<td>Municipality of Anchorage (25.9%)</td>
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<td>Homer Electric Association, Inc. (12.0%)</td>
<td>Matanuska Electric Association, Inc. (13.8%)</td>
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<td>Golden Valley Electric Association, Inc. (16.9%)</td>
<td>City of Seward (1.0%).</td>
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**Description:**

The hydroelectric project has 120 MW of installed capacity and is located 27 air miles southeast of Homer on the Kenai Peninsula. The project consists of a 125 foot high concrete faced, rock filled dam structure, three diversion structures, a 3.5 mile long power tunnel and vertical shaft, generating plant, interior substation, 20 miles of transmission line, and substation. Due to its remote location, the project has its own airstrip, boat dock, residential quarters, and utility system. The project is normally automatically operated by remote dispatch by Chugach Electric Association from Anchorage.

**Purpose:**

The Bradley project provides 5-10 percent of the annual Railbelt electric power needs at the lowest generation cost. Bradley is most important to the Railbelt electric system during the cold winter months. Demand for both electric power and gas for heat is at its highest. Utilities limited by available gas are able to use Bradley power to meet the high electric demand.

**Benefits:**

AEA ownership assures the Railbelt area of a long-term source of power at a stable cost and promotes economic development in the region.

**Project Cost:**

$328 million (original cost plus major capital improvements through June 30, 2013). Excludes project financing costs. Also excludes major maintenance and repair costs.

**Source of Funds:**

Legislative appropriations and AEA revenue bonds repaid by participating utilities.