

Railbelt Energy Study – Technical Group Summary **January 15, 2004**

Sponsors - Anchorage Municipal Light & Power, Chugach Electric Association, Golden Valley Electric Association, Homer Electric Association, and Seward Electric System sponsored this study.

Scope of Study - The Railbelt Energy Study (RES) examines various approaches to providing reliable, low cost electric service to Railbelt consumers over the next 30 years. The RES is the first step in the planning process – it provides a broad assessment of the generation and transmission investments as if the region was collectively operated. The next step is for individual utilities to capitalize on the potential synergies identified in the RES by developing detailed individual integrated resource plans that can be used to make investment decisions.

Results – The cost of power is expected to increase about 50% over today's cost during the next 30 years. Expected doubling of the price of fuel in the next ten years accounts for most of the increase. The addition of seven new generating plants (\$720 million cost) in the expected case also contributes to the increase in power cost. New generation is needed in the Anchorage/Mat-Su area in 2015, but as soon as 2012 in the high load growth case. New generation is needed in the Fairbanks area no later than 2008 in all cases. The RES also examined several unique investment opportunities and sensitivities.

1. Pseudo-Healy Clean Coal Project – HCCP as it currently exists was not analyzed. However, if the existing facility could be transformed into a generic coal plant for \$150 million or less, the Railbelt would benefit. A new 50 MW generic coal plant is estimated to cost \$200 million.
2. Southern Intertie – The proposed Anchorage-Kenai transmission line is not beneficial based on the factors considered (capacity deferral benefit and production savings).
3. Fire Island Wind Project – A modeled 50MW wind farm is marginally beneficial. The estimate does not include the cost to construct a transmission line from Anchorage to Fire Island.
4. Nikiski Repowering Project – The 40 MW Nikiski unit could be repowered if Agrium no longer obtains heat from the unit. Adding a steam turbine to the unit is beneficial to the Railbelt.
5. Emma Creek Coal Project – The proposed coal plant is not beneficial to the Railbelt because of the proposed size and location of the plant.
6. Generic 150-MW Coal Project – A 150-MW coal plant in the Anchorage/Mat-Su and Fairbanks area in 2015 could be beneficial to the Railbelt.
7. Natural Gas to Fairbanks – If Fairbanks generation burns natural gas instead of fuel oil, the cost of power for the Railbelt would be higher because natural gas prices are more volatile than the fuel oil prices.