

## The Alaska Intertie Electric Transmission Line

**Description:** The Alaska Intertie is a 170 mile long electrical transmission line that stretches from Willow to Healy River. The Intertie project includes several high voltage transformers, switching and access points at each end. This transmission link includes 3 facilities placed strategically in the Railbelt Grid, to provide system electrical stability. The project cost \$124 million.

Also a part of the intertie operation, are ongoing agreements with Matanuska Electric Association to use MEA owned transmission lines to connect the intertie into the Chugach Electric Transmission System at the Teeland Substation, some 25 miles to the southern end of the intertie at Willow. An Alaska Intertie extension project is being pursued by the Alaska Energy Authority and Municipal Light and Power in an interagency agreement, to construct a section of transmission line that will extend AEA owned assets to the Chugach Electric Association transmission system. This extension will become a part of the project.

**Background:** The project was designed for high voltage operation at 345 kilovolts to handle expected Susitna power transmission needs. When the Susitna project was shelved, the need for movement of large amounts of power from the Talkeetna area both north and south because a potential future requirement, so the project was placed into operation at 138 kilovolts, and was configured to transmit up to 75 megawatts of power.

Because the project ran short of funds, arrangements were made with MEA to rent 20 miles of their 115 Kilovolt transmission system, and to build a 5 mile section from Teeland Substation on the Knik Road to a connection location within the MEA service area at Hollywood Road. The Railbelt Utilities in cooperation with the Alaska Energy Authority sought appropriations out of the Railbelt Energy Fund to complete the intertie in 2003. This extension project is presently being pursued by the AEA, in conjunction with two other intertie renovation projects, the Static VAR compensator upgrade and Tower 195 renovation. AEA is also reviewing with its contractor ML&P and with Chugach Electric Association where the southern terminus of the intertie should connect into the Chugach Electric Association system. This consideration is included in the regional integrated resource plan AEA is pursuing for the Railbelt.

**Purpose:** The Alaska Intertie connects the southern Railbelt Utilities electrically with Golden Valley Electric Association that serves communities to the north of the Alaska Range. Designed to move power in both directions, the intertie has been used chiefly to convey inexpensive electrical energy produced by Chugach Electric and Municipal Light and Power northward to become a part of the GVEA energy portfolio. Recently, power flows have flowed from GVEA south to the Chugach system, when Chugach lacked access to sufficient natural gas to carry the Chugach system load.

**Sources of Funds:** The intertie is owned outright by the Alaska Energy Authority, and has no debt associated with it. The Railbelt Utilities gain access to the project through an Intertie Agreement. As with Bradley, while AEA is the owner, the Railbelt Utilities through contract maintain and control the intertie. The agreement can only be changed with unanimous agreement from the Railbelt Utilities, but there is a termination clause that AEA has used to start a 4 year termination process, with the intent of negotiating a new agreement. This termination date is October 2010.

**Operation of Facility:** AEA contracts with ML&P and with GVEA to monitor and control the Intertie. Each operates a control center, and staff work cooperatively in the operation of the project. AEA contracts with Chugach, MEA and GVEA for maintenance of northern and southern legs of the project, and for maintenance of the three electrical stability (SVC) facilities.

The AEA project manager sits on the Intertie Operating Committee, which handles all technical and financial matters for the intertie project. The agreement specifies that the transmission rate be determined each year based on proposed schedules for use and annual budgets. At the end of the year, actual costs and power transmitted are used to true up costs. AEA receives no revenue from the project, and recovers only its program management costs from the annual budget.