

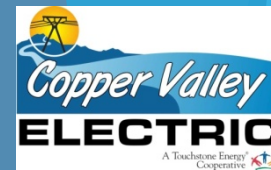
Road Belt Intertie (RBIT) Concept

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- APA Hydropower Chairman

I am here in support of HJR10

Transmission vs Distribution

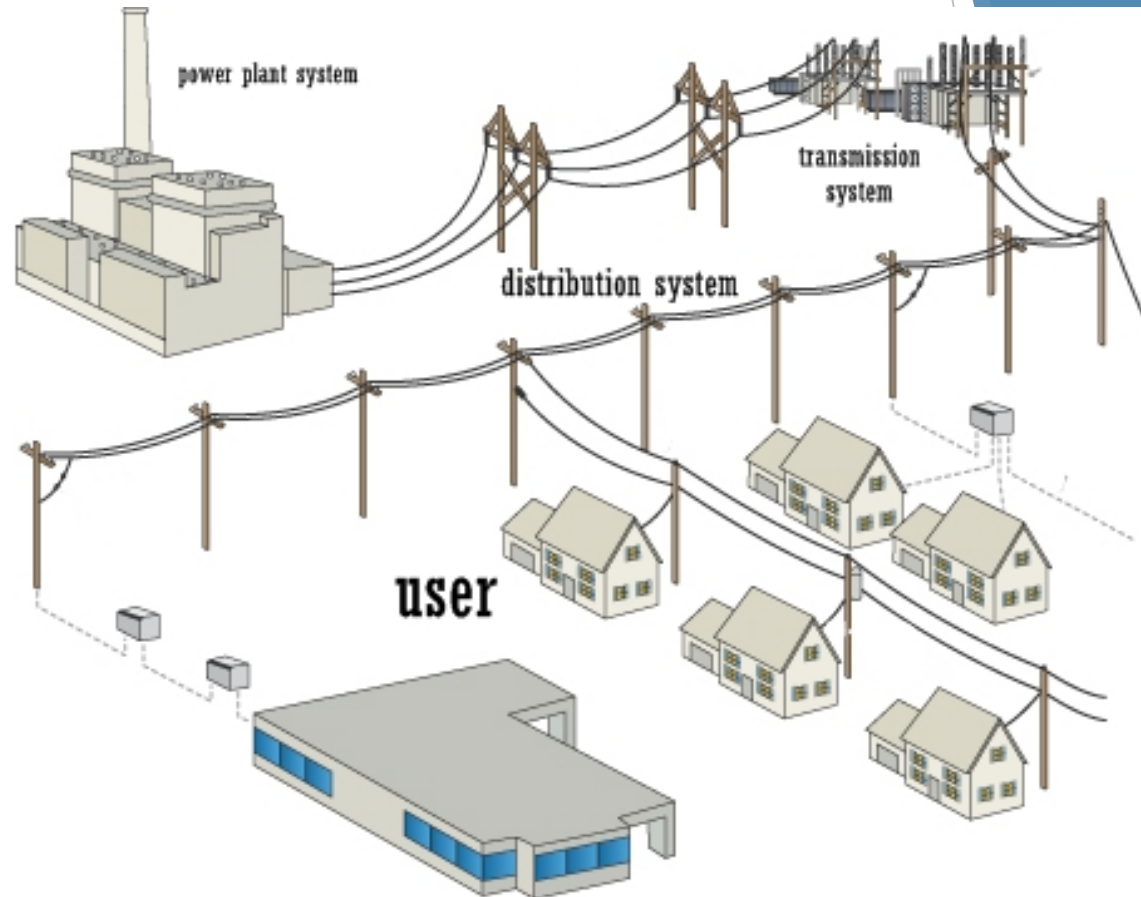


- ▶ Distribution Power
 - Lower Voltages
 - Power moves to end user (residential/commercial/industrial)
 - Managed and maintained by the utility
- ▶ Transmission and Sub-transmission Power
 - High Voltages
 - Moves power between communities (substation to substation)
 - In Alaska - both utilities and the state manage Transmission
- ▶ Road Belt Intertie is Transmission/Sub-transmission Only
 - State managed

Like airports and roads, Transmission is Infrastructure

Electric Power System Overview

- ▶ Transmission
 - 230/138kV
 - High Voltage DC
- ▶ Sub Transmission
 - 69/45kV
- ▶ Distribution
 - 14.4/7.2kV



Power Principles

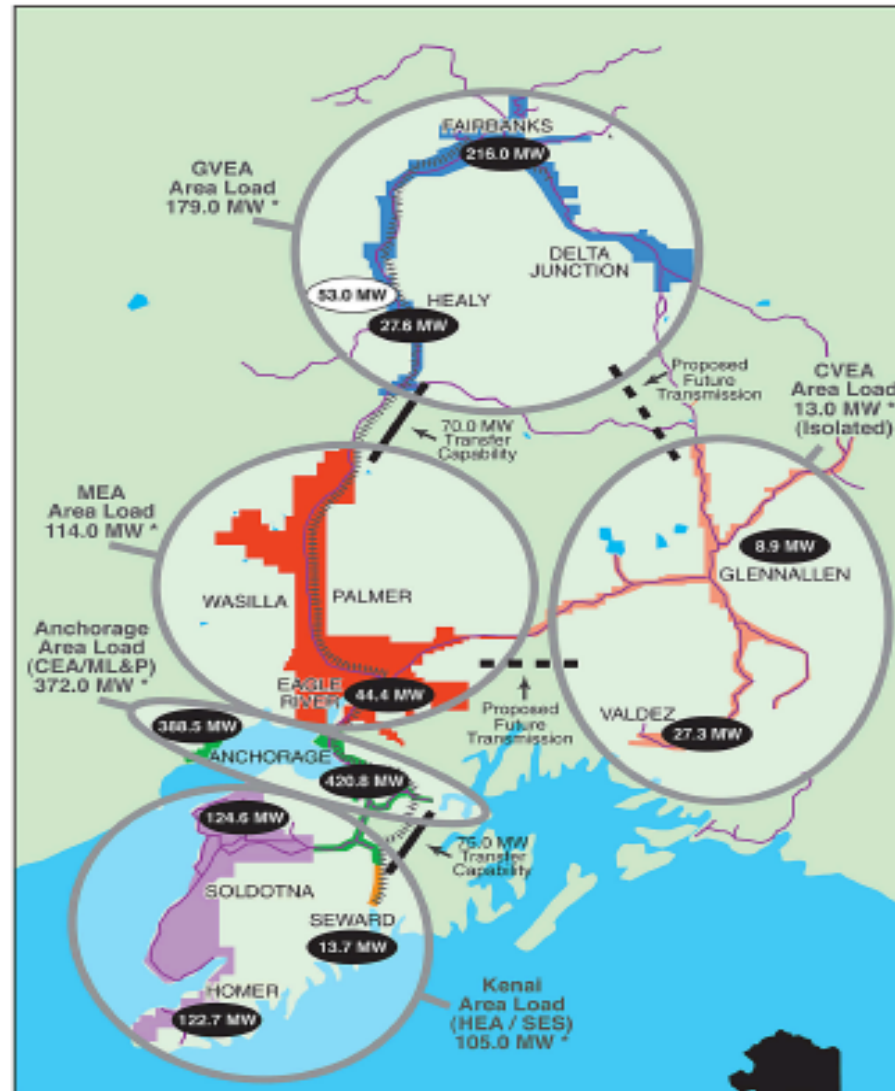
- ▶ A grid is a network of interconnected power lines
- ▶ The bigger the grid, the more resilient it becomes
 - Fluctuations are absorbed easier with a bigger grid
- ▶ Some renewable energy sources fluctuate significantly
 - A bigger grid allows more renewable energy sources
- ▶ Power can move in any direction
 - Depends on where generated and where used
- ▶ Quantity of Scales is key to cheaper power

Concept

- ▶ Not a New Concept
- ▶ Alaska Energy Policy Task Force Finding in 2003

Report on the RAILBELT 12/2003
Findings and Recommendations of the Alaska Energy Policy Task Force

RAILBELT LOAD CENTERS



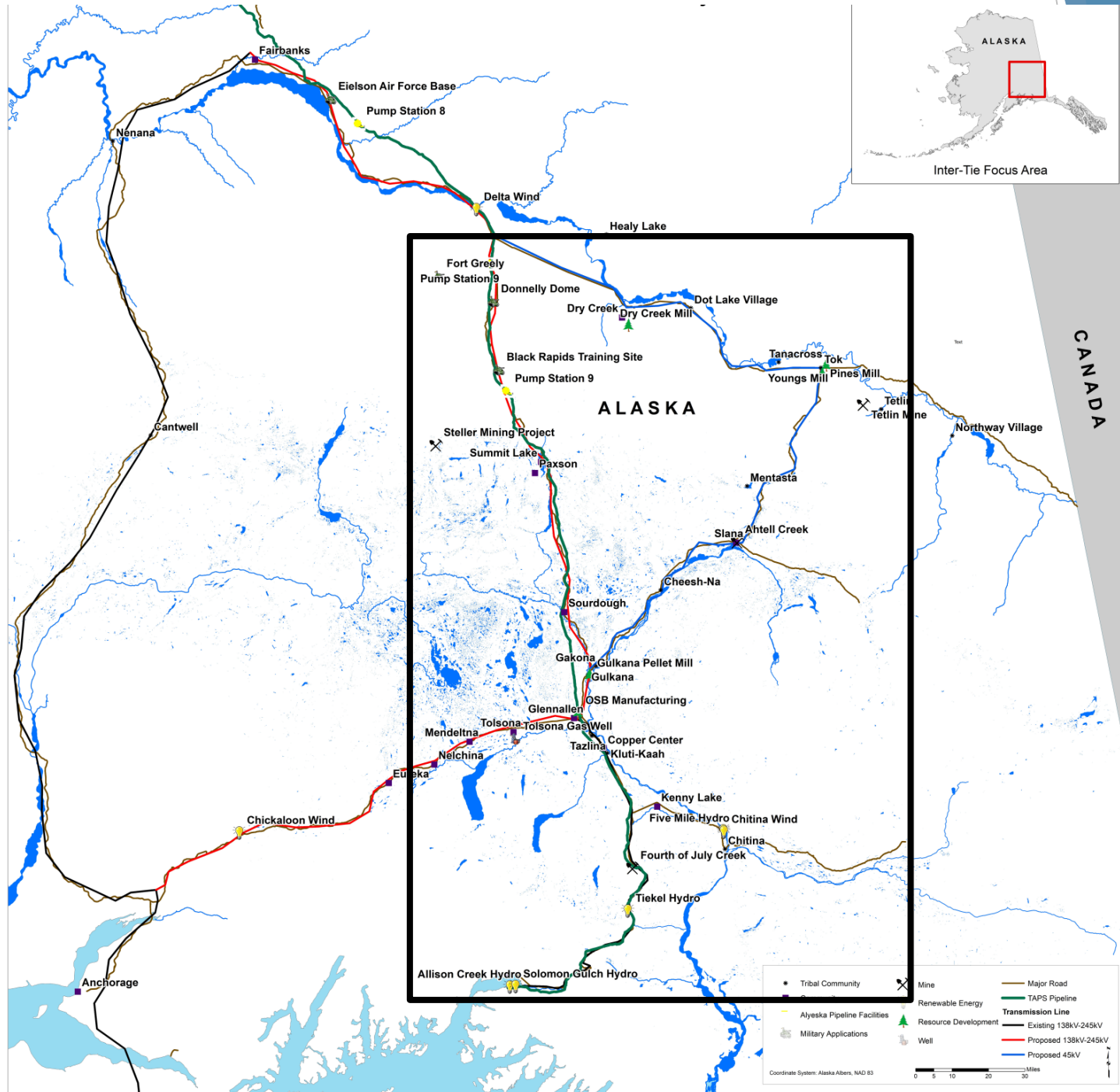
* Indicates peak load for 2002

Sources: Alaska Systems Coordinating Council, 2002 Coordinated Bulk Power Supply Report (Department of Energy EIA-411), May 23, 2003; Railbelt Energy Study, 2003; Copper Valley Electric Association

○ - Area Generation Capacity Available

○ - Healy Clean Coal Plant

Window of Opportunity



Concept Benefits

- ▶ Grid Resilience
 - Larger the grid - better reaction to fluctuations
- ▶ Overage of Capacity - Shortage of Customers
- ▶ Bring together Isolated Grids for mutual benefit
- ▶ Provide a looping route for major Power Generators in the Railbelt
- ▶ Allows More Renewable Opportunities (wind, solar, hydro - Delta, Tiekel River)
- ▶ Brings the cost of power down for the entire grid
- ▶ Give choices to areas that otherwise have no choices for power use

Why Approve the Resolution?

- ▶ HJR10 gives Credibility to the Concept
- ▶ HJR10 tells our Congressional Delegation, federal departments and the White House we are united in ameliorating our high cost of energy
- ▶ HJR10 allows more Renewable Opportunities (wind, solar, hydro) to meet renewable goals
- ▶ HJR10 supports our requests for Federal Funds (to expand our grid) with more credibility
- ▶ HJR10 revitalizes a Concept we have already validated in the past
- ▶ HJR10 helps Alaska get Federal infrastructure funds

The utility sector and many communities with isolated grids highly support this Resolution.