The Alaska Intertie
A short description

The Intertie transmission line is a 170 mile long, 345 KV transmission line between Willow and Healy that is owned by the Alaska Energy Authority (AEA). The intertie was built in the mid 1980's with State of Alaska appropriations totaling $124 million. There is no debt associated with this asset.

The operation of the Intertie is governed by an agreement that was negotiated in 1985 between the predecessor of AEA, the Alaska Power Authority (APA) and four utility participants. Three of the participants are non-profit cooperatives and one is the municipally owned Anchorage Municipal Light and Power. All of the utility participants are connected to the intertie and can move power on and off of the Intertie. This interconnected system of utilities, tied together with the Intertie is collectively termed the "Railbelt Electric Grid System."

Both functional operation of the transmission line as well as arrangements for the collection of and expenditure of Annual Operations and Maintenance funds are a part of this agreement. The agreement also specifies a governance structure that consists of representatives of participating utilities and AEA.

The agreement specifies, through Interconnection terms and conditions how utilities are allowed access to the Intertie. Each utility is required to maintain a certain level of spinning reserve to preserve the reliability of electrical supply throughout the network. AEA is in the process of renegotiating this agreement with interested Railbelt Grid utilities.

How the Intertie is used

The Intertie is a part of a number of transmission segments that, when connected together can move power throughout the network from Delta, through Fairbanks to Anchorage down to the southern most limit at Seldovia.

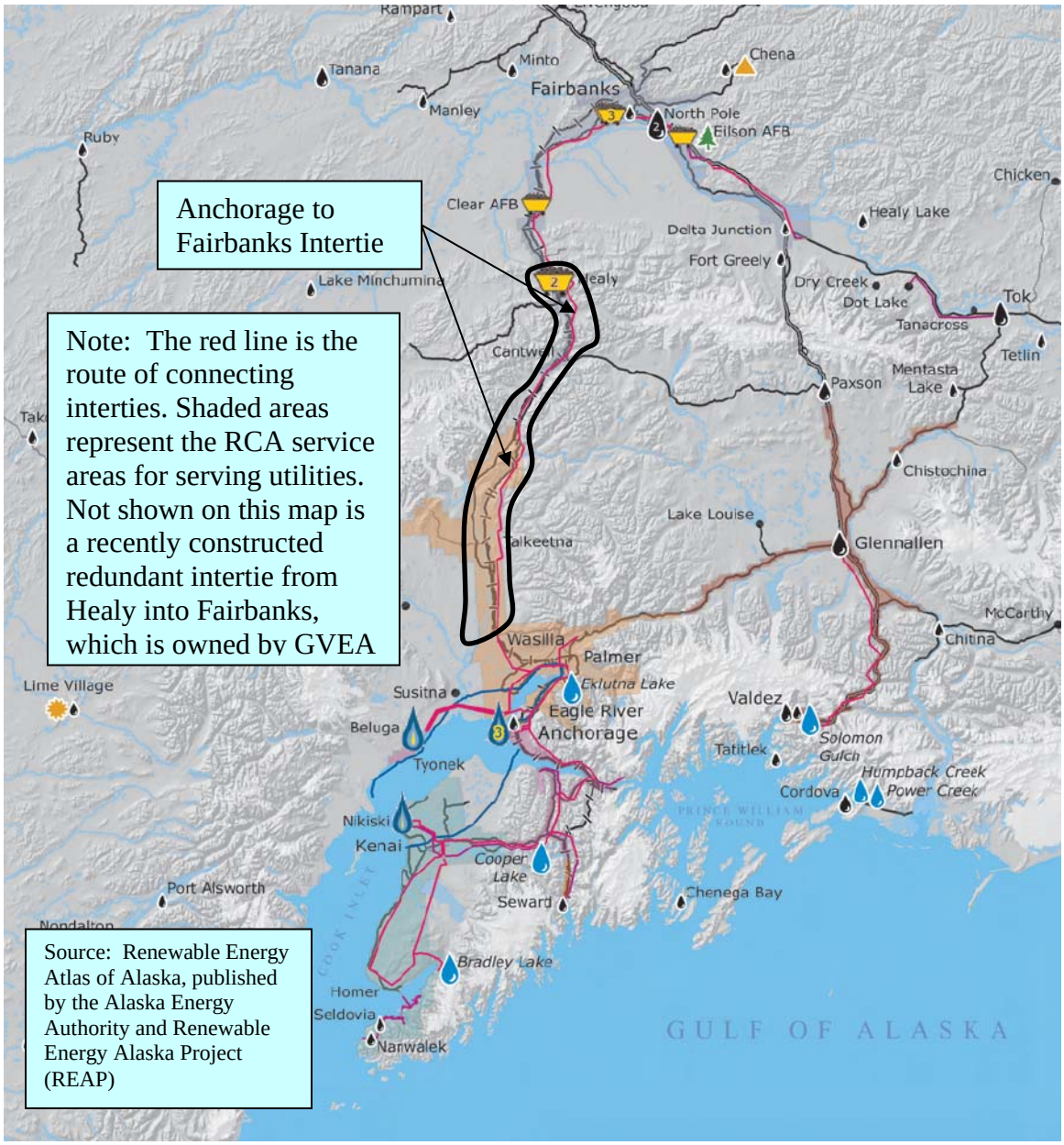
GVEA, the sole monopoly power distribution utility in operation north of the Alaska Range purchases power generated by ML&P and CEA in south central Alaska.

GVEA purchases interruptible spin energy, which is a low grade electrical energy commodity measured in KWH. The sellers agree to provide the energy but do not guarantee any capacity that GVEA can rely on to meet its peak load. This power is priced at a rate where ML&P/CEA realize a positive margin over their costs, and GVEA realizes savings because this interruptible power is less expensive that the "firm" power GVEA generates north of the range.

This power is sold in quantities negotiated periodically, and GVEA has no long term commitment with southern utilities to purchase and transmit over the AEA Intertie.

The other type of power moved over the intertie is Bradley Lake Power. This asset, also owned by AEA is a hydro electric power station to the east of Homer

just below the glacier fed Bradley Lake. Each of the Railbelt utilities has a fraction of the power output from Bradley Lake. GVEA owns a portion of the capacity and energy available from Bradley Lake, and they transmit this north to their service area over the AEA Intertie.



The overall electrical grid functions as an interconnected network, where utilities that generate power cooperate to maintain system wide frequency control. While this levies responsibilities to communicate and interact on utilities, the benefits of operating in an interconnected network where reliability and power quality are a shared responsibility are generally thought to be beneficial for the electrical customer.