

Chairman Adam Wool
House Special Committee on Energy
State Capitol, Room 412
Juneau, Alaska 998011-1182

March 28, 2018

Dear Chairman Wool and Members of the Committee:

Renewable Energy Alaska Project is a statewide, non-profit coalition of over 80 dues-paying diverse energy stakeholder organizations. We have been working to promote renewable energy, energy efficiency and energy literacy across Alaska since 2004. I am writing this letter to respectfully encourage the Committee to pass HB 382. There are several important issues that relate to the Railbelt's future contained in the bill:

Reliability Standards

One important issue for the Railbelt is the creation and enforcement of electric reliability standards across the entire region. These standards are essential to ensure that the transmission system, and the "dispatch" (use of) the region's electrical generators is as efficient and safe as possible, including threats against cyber security. In the Regulatory Commission of Alaska's June 30, 2015 letter to the Legislature, the Commission made several findings and recommendations regarding the Railbelt. One of those findings was that region-wide reliability standards were both necessary *and lacking* in the Railbelt. In its letter, the Commission gave the utilities time to voluntarily come up with uniform regional reliability standards.

It is now nearly three years later and reliability standards have still not been agreed to by the utilities. Four of the six Railbelt utilities that have formed an organization called the "Alaska Railbelt Cooperative Transmission and Electric Company" (ARCTEC) recently hired an outside technical advisor from Georgia called GDS Associates to look at reliability and other Railbelt issues, and make recommendations as to the form and function of a new organization that ARCTEC is proposing to call the Railbelt Reliability Council, or RRC. Note the word "reliability" in the title of the RRC. GDS is over halfway through a process of talking to stakeholders and making its recommendations and is scheduled to wrap up its process near the beginning of May. GDS is hoping to get agreement from a range of stakeholders on a Memorandum of Understanding that would be the beginning of the formation of the so-called RRC.

While REAP appreciates the effort that ARCTEC (as well as non-ARCTEC utilities Homer Electric Association and Anchorage Municipal Light and Power) are making through the GDS process, unfortunately REAP *does not believe* that the voluntary process that the RCA has requested the utilities to engage in will ultimately be successful. There is simply too disagreement amongst the utilities. As mentioned, two of the six utilities are not aligned enough with the others to even belong to ARCTEC, and the utilities repeatedly fail to speak with one voice. More importantly, each of the six utilities has a fiduciary responsibility *to its respective members*, and *not to the region*. Since none of the utilities has an explicit responsibility to the region, it is REAP's belief that the legislature must declare that reliability and other standards be established through the proposed Railbelt Electrical System Authority, or RESA, contained in HB 382. There is no disagreement that the region needs reliability standards – the real question is how we are ever going to get there from here. The RESA would ensure that standards are set, and then enforced by the RCA.

Economic Dispatch

For at least the last four years, the driving force behind the formation of a new entity in the Railbelt has been *saving consumers money* by ensuring that the most efficient generators in the region are being run in a logical order, from the most efficient generator first, to the second most efficient second, the third most efficient third, and so on, as the electrical demand *in the region* goes up and down. This is known as “merit order economic dispatch.” At present, merit order economic dispatch is not being done in the Railbelt region. Instead, each respective utility is balancing supply and demand of electricity in their own respective service areas. Since today the utilities are connected by transmission lines, as opposed to when they were first established over 70 years ago, economic dispatch in the entire region is technically feasible. However, despite some bilateral contracts and the sharing of state-owned resources like the Bradley Lake hydro facility, the six Railbelt utilities are *not* dispatching their respective generation assets *on a regional basis*. This is inherently inefficient. It means that less efficient generators are being run in the region when they could remain idle, allowing the sale of more economic energy to flow from the most efficient generators. This inefficiency unnecessarily consumes more fuel. Burning more fuel in inefficient generators costs Railbelt consumers money.

The need for merit order dispatch was recognized and called out by the RCA in its 2015 letter to the legislature. In that letter, the Commission set the utilities on a course to voluntarily come up with a model for merit order economic dispatch of the *region’s* generation assets, instead of the utilities continuing to balance supply and demand in their respective, smaller and suboptimal, service areas.

Almost three years after the Commission’s letter to the legislature, there is still no economic dispatch in the Railbelt. Over a year ago, Chugach Electric Association, Anchorage Municipal Light and Power and Matanuska Electric Association announced to the Commission that those three utilities that serve parts of Anchorage were going to form what they called a “tight power pool” as a precursor to region wide economic dispatch. They told the Commission they would need an additional year to sort out how they would settle the sharing of their generation assets. That additional year has now come and gone and there is still no tight power pool in the Anchorage area. Furthermore, there is little consistency and transparency about how those negotiations are going. Instead, the public hears one story from one utility about how the pool is progressing, and another story from another utility. The “pool” has no designated spokesperson.

While there may be some disagreement about how much merit order dispatch can be done in the entire region that stretches from Homer to Fairbanks without transmission upgrades to the north and south from Anchorage, the RCA and the public were told that the tight power pool would be possible, and indeed operating, by a few months ago.

What should be very disturbing to Railbelt electric consumers is the fact that ARCTEC’s consultant GDS is no longer recommending that the so-called Railbelt Reliability Council that it is formulating for the utilities *even include* the function of economic dispatch. The reason that GDS gave to the Commission at a RCA public workshop held March 16, 2018 is that there is fundamental disagreement among the parties about the basis for economic dispatch. This is still another example of how conflict among the six utilities hurts the region as a whole. REAP believes that merit order dispatch of the region’s generating assets *must* be a function of any new entity that is established for the Railbelt.

Non-Discriminatory Open Access to Transmission

There are at least two problems with the way new entities or projects can currently try to access the Railbelt transmission system.

First, today each single utility handles interconnection within their respective service area. There are six utility transmission owners in the Railbelt, along with the Alaska Energy Authority. This means the process that an independent power producer must go through to send power into the grid from a project varies from utility to utility. There is no region-wide, consistent and transparent set of rules for accessing the transmission system, a system that has been constructed entirely from public money of one sort or the other (federal, state, municipal or cooperative). This lack of predictability chills investment from the private sector that Alaska sorely needs.

Second, there is not one single tariff, or charge, to move electrons across the Railbelt. In fact, in some cases there are what is referred to as “pancaking” transmission tariffs. This is a situation where the movement of electrons from A to B incurs multiple tariffs from different transmission owners that are stacked (or pancaked) on top of each other. Such redundant costs to transmit electricity have serious economic consequences for consumers.

Region-Wide Planning

REAP believes that region-wide planning for the Railbelt is one of the most important functions that a new Railbelt Electrical System Authority could handle. The Railbelt has never been planned as one region. One recent result of this lack of planning has been the overbuilding of generation assets in the Railbelt. In its 2015 letter to the legislature, the RCA noted that the Railbelt utilities have collectively built \$1.5 billion dollars of new generation projects in the last several years. With the exception of the Southcentral Power Plant that Chugach and ML&P built together, none of those new generation assets were built with a regional approach in mind. This lack of regional planning also extended to how new generation assets are impacting the existing transmission system. It is also worth noting that in comparison to the \$1.5 billion the utilities spent on new generation, those same utilities spent next to nothing on transmission system upgrades.

Now that the lack of regional planning has resulted in more new electric generation in the Railbelt than what was necessary for the region as a collective whole, Railbelt consumers are on the hook to pay for those capital expenditures. Each of the respective utilities that built power plants committed their members to pay back those expenditures for the next 25-30 years. Incredibly, this was done without either MEA or HEA having any long-term contracts for natural gas, and both Chugach and ML&P likely to run out of the gas reserves they now own long before the new generation assets are paid for. You might ask why the RCA did not prevent the utilities from building unnecessary generation, or generation that is vulnerable to fuel price volatility? The answer is that the RCA does not have what is known as “siting authority” over each respective utility’s decision to build new generation. If the Commission had siting authority, it could pre-approve new generation projects *before* power plants were built. Instead, without siting authority, the RCA’s hands are tied until *after* a utility has already made its decision to plan, finance and construct a new power plant. Only after the power plant is built and the utility and its consumers are committed to paying for it does the RCA have a role. That role is to hear the utility’s request to charge a tariff to its customers to pay the investment back. This lack of siting authority by the Commission has forced it to allow those tariff requests in case after case because to deny the tariff would cause financial havoc for a utility that has already built a power plant.

Regional planning would take into account what new generation assets the *entire region* needs, and therefore avoid a repeat in the future of the overbuilding that has recently happened in the Railbelt. Regional planning would also take into account where potential renewable energy assets could be located, both relative to the resource’s proximity to the need for power, and its proximity to transmission. Giving a new Railbelt Electrical System Authority the ability to plan for both new generation and transmission assets allows generation and transmission asset decisions to be made in the context of each other, and on a regional basis. This is far more effective than making generation decisions for each Railbelt utility service district in isolation of what the neighboring utility has decided to do, or not do. It is also more efficient to

plan for the regional electrical system as just that, *a system* that includes generation assets *and* the transmission assets necessary to move the electrons efficiently to market. Having the Railbelt Electrical System Authority objectively decide which transmission projects are a priority for the region also protects consumers from the impacts from a future, for-profit transmission utility building transmission that does not have positive long-term benefits relative to its cost. Regional planning means that the best possible decisions get made for the entire Railbelt, saving consumers money. However, region-wide planning must include stakeholders besides the six Railbelt utilities.

Diverse Governance Structure

The governance structure of the proposed Railbelt Electrical System Authority is perhaps the most important part of HB 382. Without the proper balance of independence and stakeholder input from other sectors of Alaskan society besides the six Railbelt electric utilities, Alaskans will see no real change in the way business is done in the Railbelt.

Seventy-seven years ago, when my local electric utility in the Matanuska Valley was formed, I think the concept of a local cooperative meant something very different to the citizens of Palmer than it does today. Though Matanuska Electric Association is still a cooperative, most of its members do not participate in its governance. In fact, in the Railbelt it is pretty typical for utility board elections to draw less than 20% of a cooperative's eligible voters. Ask the average electric consumer today what kind of legal structure their electric utility is and they are likely to say they don't know. In contrast, when MEA was formed in 1941, there wasn't any electricity in Palmer. People were joining together to provide it, with an assumption and social compact that they would remain accountable to each other.

Since the six Railbelt utilities were formed decades ago, road systems, electric transmission lines, and telephone and internet service have all come to the region. The RCA itself has stated that if we were start over today, we would certainly have just one utility in the Railbelt. For context, the *combined average electric load of all six Railbelt utilities is just over 600 MW*. In contrast, a typical *power plant* (not utility) in the Lower 48 is around 1,000 MW. While REAP is not advocating for all six utilities to be made into one, what the Railbelt Electrical System Authority would do is make sure that all six utilities take full advantage of the fact that today they are connected. The region's future prosperity depends on it.

Besides the transmission, road and communication infrastructure that has been built over the last decades, there are other changes and trends that the current system of six independently operated utilities cannot effectively address. For example, over the decades there has been an increase in the number of commercial and industrial electrical consumers in the region. Those consumers are a stakeholder group that should have input into planning the region's electrical system. Another change has been the meteoric drop in the cost of renewable electricity from wind and solar, even as the efficiency of those technologies continues to increase. For example, in 1990, the average price of wind power in the United States was 65 cents/kWh. Today, the average *unsubsidized* price for wind in the Lower 48 has dropped to under 5 cents/kWh, making it competitive with natural gas and coal. Likewise, the price of utility-scale solar has dropped precipitously in the last 10 years, with the average *unsubsidized* price now also down to around 5 cents/kWh. In 2017, nearly half of all new generating capacity additions in the United States were wind or solar. In the rest of the world, most of those wind and solar installations are being developed by independent power producers, companies that specialize in those technologies and are therefore most often in the best position to build projects as efficiently as possible. Independent power producers are another constituency that must be at the table when plans are made for our electric future.

There are other trends that are not being effectively addressed or represented in the current system of six utilities that make decisions independent of each other. One is the increasing use of "distributed" power. This refers to both an accelerating number of people in the Railbelt who are putting cheap solar panels on

their homes, and businesses who are finding it more economical to generate their own power *on-site*, often coupled with energy storage. Those businesses and consumers need a seat at the table.

Another major trend is energy efficiency. As more consumers have been made aware of how energy efficient lighting and appliances can save them money, the demand for electricity in the Railbelt has actually been *decreasing*, even as the region as a whole has overbuilt generation. Fortuitously, another trend that can counter that decrease in demand is electric vehicles, or EVs. EVs, and the lithium ion batteries that run them, are coming down in price so fast that many experts, investors, nations and car companies are betting on them to completely change the way we transport ourselves. The cost of operating a Chevy Bolt or Tesla Model 3 with a range of over 200 miles that one can purchase *today* for about \$35,000 (*before* a federal tax credit of up to \$7,500) is half of what it costs to operate a standard car with an internal combustion engine. Even with the Railbelt's relatively expensive 20 cent/kWh power, a Chevy Bolt can go 200 miles on \$12 worth of electricity. In contrast, a person with a car that gets 25 mpg and uses \$3/gallon gasoline would spend \$24 to go the same 200 miles. EVs also have only about 20 moving parts, as opposed to roughly 2,000 moving parts in the internal combustion engines of today, making EVs cheaper to maintain and likely to last much longer. As the price of EVs continues to drop every year, a transportation revolution is brewing. It is imperative that the governance structure of a new Railbelt Electrical System Authority also have people and entities on the governing board who understand how the trends of energy efficiency and electric transportation fit together so they can help the Railbelt prepare for its future.

Besides different types of electric consumers, independent power producers, and renewable, efficiency and electric vehicle stakeholders, other entities that should be represented on the governance structure of the Railbelt Electric System Authority include the Alaska Energy Authority (AEA), the RCA itself and a representative of any new transmission utility that might be formed in the future.

Just two weeks ago, ARCTEC's consultant, GDS Associates, made a preliminary recommendation in front of the RCA that the governing board of ARCTEC's proposed Railbelt Reliability Council be made up of nine members, with just three seats held by Railbelt utilities. This preliminary recommendation is further evidence that a diverse group stakeholders, not just the same six utility players, must guide the Railbelt's future. It is also consistent with the language in HB 382, which states that no more than 40% of the governing board of the Railbelt Electrical System Authority come from the six existing Railbelt utilities.

If the governance structure of the Railbelt System Authority did not include the wide array of Alaskans that have a stake in how the region plans for and then produces and transmits electricity, Alaskans will see more of the same conflict among the utilities who are now running the show, and Alaska will continue to lag behind other states and nations that have embraced regional electric systems and renewable energy. A wide variety of non-utility stakeholders are part of the governance in those so-called Independent System Operators (ISOs) and Regional Transmission Organizations (RTOs) in other jurisdictions.

The Railbelt needs a vision of our future that is based on objective reality, not six often competing versions of it. Indeed, it is utility disagreement over what the region needs that GDS pointed to when it told the RCA on March 16th that it was not including the function of economic dispatch in ARCTEC's proposed Railbelt Reliability Council. Instead, GDS is currently proposing that the RRC be stood up first, and then a wide group of stakeholders could design still another study to determine whether it makes sense to have only the most efficient generators operating in the Railbelt at any one moment in time.

By not including economic dispatch in the RRC's functions, GDS is essentially saying that Alaskans need to spend more time and more money on more studies to determine what common sense tells us is true: that consumers will save money if natural gas is not burned inefficiently. This conclusion by GDS underscores why we need a Railbelt Electrical System Authority now, and why the utilities cannot control

it. If Alaska is going to do what other jurisdictions have now done for decades and make the planning and operations of our electrical system more efficient on a regional basis, we cannot afford to continue to wait for the utilities to address these issues voluntarily.

Conclusion

Today we are at an important crossroads for the Railbelt, and for the state. If Alaska is going to diversify its economy, the Railbelt will have a major role to play. Energy efficiency, electric vehicles, renewable energy and distributed energy are all making what was for many decades a relatively static electric industry one of the most dynamic and fast changing industries on the planet. The Railbelt Electrical System Authority is necessary for the Railbelt's six independent utilities to come together to meet today's trends and challenges. Today, the six Railbelt utilities still do not speak with one voice, in large part because their respective fiduciary duties are to their own members, and not to the region. While efforts to pool generation resources around Anchorage, and to look at new models like an RRC are commendable, consumers cannot wait any longer for the utilities to voluntarily put something together with the requisite functions and governance structure. Consumers are already on the hook for more generation capacity than the region as a whole needed, and the resulting higher electricity prices in the Railbelt will impact consumers all over the state as the target electricity price for the Power Cost Equalization program rises higher and higher.

Alaska can also no longer afford to operate with a balkanized Railbelt electricity system. We need regional planning, economic dispatch and reliability standards to protect consumers and transparent and consistent interconnection standards to attract investment. Most importantly, we need a governance structure for the Railbelt Electrical System Authority that does not rely on utilities alone to plan the region's future. Consumers and investors have waited long enough for voluntarily action. The utilities' RRC model will not get us to where the region must go. Instead, REAP respectfully suggests that you, the elected representatives of the state's consumers, take the required action to establish the Railbelt Electrical System Authority. Thank you very much for your consideration of this critical issue. I am always available to answer any questions that you may have, or to provide background materials.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Rose", written in a cursive style.

Chris Rose
Executive Director