



Alaska Jobs Energizing Alaska's Future



JUNEAU HYDROPOWER & LYNN CANAL TRANSMISSION



SWEETHEART LAKE HYDROELECTRIC FACILITY

Hydropower
is a clean
and
renewable
Juneau Fuel
Source

Juneau
pioneered
Hydropower
Development
in Alaska

Construct
2016-2018

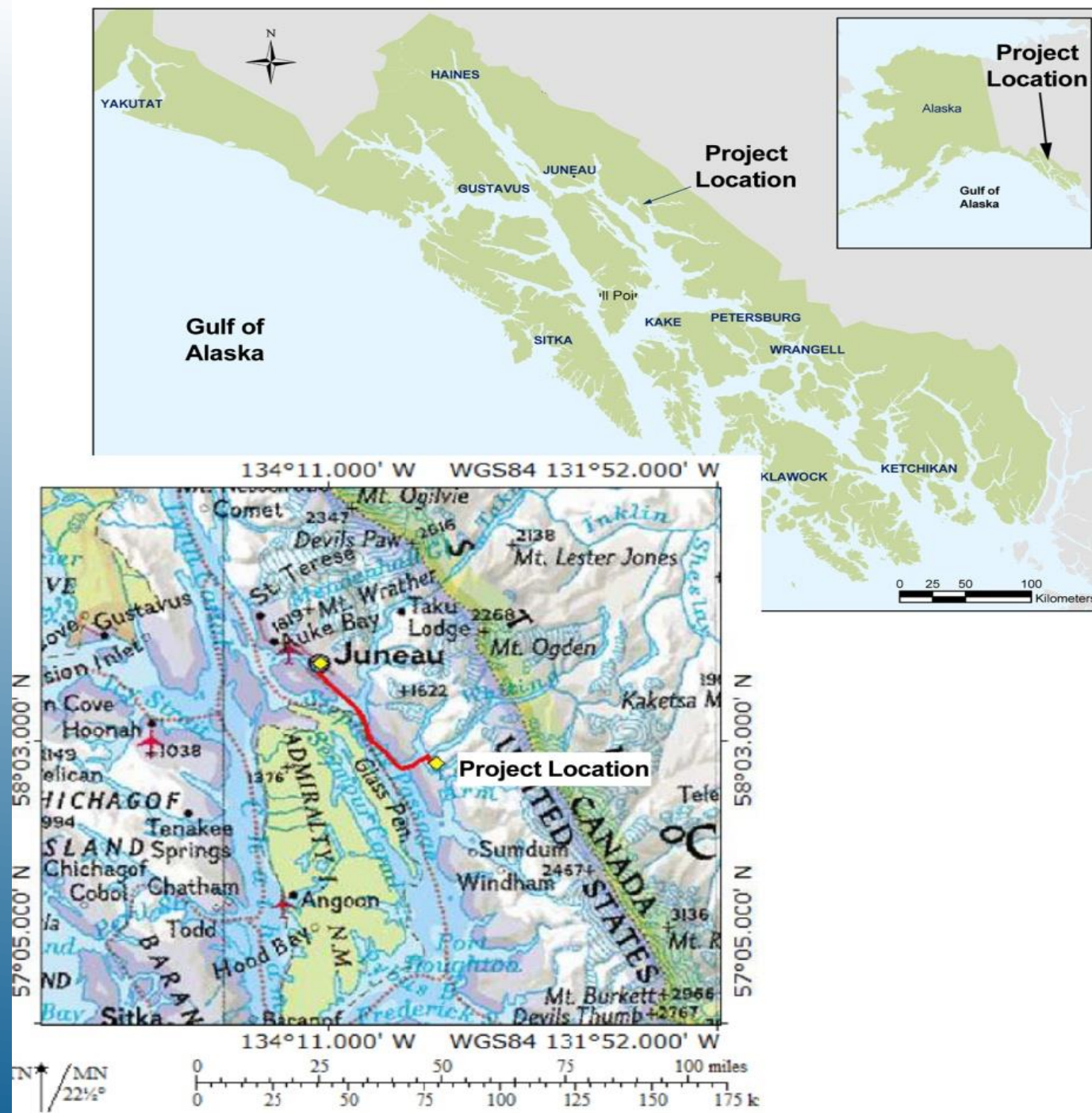


Located 35 miles south of Juneau, but only 8 miles from the State of Alaska owned Snettisham transmission line.

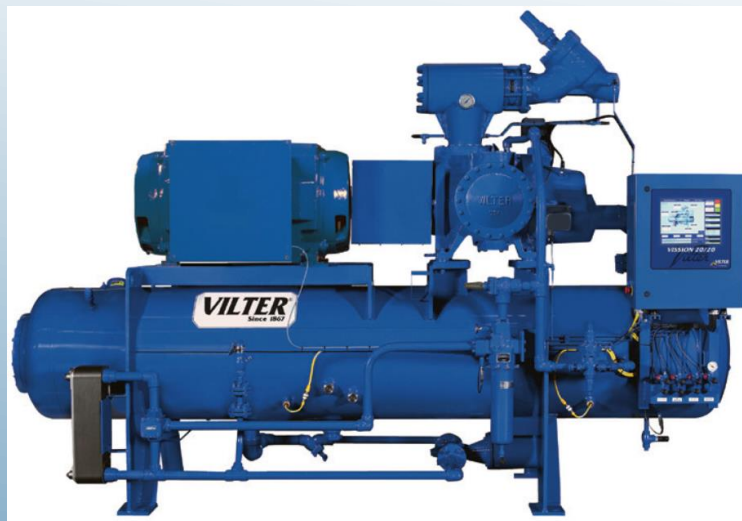
Power for Mines and Juneau Heating District

Capacity- 19.8 MW (Megawatts)

Generation- 116,000 MWh annually



JUNEAU DISTRICT HEATING



ALASKA BASED TECHNOLOGY HEATING THE
CAPITAL WITH LOCAL RESOURCES

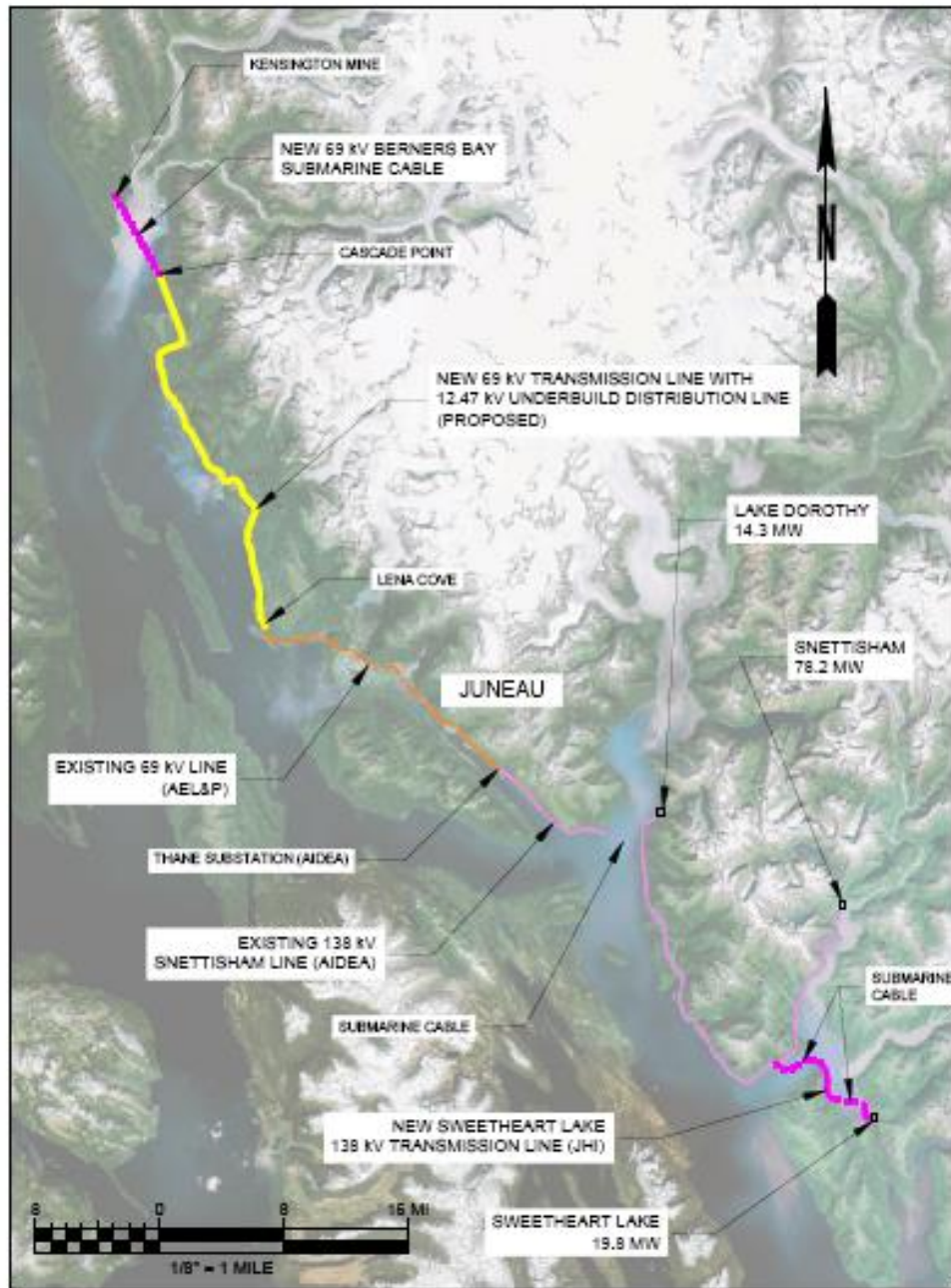


JUNEAU DISTRICT HEATING WILL:

- ▶ Harvest heat from Gastineau Channel-Juneau
- ▶ Convert Gastineau Channel heat to produce 3 units of heat energy for every 1 unit of electrical energy input
- ▶ Circulate heat energy (180°F to 190°F) to heating district via pipe distribution network
- ▶ Create Sustainable Jobs while lowering heating costs

- ▶ **Coeur Alaska Kensington Mine**
 - ▶ Reduction of Operating Costs by displacing diesel electricity with lower cost hydropower
 - ▶ Lengthening Mine Life-Lengthening employment & tax base
 - ▶ Using local hydropower resources
- ▶ **Juneau District Heating**
 - ▶ Provides electricity to run pumps and compressors for Juneau District Heating to circulate heat around Juneau
 - ▶ Reduce heating cost for State government, schools and downtown Juneau
 - ▶ Energy Security for the Capital City-avalanches, energy for future growth

JUNEAU HYDROPOWER ENERGY ENERGIZES THE ECONOMY



Current Juneau
Transmission
System only
covers half of the
CBJ.



Lynn Canal
Transmission and
Juneau
Hydropower line
segments would
roughly double
the transmission
grid of CBJ.



LYNN CANAL TRANSMISSION CORPORATION: INTERTIE

*"Connecting
Southeast
Alaskans with
affordable
and locally
produced
energy"*



- ▶ 3 AAC 50.770 (c) Rates for purchases of electric power must be just and reasonable and in the public interest and must not discriminate against qualifying facilities or adversely affect the consumers of the electric utility. **RATES CANNOT GO UP**
- ▶ **AEL&P receives administration and transmission fees** for use of their transmission lines. These fees are reimbursed to ratepayers whenever the AEL&P revenue exceeds their RCA regulated 12.88% Return on Equity. **RATES GO DOWN**
- ▶ **Improved business competitiveness- Hydropower beats diesel**

WHY JUNEAU'S ELECTRICITY COSTS GO DOWN



- ▶ Centralized production of heating in a District Heating system provides economies of scale and savings unattainable by individual property owners or governmental agencies. **EFFICIENCIES LOWER COSTS**
- ▶ Heat Pumps are 300% Efficient. **These savings are passed on to provide lower cost heating**
- ▶ Local and Sustainable heat from Gastineau Channel. **Elimination of fossil fuel volatility and price shocks**
- ▶ Competition and free markets drive prices down

WHY JUNEAU'S HEATING COSTS GO DOWN



SWEETHEART LAKE HYDROELECTRIC BENEFITS

- ▶ **\$125 Million Private Capital investment in Juneau's Future.**
- ▶ **Long Term and Sustainable Energy Security for Juneau.**
- ▶ **Local Construction and Service-Support Employment. 85 Construction Jobs and 35 indirect jobs**
- ▶ **Economic Development and Economic Stability during State Revenue declines.**
- ▶ **Juneau District Heating additional Juneau Job Creation - \$25M project creating over 30 construction jobs and 25 indirect jobs. Operations will require 5 to 10 employees**
- ▶ **Reduce Juneau's cost of living and cost of doing business**



LYNN CANAL TRANSMISSION CORPORATION

BENEFITS

- ▶ **\$22 Million Private Capital investment in Juneau's Future.**
- ▶ **Low cost Intertie solution for North Juneau and future Lynn Canal transmission connection to Haines and Skagway.**
- ▶ **Local Construction and Service-Support Employment. 30 Construction Jobs and 15 indirect jobs**
- ▶ **Economic Development and Economic Stability during State Revenue declines.**
- ▶ **Reduce Juneau's cost of living and cost of doing business**



JUNEAU DISTRICT HEATING BENEFITS

- ▶ Juneau Job Creation - \$25M project creating over 30 construction jobs and 25 indirect jobs. Operations will require 5 to 10 employees
- ▶ Reduce Juneau's cost of living and cost of doing business for government
- ▶ Enhance Juneau's energy security, local economy, and improve safety
- ▶ Reduce developer risk through lower heating costs and price certainty
- ▶ Keeps Local Alaska Energy Dollars...local
- ▶ Help Juneau meet and beat its GHG reduction goal- CBJ Res 2593

*Alaska is a center of innovation, heat pump technology can create
Alaska energy solutions*

- ▶ Alaska Based Technology- Started in Juneau
 - ▶ Technology Template for other Alaska coastal communities
 - ▶ Alaska “Know- How” combined with bountiful Alaska Energy resources + World Class Team Members
 - ▶ Alaska Leadership and Alaskan “Can Do” Attitude
- OUR TEAM WILL MAKE IT HAPPEN**

