

CIRI Testimony to Energy Committee Hearing (SB 340 HB 196) on legislation proposing studies relating to unified grid operation and ISO in the Railbelt.

Background:

The Railbelt represents the largest population concentration in Alaska. Within the Railbelt there is also a significant industrial base. The electric energy needs of this area are met by 6 separate utilities (CEA, MEA, HEA, GVEA, AMLP, and Seward). Historically there has been limited cooperation between utilities to share generation reserves and some sales of economy energy. The utilities are interconnected by a high voltage transmission system (which is really just one line) that extends from the Kenai Peninsula to Fairbanks.

The vast majority of the High Voltage (HV) transmission system is a single path only and limited transfer capacity between regions. Therefore there is considerable reliability risk if there were to be a transmission outage and there are limited opportunities to share the most economic resources due to the limited transfer capacity between balancing areas. As a result, each utility has built generation plants (including reserve capacity) to serve its own loads. Because each utility has operated separately, there has been emphasis on planning for generation needs and less focus on the high voltage transmission system between utilities that ties the Railbelt together.

Historically CEA, the largest utility in the Railbelt has served the loads of or dispatched the generation of multiple smaller utilities (MEA, HEA, Seward) and so some economies of economic dispatch have been available. Starting in 2014 however, with expiration of certain whole-sale power agreements between the utilities, there will be no obligation for utilities to cooperate with each other regarding dispatch of generation. This means that at many times there could be economical generation sitting idle in one location, while at another point in the Railbelt a utility could be serving load with its own generation which is more expensive and less efficient than the generation that is sitting idle. This means that most of the time some customers in the Railbelt are paying more than they need to for their electricity. In addition, each utility pays for and operates its own spinning reserves, and as a result the cost of reserves for the Railbelt as a whole is greater than it should be.

In order to achieve the critically important efficiencies of economic dispatch and unified generation reserves sharing, there are two primary needs, which must be addressed: 1) Utility to utility coordination must be increased, and 2) The non-redundant (low reliability) and undersized HV transmission system must be upgraded.

Key Points:

1. **The benefits to Railbelt utility customers are significant and achievable:** CIRI agrees that the potential benefits of joint economic

dispatch for Railbelt electric generation, coupled with HV transmission improvements is substantial. CIRI has reviewed the AEA sponsored Railbelt Transmission Plan dated November 13, 2103, and has discussed the conclusions with AEA and some Railbelt utilities. CIRI concurs that a significant annual benefit, estimated to be between \$60 million and \$140 million/year, is possible to achieve.

2. **The Railbelt utility operations must be modified to achieve the financial benefits.** In order for the benefits to be attained, the Railbelt grid must be re-structured. Key among the necessary components is the creation of an Independent System Operator (ISO) with authority to plan HV transmission expansions, and economically dispatch Railbelt generation for benefit of the entire Railbelt load. This legislation takes the critical first steps of completing the necessary studies, and setting the framework for RCA regulation of the ISO and its participants. CIRI supports the creation of an ISO and encourages the Legislature to begin the process of enabling formation of an ISO immediately.
3. **Cooperation between utilities will be greatly enhanced:** The formation of an ISO with mandatory membership by all utilities will encourage and cause the utilities to cooperate more fully on both transmission planning as well as generation dispatch and reserves sharing. The foregoing will all inure great financial benefit to Railbelt customers.
4. **Economic dispatch is a critical need.** The current state of industry practice in the USA is to utilize a centralized ISO or Regional Transmission Organization (RTO) to ensure that within regions, generation can reach load largely without restriction. In the Railbelt, a future where Fairbanks residents could be assured of the most efficient generation serving their load, irrespective of where in the Railbelt the generation is located or who in the Railbelt owns it, would represent major cost savings. Further, the ability of all utilities to share one set of generation reserves instead of each utility providing its own, would also create significant cost savings for Railbelt customers.
5. **Centralized planning of grid expansions is necessary.** Historically, Railbelt utilities have not always taken advantage of the ability to plan joint transmission projects for benefit of all customers. This has resulted in, among other things, the "over building" of new generation by individual utilities because there is no assurance that excess generation at "utility A" can be used to serve load at "utility B" who might need it. Having a centralized ISO-based transmission planning function will ensure that the Railbelt grid operates with the highest reliability and lowest cost to customers. **Further, the ISO's independent plans to improve or expand the grid can be implemented not only by utilities but also by interested 3rd party private investors. Bringing 3rd party investment into energy infrastructure is an important means to**
6. **gain efficiencies and to prevent utilities from becoming over-levered or from having to continually seek state funds to operate.**
7. **Reduced generation reserves cost will result from ISO formation.** Sharing of generation reserves within the ISO region (Railbelt) and for

benefit of all customers will be far less costly than current practices which apply very limited sharing of reserves.

8. **Independent status – not for profit structure ensures “open” operations:** Maintaining a 3rd party independent relationship with each ISO stakeholder will be critical. This will prevent one member from using its assets to disadvantage or otherwise increase costs of operation for other stakeholders. Structuring the ISO as a “not for profit” entity subject to RCA regulation will ensure lowest possible operating costs of the ISO organization over time.
9. **Stakeholder control.** CIRI supports the ISO model that provides for a board of stakeholders acting as its governing body. A fair balance should be struck between stakeholder interests, so that undue influence cannot be exercised by any one segment of the stakeholder group. The board of stakeholders should at the very least include electric utilities, transmission owners, generation owners including IPPs, large industrial customers, residential representatives and commercial customers.
10. **Mandatory participation is necessary.** CIRI supports the ISO legislation requiring mandatory participation/membership by all utilities and 3rd party owned generation and HV transmission owners (if any). In order to achieve the significant “economies of scale” for the savings associated with the ISO, all asset owning stakeholders must be required to participate.
11. **RCA regulation is preferred in AK:** CIRI supports the rates of the ISO and its operations being subject to regulation. In the Lower 48, it is the FERC which regulates ISO operations. FERC is non-jurisdictional in Alaska. It is critical for an overall regulatory oversight to take place to ensure lowest possible rates, non-discriminatory treatment, and the open and fair operation of electric power markets within the ISO region.
12. **Private investment in transmission infrastructure should be encouraged:** In the Railbelt, studies to date indicate that significant capital must be invested in order to complete the upgrades which will unlock the significant benefits of joint economic dispatch, reserves sharing, and liquid energy markets. The recent AEA study concludes that over \$900 million will need to be invested in transmission upgrades within the next 10 years. **CIRI supports an ISO structure that encourages 3rd party non-utility investment in transmission infrastructure as a means to keep costs as low as possible, and to help eliminate pressure on the State of Alaska to fund infrastructure upgrades.**
13. **Aligns AK with utility practice in L48:** There are many examples of efficiently designed and operational ISO’s in the electric power industry in the US. Forming an ISO in Alaska will move our system to be able to capture the efficiencies and cost savings which customers in many other states have enjoyed for more than a decade.
14. **Final clarifications CIRI:**
 - a. Allow stakeholders to help RCA develop the scope of the required study and participate in structural discussions about the ISO. CIRI believes all stakeholders; not just utilities and the RCA, should participate in the scoping studies required by the legislation, and in the formation of the ISO.

- b. Mandate opportunity for private investment in the construction and ownership of transmission assets as this will be a key factor to ensure that the needed network upgrades can be financed efficiently and timely and with minimal state participation. Competition lowers cost of power for all.
- c. Governance of the ISO should consist of broad membership representing the market. Broad participation should be required including utilities, transmission owners, generation owners, industrial, commercial, and residential representation on the board of governance.
- d. CIRC supports moving directly to formation of the ISO now without the pre-requisite step to study its viability first. The benefits are clear and delay increases the cost of electricity to everyone in the Railbelt.

Sincerely,

CIRC Energy, LLC



Ethan Schutt
President