



Bradley Lake Hydroelectric Project

Presentation to Commonwealth North
Tony Izzo, Chair, Bradley Project Management Committee
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What is the Bradley Lake Hydro Project?

- Located on the Kenai Peninsula, across Kachemak Bay from Homer
- 120 MW facility generates an average of 380,000 MWh of energy per year and transmits it to the state's main power grid via two parallel 20-mile transmission lines.
- Each utility on the Railbelt is allocated a percentage ranging from 56.3% (Chugach Electric – combine with ML&P's share) to 1% (Seward Electric)
- Alaska Energy Authority (AEA) built it from 1986-1991 and still owns it
- Homer Electric Association contracts with AEA to operate and maintain it.

How Was It Constructed?

- A 610-foot long, 125-foot high concrete-faced and rock-filled gravity dam at Bradley Lake
- A 3.5-mile power tunnel, with a diameter of 11 feet, transports water from the dam to the powerhouse.
- The powerhouse contains two generators, each capable of producing 60 megawatts.



Benefits of Bradley Lake Hydro

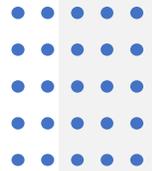
Hydroelectric power is the cheapest, cleanest, most flexible sources of electricity available.

The power generated at Bradley Lake averages about four cents per kilowatt hour, a significant savings over the cost of fossil fuel sources.

Offsets a significant amount of fossil fuel generation to decrease costs for members and reduce carbon emissions.

What Is the BPMC? (Bradley Lake Project Management Committee)

- Comprised of a member from each participating organization
 - AEA
 - Chugach Electric Association
 - Golden Valley Electric Association
 - Homer Electric Association
 - Matanuska Electric Association
 - Seward Electric
- Chair rotates annually
- Makes decisions and sets direction for the project
- Responsible for capital and operating budgets, operations and rates
- Focused on optimizing the benefits for the 600,000+ Alaskans served by the project



2020 BPMC Major Accomplishments

Battle Creek Diversion

- Diverts an additional stream into the lake.
- Adds available water to produce more power over time but does not increase the capacity of the turbines to produce more electricity at once.
- Optimizes project's current capital investment by using existing power plant and transmission infrastructure.

Sale of SSQ Transmission Line to AEA

- Sterling Substation to Quartz Creek
- Transports Bradley Power to majority of users
- Line impacted by Swan Lake Fire that cost the Railbelt utilities \$10M+ in 2019
- Allows the state to ensure the line remains maintained and operated for the benefit of the entire Railbelt region

What is Next?

- Investigating further system upgrades to maximize flexibility and deliverability of Bradley Lake power.
- Goal is to allow participating utilities to use more of the inexpensive power to offset fossil fuel generation and reduce costs.
- Will also allow increased flexibility to access the power when it is the most cost effective, increasing the efficiency of the system.
- Opportunity exists for significant upgrades to the system without an increase in rates.

Questions?

