10-Mile Hydro – Serving the Chilkat Valley
Gartina Falls Hydro – Serving Hoonah
Gunnuk Creek Hydro – Will serve Kake

By: Jodi Mitchell
Chief Executive Officer
10-Mile Hydro Project Information

- Capacity = 25-600 kW
- Avg. Annual Energy = 1,000 MWh
  (Approximately 60% of Chilkat Valley’s annual energy needs)
- Net Head = ~1,000 ft
- Operation Type = Run of River
- Completed in 2000 by Northern Construction
- Purchased by IPEC in 2011
- 10-Mile hydro meets Chilkat Valley/Klukwan demand in summer, and 25-50% in winter
Gartina Falls Hydro Project Information

- Capacity = 25-425 kW
- Avg. Annual Energy = 1,400 MWh
  (Approximately 30% of Hoonah’s annual energy needs)
- Meets 65% of Hoonah’s demand when at rated flow during spring and fall
- Operation Type = Run of River
- Completed in August 2015 by Sunland Development
- Owned by IPEC
Gunnuk Creek Hydro Project Information

- Capacity = 25-500 kW
- Avg. Annual Energy = ~1,600 MWh
  (Approximately 55% of Kake’s annual energy needs)
- Turbine Type = Cross Flow
- Net Head = ~60 ft, 130 CFS
- Began Construction April 2018
- Plan to use existing Army Corp Dam completed in 2007
- Working with Hatchery & using existing concrete vault for turbine building.
Gunnuk Creek Hydro

Army Corp Dam

Intake System

Retaining Wall for Penstock

Bridge to support Penstock
Renewable energy for Kake
Diesel saving of 6,200,000 gallons (50 yrs)
62,400 tons of reduced CO₂ emissions (50 yrs)
Increased reliability for hatchery water supply
Aquatic habitat in bypass reach is maintained
Minimal construction impacts
No new access roads
No new transmission lines
Gunnuk Creek Project Development

- Started in 2014 with recon study completed by HDR.
- Worked through land use issues with land owners and SEAL Trust.
- Non FERC jurisdictional Project (no license required)
- ADF&G and DNR have been good to work with through permitting.
- NSRAA (Hatchery) has been supportive. Working close to incorporate shared benefits of the project for both water supply and energy.
Future IPEC Hydro Projects

- Thayer Creek Hydro – Angoon. IPEC continues to work with Kootznoowoo to move Thayer Creek Hydro forward. Thayer Creek Hydro would be a 100% solution for Angoon’s energy needs.

- Water Supply Creek Hydro – Hoonah. IPEC has looked into a second project in Hoonah to expand their Hydro resources. Water Supply is expect to add an additional 400 kW Hydro Capacity to Hoonah. Output combined with Gartina would allow “diesels off” mode in Hoonah at times during fall and spring.
IPEC’s primary goal is to reduce electric rates by displacing diesel generation with economically feasible hydro projects.

IPEC was able to secure 100% grant funding for the Gunnuk Creek hydro. We received grants from both the State of Alaska REF, and the USDA Rural Utilities Service.

The Gunnuk Creek hydro will save our members money through lower rates! The project also saves money for the State’s Power Cost Equalization program.

IPEC’s members recently voted to de-regulate the cooperative. IPEC will still be regulated with respect to other PCE, and has many other regulations to comply with. By deregulating, IPEC’s members will save an average of $34 per year in rates.

IPEC got a new more efficient diesel-power plant in Kake in 2017. It was designed to maximize efficiency with Gunnuk.