

## Bradley Lake Hydroelectric Project

The Bradley Lake Hydroelectric Project is located 27-air miles northeast of Homer on the Kenai Peninsula and has 120 MW of installed capacity, providing five to ten percent of the annual Railbelt electric power. From 1995 through 2015, Bradley averaged 383,368 MWh annually at \$0.04 per kWh. Bradley provides some of the lowest-cost power in the Railbelt.

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.

Bradley is most important to the Railbelt electric system providing reliable year round electric power, including during the winter when demand for both electric power and gas for heat is at its highest.

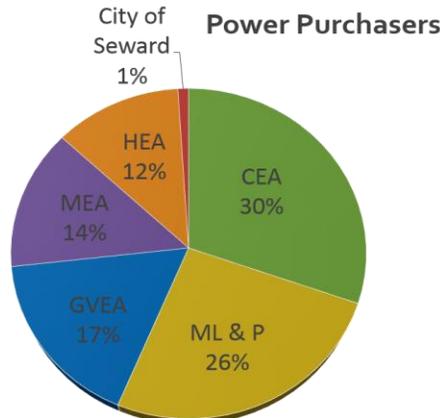
### History:

The power generation potential of Bradley Lake was first studied by the U.S. Corps of Engineers in 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 and began planning and field work. In April 1984, AEA submitted a license application to FERC and the license to construct the project was issued in December 1985. Two years later, AEA and the Railbelt utilities entered into a Power Sales Agreement and Bradley was declared in commercial operation on Sept. 1, 1991 and has been producing power since.

Total project costs, including major capital improvements, as of June 30, 2015 are \$328 million. The project was funded through legislative appropriations and AEA revenue bonds that are being repaid by the participating utilities.

The Bradley Project Management Committee (BPMC) was formed in 1988 with representatives from each of the power purchasers and AEA. The BPMC generally manages the project, but subject to AEA’s non-delegable rights, duties and responsibilities.

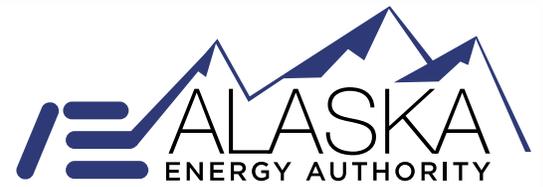


*Through the Power Sales Agreement, 100 percent of the project's capacity has been sold to the power purchasers.*

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### 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 37,000 MWh which would be a nearly 10 percent increase to the Bradley average annual energy of 380,000 MWh. The project includes construction of three miles of road and a concrete diversion dam, and five foot pipe under the road to convey the water to Bradley Lake. 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 that 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.

Construction could start in 2017 and complete in 2019 if utilities want to proceed forward.

**Current Status:** Clearing of debris from the fish water intakes occurred without any problems or flow violations in April when the lake was lowered to below normal elevation. Project occurred quicker than scheduled and under budget.

The BPMC approved the replacement of the Static Var Compensators (SVCs) along the transmission line. The project total is projected as \$8.7M. Without the replacement of the aged SVCs, Bradley's energy may be limited for an extended time in case of a failure of the existing equipment.

Federal Energy Regulatory Commission issued the Order Amending License for the proposed diversion of the West Fork Upper Battle Creek into Bradley Lake. Terms and conditions are similar to those proposed by AEA & ADF&G. Utilities are evaluating proceeding forward with final design and bid. AEA is investigating possible financing options for Battle Creek.

