

**ALASKA STATE LEGISLATURE
SENATE RESOURCES STANDING COMMITTEE**

March 13, 2024

3:31 p.m.

MEMBERS PRESENT

Senator Click Bishop, Co-Chair
Senator Cathy Giessel, Co-Chair
Senator Bill Wielechowski, Vice Chair
Senator Scott Kawasaki
Senator James Kaufman
Senator Forrest Dunbar
Senator Matt Claman

MEMBERS ABSENT

All members present

COMMITTEE CALENDAR

SENATE BILL NO. 217

"An Act relating to the taxation of independent power producers; and increasing the efficiency of integrated transmission system charges and use for the benefit of ratepayers."

- HEARD & HELD

PRESENTATION(S): Alaska Energy Authority (AEA)
Update by Curtis Thayer, Executive Director

- HEARD

PREVIOUS COMMITTEE ACTION

BILL: SB 217

SHORT TITLE: INTEGRATED TRANSMISSION SYSTEMS

SPONSOR(S): RULES BY REQUEST OF THE GOVERNOR

02/02/24	(S)	READ THE FIRST TIME - REFERRALS
02/02/24	(S)	RES, L&C, FIN
03/04/24	(S)	RES AT 3:30 PM BUTROVICH 205
03/04/24	(S)	Heard & Held
03/04/24	(S)	MINUTE (RES)
03/13/24	(S)	RES AT 3:30 PM BUTROVICH 205

WITNESS REGISTER

ANTONY SCOTT, Director
Economic and Regulatory Analysis
Renewable Energy Alaska Project (REAP)
Anchorage, Alaska

POSITION STATEMENT: Presented SB 217 on behalf of the administration.

MATTHEW PERKINS, representing self
Anchorage, Alaska

POSITION STATEMENT: Testified in support of SB 217.

PENNY GAGE, representing self
Anchorage, Alaska

POSITION STATEMENT: Testified in support of SB 217.

DOUG JOHNSON, representing self
Anchorage, Alaska

POSITION STATEMENT: Testified in support of SB 217.

KEN HUCKEBA, representing self
Wasilla, Alaska

POSITION STATEMENT: Testified in opposition to SB 217.

DAVID BRAILEY, representing self
Eagle River, Alaska

POSITION STATEMENT: Testified in support of SB 217.

JENN MILLER, representing self
Houston, Alaska

POSITION STATEMENT: Testified in support of SB 217.

CURTIS THAYER, Executive Director
Alaska Energy Authority (AEA)
Anchorage, Alaska

POSITION STATEMENT: Presented an overview of AEA.

ACTION NARRATIVE

[3:31:19 PM](#)

CO-CHAIR CATHY GIESSEL called the Senate Resources Standing Committee meeting to order at 3:31 p.m. Present at the call to order were Senators Wielechowski, Kawasaki, Kaufman, Claman, Co-Chair Giessel, and Co-Chair Bishop. Senator Dunbar joined thereafter.

SB 217-INTEGRATED TRANSMISSION SYSTEMS

[3:31:51 PM](#)

CO-CHAIR GIESSEL announced the consideration of SENATE BILL NO. 217 "An Act relating to the taxation of independent power producers; and increasing the efficiency of integrated transmission system charges and use for the benefit of ratepayers."

[3:32:20 PM](#)

CO-CHAIR GIESSEL announced invited testimony on SB 217.

[3:32:11 PM](#)

SENATOR DUNBAR joined the meeting.

[3:32:39 PM](#)

ANTONY SCOTT, Director, Economic and Regulatory Analysis, Renewable Energy Alaska Project (REAP), Anchorage, Alaska, presented SB 217 on behalf of the administration. He stated that he is an economist and former commissioner at the Regulatory Commission of Alaska (RCA), with decades of experience in economics and policy analysis in the state. REAP is a member-based organization. Its membership includes public utilities, independent power producers, labor groups, Native associations, consumer groups, and others. He moved to slide 2 and detailed REAP support for SB 217.

[Original punctuation provided.]

REAP supports SB 217

- Creates favorable economic conditions for new investment that will create ratepayer value by solving two significant existing problems:
 1. Inefficient cost recovery mechanism for transmission system infrastructure costs impede economic development and raise rates paid by consumers
 2. Inefficient and inequitable local tax burdens for Independent Power Producers (IPP) increase their investment costs and raise rates to utility customers
- It offers a simple and understandable approach
- It does so with a minimum of overhead costs and institutional disruption
- It refrains from using overly prescriptive mechanisms

3:34:42 PM

MR. SCOTT moved to slide 3 and explained wheeling charges:

[Original punctuation provided.]

**Inefficient Transmission System Cost Recovery
(current "toll-road" system)**

- Significant portion of transmission system costs are currently recovered through "wheeling rates" Example: for Homer Electric Assoc to buy power from a wind producer in Fairbanks, HEA pays for both cost of generating the power *plus* the combined costs to "wheel" the power across the various components of the Railbelt transmission system:
 - o \$0.00531/kWh to Golden Valley Electric Assoc (GVEA) to use its transmission system
 - o \$0.00512/kWh to Alaska Energy Authority (AEA) to use the Intertie,
 - o \$0.00415/kWh to Matanuska Electric Assoc (MEA) to use its transmission system
 - o \$0.01412/kWh to Chugach Electric Assoc (CEA) to use its transmission system

Total transmission wheeling charges = \$0.0287/kWh

- The **actual costs** of transmission are not increasing with this use, *but*
- These additional "toll" charges can prevent an otherwise economic generation project from being built

MR. SCOTT stated that the inefficiencies in transmission system cost recovery are a significant issue. A portion of transmission system costs are recovered not from a utility's own ratepayers but through wheeling charges. When one utility uses another utility's transmission system, they pay a \$1 per kilowatt-hour charge for moving electricity over that transmission system. These charges essentially function as a tax on the transaction of power generated in one area and consumed in another, and this tax is quite inefficient. It can be likened to a toll paid on a road because the costs of the transmission system do not change even when it is being used. The result is that these individual wheeling charges can render an otherwise economically beneficial project uneconomic, preventing the project from proceeding. The example on the slide illustrates that if Homer wished to purchase wind power from a development north of the range in

Fairbanks, it would have to pay for the cost of generating that power to the Independent Power Producer (IPP). Even if Golden Valley built the wind power themselves, they would still have to pay for the power's generation cost and the combined cost of wheeling that power across various components of the rail belt transmission system. These combined charges amount to almost three cents per kilowatt-hour, which is enough to prevent the transaction from happening. This would be unfortunate for economic development in the Fairbanks region and a loss of value for Homer ratepayers. It also increases Homer's difficulty in incorporating more wind power into the system, as having a geographically diverse source of renewables is beneficial for overall system reliability. The cost reallocation in this example, specifically the nearly three cents per kilowatt-hour, raises concerns.

[3:38:11 PM](#)

SENATOR WIELECHOWSKI asked how the wheeling charges are set and what exactly differentiates these rates. He expressed appreciation for slide 3, noting that it was the first time he had seen the information broken down in this way.

[3:38:29 PM](#)

MR. SCOTT replied that wheeling charges are set through general rate cases. Each utility, excluding AEA, determines their rates through a rate proceeding at the Regulatory Commission of Alaska (RCA). Utilities calculate their total system costs, which include their transmission, generation, and distribution infrastructure. For example, Chugach Electric's transmission system is used by other parties. In its rate case proceedings, Chugach allocates a portion of their transmission costs to be recovered from these other parties. This allocation is often contentious, but once determined, it is converted into a dollar per kilowatt-hour or cents per kilowatt-hour rate. Chugach's total transmission costs are divided based on the agreed-upon allocation percentage, and this amount is then applied to the projected power transmitted over their lines by third parties.

[3:40:46 PM](#)

SENATOR WIELECHOWSKI noted that Chugach might argue that their ratepayers have paid higher bills to cover the cost of building their transmission systems, and that the wheeling charges are their way of recovering those costs. He questioned how one would respond to Chugach's position if the company says they are losing revenue for each kilowatt-hour transmitted through their system, which their ratepayers have already funded.

[3:41:30 PM](#)

MR. SCOTT replied that it is entirely reasonable for Chugach to argue for cost recovery. However, the allocation of costs and benefits of transmission infrastructure is inherently arbitrary. As a former regulator, he explained that while there are various mechanisms for determining the appropriate split, the process often involves considerable debate and negotiation, similar to choosing between different types of cuisine. If a utility can build transmission infrastructure for the benefit of its own customers and have others partially cover the costs, it might not incentivize the construction of the most efficient transmission systems. All users benefit significantly from being part of an interconnected grid. This interconnection improves reliability and increases opportunities for power transactions. The current system of wheeling charges, which turns a fixed cost into a variable cost, acts as a tax and reduces these overall benefits. Moving to a lump sum collection system would allow for a fairer allocation of system costs without treating them as a tax on the movement of electricity. This approach would still involve debate over the best allocation method, but it would recover costs based on fair system usage rather than per-kilowatt-hour charges.

[3:44:24 PM](#)

SENATOR WIELECHOWSKI asked if a levelized rate, such as seven or eight cents per kilowatt-hour, would result in other utilities receiving a bit more for their transmission while Chugach might receive a bit less. He inquired about how much this might cost Chugach's customers.

[3:44:53 PM](#)

MR. SCOTT replied that SB 217 wouldn't replace multiple wheeling rates with a single wheeling rate; instead, it would eliminate wheeling rates altogether. However, he acknowledged that the question of cost responsibility and the best way to address it remains. The bill recognizes the need for a gradual transition to this new cost recovery mechanism, though it does not specify the pace of this transition. This will be determined by the interested parties before the RCA. SB 217 acknowledges the current historical arrangements that produce specific cost responsibilities and revenue streams. A gradual transition over a period, such as one to three years or five, might be sensible. In the interim, the hope is to build new transmission assets, partly with federal support. REAP supports this and aims to ensure that new transmission is used efficiently for economic development and ratepayer benefits. Over time, the lump sum approach to allocating costs is expected to benefit the greatest

number of people through the integrated planning process managed by the RRC. This process will involve broad stakeholder input to determine which transmission projects are needed, the cost responsibilities, and the methods for cost recovery, ultimately leading to a more efficient and fair system.

[3:47:48 PM](#)

CO-CHAIR BISHOP asked if debt is included in the cost recovery equation.

[3:48:05 PM](#)

MR. SCOTT replied that debt is absolutely part of the cost recovery equation. He explained that cost recovery encompasses the entire cost of service, including debt payments, depreciation, and operation and maintenance (O&M) expenses. Therefore, the full cost of service associated with transmission will be recovered.

[3:48:32 PM](#)

SENATOR CLAMAN asked if the importance of Grid Resilience and Innovation Partnerships (GRIP) funding, which provides federal support for building additional transmission infrastructure without requiring utilities to finance it themselves and pass those costs to their ratepayers, is a significant reason why this approach makes sense today.

[3:49:07 PM](#)

MR. SCOTT replied that transitioning from the current system makes sense regardless of the situation, but it is especially important given the need to enhance the robustness of the transmission system, which will involve significant expenditures from ratepayers, the state, and the federal government. He emphasized the importance of ensuring that these large investments provide the greatest value for Alaska consumers. While there is a strong reason to focus on this now, due to the new transmission projects, he suggested that the current system of wheeling charges should be fixed and eliminated even if no new transmission were ever built.

[3:50:21 PM](#)

SENATOR CLAMAN asked if SB 217 would create a structure where wheeling rates are eliminated for transmission. He inquired if the bill mandates that, in the absence of federal funds, any new transmission built will have its rates evaluated at a system-wide level, ensuring that the transmission cost is uniform regardless of where electricity enters the grid. He wondered

whether this approach is necessary even without federal funding, to ensure an equal transmission rate across the system.

[3:51:08 PM](#)

MR. SCOTT replied that the legislation would eliminate wheeling rates entirely. Instead of a unified transmission charge, the bill proposes that transmission costs be allocated directly on an annual basis to each load-serving entity. At the beginning of each year, each utility would receive a bill from the association detailing their transmission cost responsibility, such as \$25 million for one utility and \$35 million for another. These costs would then be recovered from the load customers. For example, Chugach would receive a bill for its total transmission cost responsibility and would recover these costs from its load customers. This would replace the current system where transmission costs are embedded in energy and demand charges on customer bills, even though no separate transmission charges are itemized. The issue with the current system is not that third parties contribute, but how they contribute. The \$1 per kilowatt-hour or cents per kilowatt-hour wheeling charges act as a tax on the movement of electricity.

[3:53:36 PM](#)

MR. SCOTT moved to slide 4 and spoke to the new freeway system:

[Original punctuation provided.]

**SB 217 Eliminates wheeling rates
(Creates a new "freeway" system)**

Steps

1. Adds up all transmission system costs ("ownership")
2. Allocates those costs on an annual lump-sum basis to each load-serving entity (i.e. utilities) based on their proportionate load ("cost responsibility")
3. Utilities then recover those costs from their rate-payers

MR. SCOTT noted that all transmission system costs would first be pooled into a single bucket. The total costs in this bucket would then be apportioned to each load-serving utility, though the exact method for proportionality is not fully detailed in the legislation. SB 217 would direct the commission to allocate costs based on each utility's proportionate electricity

consumption relative to the total system consumption. Every end user benefits from being part of an integrated grid, which enhances reliability and provides opportunities for transactions that improve ratepayer value. In the final step, each utility would recover its allocated transmission costs from its own customers. Essentially, this replaces the per-kilowatt-hour wheeling charge for electricity movement with a per-kilowatt-hour charge included in the utility's overall billing to its ratepayers. The rate may vary depending on how the cost responsibility is ultimately apportioned.

[3:56:10 PM](#)

CO-CHAIR BISHOP asked for an explanation of the difference between ownership and cost responsibility.

[3:56:34 PM](#)

MR. SCOTT replied that the percentages shown for ownership and cost responsibility are hypothetical, as he did not have time to review filings for the current actual numbers. He explained that entities like AEA, Chugach, MEA, Golden Valley, and Homer own various transmission assets, such as the Alaska Intertie. The costs associated with owning these assets include interest payments, depreciation, and operation and maintenance (O&M) expenses. These ownership costs make up the annual cost of maintaining the assets. If SB 217 becomes law, the cost responsibility for the entire system would be allocated based on percentages determined through a regulatory proceeding. These percentages would be based on load ratio shares and other factors reviewed during the regulatory process.

[3:58:47 PM](#)

MR. SCOTT moved to slide 5 and spoke to the transmission cost allocation approach:

[Original punctuation provided.]

SB 217 Transmission Cost Allocation Approach

- An "Association" made up of all transmission-owning entities calculates total system ownership costs and files a tariff to be regulated by the RCA
- The "Association" is essentially an accounting construct established to manage the cost allocation process
- Alaska's telecom industry employs a similar kind of association currently - the Alaska Exchange

Carriers Association (AECA) - created via AS 42.05.850

- AECA has just one paid employee

MR. SCOTT addressed the cost allocation process and ownership of the transmission tariff under SB 217. He clarified that the tariff would not be levied on a cents per kilowatt-hour basis but as a lump sum to each utility, which would then recover these costs from their customers. The proposed association would comprise all transmission-owning entities. Although it might initially seem intimidating, he likened it to the Alaska Exchange Carriers Association (AECA), established under AS 42.05.850. AECA, an industry association of intra-state and interstate inter-exchange carriers, performs a similar cost and revenue allocation exercise. He noted that AECA's role is essentially an accounting exercise managed with minimal overhead, as it operates with just one employee and files annual tariffs with the Commission. The members, who are the affected inter-exchange carriers, handle the necessary accounting tasks. He emphasized that the intent behind SB 217 is to create a straightforward, low-overhead organization focused on bookkeeping, similar to AECA.

[4:01:17 PM](#)

MR. SCOTT moved to slide 6 and spoke to the taxation process:

[Original punctuation provided.]

SB 217 Addresses Inequitable Tax Burden For Independent Power Producers (IPP)

- Municipal and Cooperative Electric utilities are exempt from state income and local property taxes
- This helps ensure lowest cost of energy, as property taxes are passed along to consumers in their utility rates
- IPPs must recover all costs in the rates they negotiate with purchasing cooperatives or municipal utilities
- Property taxes can be a very substantial portion of those rates
- Existing property tax rates can and do prevent IPP projects from progressing, which ultimately impact ratepayer costs
- No property taxes can be collected from unbuilt or failed power projects

MR. SCOTT said that municipally or cooperatively owned electric utilities are exempt from state income tax and local property taxes. The policy rationale is that without these exemptions, such taxes would be passed on to consumers through higher utility rates. Independent power producers (IPPs), however, must recover all their costs through the rates they negotiate with purchasing cooperatives and municipalities. This means that any taxes imposed on IPPs can significantly increase the rates charged to consumers, potentially making some projects economically unfeasible. This creates an uneven playing field that can hinder project development and negatively impact ratepayers in two ways: by increasing costs for projects that do proceed and by preventing many projects from moving forward at all. MR. SCOTT suggested that if it is reasonable to exempt cooperatives from property taxes on their own generation and transmission assets, it would also make sense to extend this exemption to IPPs selling power to cooperatively owned utilities. Addressing both issues would alleviate a significant burden on project development in the state, delivering greater value to consumers, creating jobs, and fostering a more robust state economy.

[4:04:01 PM](#)

CO-CHAIR GIESSEL concluded invited testimony and opened public testimony on SB 217.

[4:04:39 PM](#)

MATTHEW PERKINS, representing self, Anchorage, Alaska, testified in support of SB 217. He introduced himself as the CEO of Alaska Renewables and said the company is working on several large power plants aimed at providing low-cost, reliable energy to the Railbelt. He sought support for two critical policies: property tax exemptions for independent power producers (IPPs) and the elimination of tariffs between electric cooperatives and IPPs. These changes would help reduce rates, remove barriers to collaboration, and increase competition. The difference between export resource financing and domestic renewable energy market financing. IPP contracts are structured as long-term fixed-price agreements with financial inputs contracted upfront, making any taxes a pass-through cost to consumers. He also noted the importance of removing barriers to collaboration among utilities, citing the pooling of projects like Shovel Creek and Little Mount Susitna as an example that could significantly reduce no-wind periods. He raised concerns about specific issues in the bill's wording: a redundant tax on kilowatt-hours generated by IPPs and ambiguity regarding the removal of wheeling rates. He requested support for these free-market

principles and limited government intervention, and asked for amendments to the bill to eliminate the double tax and ensure the full removal of wheeling tariffs.

SENATOR CLAMAN asked that Mr. Perkins be allowed to briefly address Senator Wielechowski's question.

[4:07:32 PM](#)

MR. PERKINS said that in response to Senator Wielechowski's question about the benefits to Chugach's members or any electric cooperative members, the numbers are indeed calculable. He mentioned that he is working with the dispatch and engineering teams to determine specifics. He emphasized that the broader economic benefit comes from allowing more arbitrage among markets, aligning with fundamental free market principles. The benefit, as shown by their modeling and other reviewed models related to energy on the Railbelt, is significantly greater than minor differences in individual gains, such as one group making 10 cents versus another making 11 cents. In response to Senator Claman's question about transmission costs, he explained that it is most likely that for each project, transmission lines will need to be built, increasing the associated costs. These costs would be included in the total Power Purchase Agreement (PPA) for the project and recovered through the sale of electricity to participating utilities.

[4:09:02 PM](#)

CO-CHAIR BISHOP asked if he is referring to building transmission lines, meaning constructing a line from the project to the substation.

MR. PERKINS replied yes.

[4:09:37 PM](#)

PENNY GAGE, representing self, Anchorage, Alaska, testified in support of SB 217. She introduced herself as the Managing Director for Launch Alaska, a nonprofit focused on accelerating the energy transition by integrating the latest technologies into Alaska's energy, transportation, and industrial sectors. Launch Alaska works with a portfolio of 32 for-profit startup companies from around the world, addressing climate challenges and creating economic opportunities in Alaska. She expressed support for SB 217, particularly the provision that would grant independent power producers (IPPs) the same local tax exemption received by non-profit electric cooperatives. Gage noted that Launch Alaska's CEO, Isaac Vanderburgh, who was appointed by Governor Dunleavy to the Alaska Energy Security Task Force, co-

chaired the incentives and subsidies subcommittee. This tax provision change was a key recommendation in the final report of that task force, which Mr. Vanderburgh championed. The provision would attract private investment, support energy development, and lower energy costs for Alaskans. However, according to a Department of Energy (DOE) report, less than five percent of Alaska's electricity is generated by IPPs, compared to over 40 percent in lower 48 states. SB 217 would send a positive market signal to investors and developers, accelerate the deployment of low-cost renewable energy, level the playing field, diversify the electricity mix, and support job creation.

[4:12:06 PM](#)

DOUG JOHNSON, representing self, Anchorage, Alaska, testified in support of SB 217. He introduced himself as the Director of Development for Ocean Renewable Power Company and said the company has been actively developing hydrokinetic power in Alaska since 2006. SB 217 would provide a thoughtful, elegant, and workable solution to two key problems facing the energy industry. The first problem is the inequity in taxation of independent power producers (IPPs), requiring the need for a level playing field for all power producers. The second issue is the application of wheeling charges across the Railbelt. He highlighted the need for a standardized and proportionate cost recovery mechanism as envisioned in SB 217. The bill offers a straightforward approach to addressing these industry challenges in Alaska. He expressed a desire for the swift resolution of these issues through the passage of SB 217, emphasizing its critical importance to the future of the emerging industry.

[4:13:46 PM](#)

KEN HUCKEBA, representing self, Wasilla, Alaska, testified in opposition to SB 217. He stated that much of the support for SB 217 is based on fictitious claims. He characterized the bill as a 'gold rush grab' for Inflation Reduction Act (IRA) funds by opportunists seeking to advance the transition to green New Deal policies. SB 217 focuses solely on eliminating transmission charges, particularly benefiting independent power producers (IPPs) of solar and wind energy. However, he argued that these energy sources are unreliable, with wind farms producing only around 30 percent of their capacity even on good days. On windless, snow-covered days, they contribute nothing, exacerbating costs for utilities and ratepayers who must back them up with reliable power sources. Existing utilities, owned by ratepayers and cooperatives, are forced to cover the costs associated with the poor performance of these renewable energy sources. He criticized the bill for allowing IPPs to operate

without contributing to the costs of maintaining and upgrading the legacy energy system. The tax savings touted by the bill come from taxpayers and existing infrastructure owners, rather than some external source. He rejected the idea that renewable energy sources are truly lower in cost. Their affordability is a result of subsidies and the absence of charges for the additional impacts they cause. He described SB 217 as a takeover of infrastructure by special interests. He also criticized the use of the term 'stakeholders,' asserting that these entities do not represent ratepayers or taxpayers. The United States is a representative republic that should prioritize the interests of its citizens, not special interest groups or nonprofit NGOs.

[4:16:27 PM](#)

DAVID BRAILEY, representing self, Eagle River, Alaska, testified in support of SB 217. He noted that he is one of the owners of the Juniper Creek hydroelectric system in Eagle River, a 300-kilowatt facility with a 60 percent capacity factor, meaning it operates at full capacity 60 percent of the year. He acknowledged that he could not improve on former Commissioner Scott's explanation of why the bill is beneficial for the grid, independent power producers, and ratepayers. He emphasized that because the bill is good for ratepayers, it is also beneficial for cooperative utilities. He shared his experience, noting that he has been working on his project for about 13 years, though it has not produced electricity for the past three years. He expressed that the Alaska rail belt market is one of the most disadvantageous for independent power producers in the United States. He believes that SB 217 would help level the playing field between independent power producers and utilities, turning things around in favor of a more balanced energy market.

[4:18:11 PM](#)

SENATOR WIELECHOWSKI asked what recommendations could be made to improve the situation so that the state is more open to independent power producers (IPPs) and other potential utility generation options.

[4:18:28 PM](#)

MR. BRAILEY replied that Alaska's Railbelt is one of the few places in the United States where capacity has zero value, despite being allowed by regulation. He noted that no renewable energy producer or independent power producer (IPP) has ever been paid for capacity in the Alaska Railbelt. Zero emissions have no value in Alaska, as there is no market for renewable energy credits. He explained that all power purchase agreements between IPPs and utilities in the state require the IPPs to give

away at least 50 percent to 100 percent of their renewable energy credits. He questioned why a private business would give away something of value and explained that the condition of interconnection, particularly with his utility, Matanuska Electric, forces the IPP to cover all interconnection and integration costs, including building the interconnecting power line. Despite these costs, the utility still takes the renewable energy credit. He described the situation as a monopsony system, where utilities hold all the cards. If an IPP disagrees with the terms of the agreement, they are told to find another buyer, but that option is blocked by pancaking charges that prevent selling to another utility. The system is rigged in favor of the utilities.

[4:20:41 PM](#)

JENN MILLER, representing self, Houston, Alaska, testified in support of SB 217. She stated that she is the CEO of Renewable IPP, an Alaska-grown small business focused on developing, constructing, and operating renewable energy projects in Alaska. She mentioned their Willow and Houston projects and spoke to the company's dual commitment to advancing renewable energy and suppressing energy prices for Alaskans. She said she recently served on the governing Energy Security Task Force, which aligned with their mission to diversify energy generation, improve affordability, and maintain reliability. Independent power producers (IPPs) play a crucial role in this diversification and affordability, while also meeting reliability standards. For their projects to advance, they must agree on power purchase agreements with utilities and remain competitive with current generation costs. The Houston project is currently 10 to 20 percent below the existing cost of generation, making it essential to have a level playing field. SB 217 would equalize their cost base by addressing property taxes and eliminating pancaking charges. This would help reduce their power purchase prices and, in turn, lower costs for utility members. Additionally, having an established tax policy for IPPs would reduce uncertainty for investors and incentivize private investment in new generation projects. This would aid in deploying various energy sources, including wind, solar, and hydro, contributing to a more stable energy supply. She emphasized the urgency of passing this bill to incorporate reduced cost bases into power purchase agreements and pass those savings onto members.

[4:24:24 PM](#)

CO-CHAIR GIESSEL closed public testimony on SB 217.

[4:24:41 PM](#)

CO-CHAIR GIESSEL held SB 217 in committee.

PRESENTATION(S): ALASKA ENERGY AUTHORITY (AEA)

[4:24:44 PM](#)

CO-CHAIR GIESSEL announced the consideration of a presentation by Alaska Energy Authority (AEA).

[4:25:14 PM](#)

CURTIS THAYER, Executive Director, Alaska Energy Authority (AEA), Anchorage, Alaska, moved to slide 2 and presented an overview of AEA:

[Original punctuation provided.]

About AEA

AEA's mission is to reduce the cost of energy in Alaska. To achieve this mission, AEA strives to diversify Alaska's energy portfolio – increasing resiliency, reliability, and redundancy.

Railbelt Energy - AEA owns the Bradley Lake Hydroelectric Project, the Alaska Intertie, and the Sterling to Quartz Creek Transmission Line – all of which benefit Railbelt consumers by reducing the cost of power.

Power Cost Equalization (PCE) - PCE reduces the cost of electricity in rural Alaska for residential customers and community facilities, which helps ensure the sustainability of centralized power.

Rural Energy - AEA constructs bulk fuel tank farms, diesel powerhouses, and electrical distribution grids in rural villages. AEA supports the operation of these facilities through circuit rider and emergency response programs.

Renewable Energy and Energy Efficiency - AEA provides funding, technical assistance, and analysis on alternative energy technologies to benefit Alaskans. These include biomass, hydro, solar, wind, and others.

Grants and Loans - AEA provides loans to local utilities, local governments, and independent power producers for the construction or upgrade of power generation and other energy facilities.

Energy Planning - In collaboration with local and regional partners, AEA provides economic and

engineering analysis to plan the development of cost-effective energy infrastructure.

MR. THAYER stated that Alaska's Railbelt is one of the few places in the United States where capacity has zero value, despite being allowed by regulation. He noted that no renewable energy producer or independent power producer (IPP) has ever been paid for capacity in the Alaska Railbelt. Zero emissions have no value in Alaska due to the absence of a market for renewable energy credits. He explained that all power purchase agreements between IPPs and utilities in the state require the IPPs to give away at least 50 percent to 100 percent of their renewable energy credits. He questioned why a private business would give away something of value and explained that the condition of interconnection, particularly with his utility, Matanuska Electric, forces the IPP to cover all interconnection and integration costs, including building the interconnecting power line. Despite these costs, the utility still takes the renewable energy credit. He described the situation as a monopsony system, where utilities hold all the cards. If an IPP disagrees with the terms of the agreement, they are told to find another buyer, but that option is blocked by pancaking charges that prevent selling to another utility. The system is rigged in favor of the utilities.

[4:28:57 PM](#)

MR. THAYER moved to slide 3 depicting a map that illustrates all the projects AEA operates across Alaska for a specific day or month, highlighting both the Railbelt region and rural areas.

[4:29:13 PM](#)

MR. THAYER moved to slide 4 and explained the Alaska Energy Security Task Force:

[Original punctuation provided.]

Alaska Energy Security Task Force

60+

Subcommittee Meetings

11

Task Force Meetings

150+

Hours of Public Meetings

8

Energy Symposia with 16 hours of OnDemand learning

6

Subcommittees have created over 60 preliminary actions for considerations:

- Railbelt Transmission, Generation, and Storage
- Coastal Generation, Distribution, and Storage
- Rural Generation, Distribution, and Storage
- State Energy Data
- Incentives and Subsidies
- Statutes and Regulations

MR. THAYER stated that the task force, convened by the governor and chaired by the Lieutenant Governor with him serving as a co-chair, included notable members such as Jen Miller and Senator Bishop. The University facilitated 16 hours of energy symposiums that offered educational sessions on topics including PCE, hydro, and nuclear energy. He noted that while there is no single solution for Alaska's energy challenges, the ideas and concepts from the task force have influenced current legislation, including SB 217, reflecting a collaborative effort to address diverse energy needs.

[4:30:49 PM](#)

MR. THAYER moved to slide 6 and described the Bradley Lake Hydroelectric project:

[Original punctuation provided.]

Bradley Lake Hydroelectric Project

- Bradley Lake is **Alaska's largest source of renewable energy**. Energized in 1991, the project is situated 27 air miles northeast of Homer on the Kenai Peninsula.
- The 120 MW facility provides **low-cost energy to 550,000+** members on the Railbelt.
- Bradley Lake's **annual energy production** is ~10 percent of Railbelt electricity at 4.5 cents/kWh (or ~54,400 homes/year) and over \$20 million in savings per year to Railbelt utilities from Bradley Lake versus natural gas.
- AEA, in partnership with the Railbelt utilities, **is studying the Dixon Diversion Project** which would increase the annual energy production of Bradley Lake by 50 percent – or the equivalent of 14,000-28,000 homes.

CAPACITY: 120MW

- Bradley Lake generators are rated to produce up to 120 MW of power

ENERGY: 10 percent

- Bradley Lake generates about 10 percent of the total annual electrical energy used by Railbelt electrical utilities

GENERATION COST PER KWH: \$0.04

- From 1995 through 2023 the project averaged 390,000 MWh of energy production annually at \$0.04 per kWh.

MR. THAYER noted that the Dixon Diversion project would displace 1.5 billion cubic feet of natural gas, or 7.5 percent of the unmet needs by 2030.

[4:32:05 PM](#)

CO-CHAIR GIESSEL asked when the Dixon Diversion project would be completed.

[4:32:14 PM](#)

MR. THAYER replied that AEA is conducting the field season this year and potentially into next year. He anticipated that construction could begin as early as 2026, with a projected completion in 2030.

[4:32:38 PM](#)

SENATOR KAWASAKI asked whether there are maintenance requirements.

[4:33:02 PM](#)

MR. THAYER said that the Bradley Lake Management Committee, consisting of the CEOs of each of the Railbelt utilities and AEA, oversees the management of the Bradley Lake facility. The utilities handle the operation and maintenance (O&M) of the facility through Homer Electric. Bradley Lake, a 32-year-old facility designed for a 100-year lifespan, is well-maintained. Recent work included a comprehensive maintenance review and turbine overhaul, and the facility continues to perform well.

[4:34:05 PM](#)

CO-CHAIR GIESSEL noted that Juneau power is sourced from 100-year-old dams.

[4:34:12 PM](#)

SENATOR CLAMAN asked if the Dixon diversion project is confirmed to proceed. He inquired whether a final decision has been made

or if it is still under study. He wondered about the timeline for construction.

[4:34:25 PM](#)

MR. THAYER replied that the Dixon diversion project is still under study and is approximately 18 months away from a final decision. He explained that the environmental studies related to the Federal Energy Regulatory Commission (FERC) license amendment are ongoing, and no issues have been identified thus far. Regarding construction costs, he noted that the estimated cost has been reduced. Initially, a 14-foot borehole was planned, but testing indicated more seasonal water flow than expected, allowing for an increase in the facility's size. Additionally, the need for a road to the dam diversion has been eliminated since the area is snow-covered for seven months a year; a helicopter can be used instead. The utilities' modeling suggests that the project can be built at a lower cost than producing power from natural gas, and with rising natural gas prices, the project appears promising. Further testing and work will continue this summer.

[4:35:53 PM](#)

SENATOR CLAMAN inquired about funding sources assuming the project moves forward.

[4:36:02 PM](#)

MR. THAYER stated that one potential funding method for the Dixon diversion project is revenue bonds, which AEA could utilize based on a power sales agreement for the sale of electricity. This approach is similar to how Bradley Lake was financed. Additionally, there is a federal grant available through the EPA for up to \$342 million, which AEA plans to apply for. Although this grant is considered a long shot and does not require a state match, AEA is pursuing it as an option. He reiterated that the most straightforward approach remains the power sales agreement.

[4:36:39 PM](#)

SENATOR CLAMAN commented that he hopes the federal grant application is not merely a "Hail Mary."

[4:36:42 PM](#)

MR. THAYER replied that there is a competitive process for those federal dollars.

[4:36:47 PM](#)

CO-CHAIR BISHOP acknowledged the potential impact of the data presented. He highlighted that with 120 megawatts (MW) from the project, it represents 10 percent of the total power on the Railbelt. If Susitna were utilized, it could increase to up to 70 percent, potentially replacing all the gas-generated power on the Railbelt.

[4:37:10 PM](#)

MR. THAYER replied that is correct.

[4:37:17 PM](#)

MR. THAYER moved to slide 7 and highlighted the Alaska Intertie:

[Original punctuation provided.]

Alaska Intertie

- AEA owns the **170-mile Alaska Intertie transmission line that runs between Willow and Healy**. The line operates at 138 kV (it was designed to operate at 345 kV) and includes 850 structures.
- A **vital section of the Railbelt transmission system**, the Intertie is the only link for transferring power between northern and southern utilities.
- The Intertie transmits power north into the Golden Valley Electric Association (GVEA) system and provides Interior customers with low-cost, reliable power – between 2006 and 2023, the Intertie **saved GVEA customers an average of \$36 million annually**.
- The Intertie provides benefits to Southcentral customers as well through **cost savings and resilience to unexpected events**.
- Constructed in the mid-1980s with \$124 million in State of Alaska appropriations, there is no debt associated with the Alaska Intertie.

MR. THAYER noted that noted that the Alaska Intertie, spanning 170 miles from Windward to Healy, was constructed in the mid-1980s to connect South Central Alaska with Fairbanks. This intertie enables Fairbanks to purchase power more economically from the Railbelt, resulting in annual savings of approximately \$36 million for Bonavista customers. The intertie benefits South Central customers through cost savings and increased resilience

during unexpected events, such as severe cold weather in January. He emphasized the need for modernization of the transmission infrastructure. The SSQ line, which includes Sterling, Scott, and Port St. Peninsula, was built in 1969 and has not been updated since. Currently, it supports only 75 megawatts, while Bradley's 120-megawatt power plant operates at full capacity. To accommodate additional renewable sources such as solar, wind, or tidal energy, the transmission lines must be upgraded to handle the increased load.

[4:38:01 PM](#)

MR. THAYER moved to slide 8 and explained the need to modernize the Railbelt Transmission system:

[Original punctuation provided.]

Railbelt Transmission System Urgently Needs Modernization

The majority of the Railbelt transmission system was constructed over 40 years ago. A resilient, reliable, and redundant Railbelt transmission system is not only achievable but also necessary to create the needed capacity to integrate additional renewable energy in the future.

Grid Forming

A grid with alternate paths will increase reliability, resiliency, and fuel diversification.

Fuel Savings

Upgrades and alternate paths will reduce line losses.

Energy Security

Natural or other events can isolate cities or regions from energy

Generation Changes

New renewable energy projects are not located in existing cities. New transmission to connect new renewable projects to existing transmission paid for by projects. However, existing transmission must be upgraded to transmit energy to and between the Railbelt regions.

MR. THAYER said that there is an urgent need to modernize the transmission system, particularly the SSQ line, which

includes Sterling, Scott, and Port St. Peninsula. This line, built in 1969, has not been updated since its construction. Currently, the line supports only 75 megawatts, while Bradley's power plant operates at full capacity with 120 megawatts. To integrate additional renewable sources such as solar, wind, or tidal energy, the state must upgrade the transmission lines. He spoke to a photo showing part of the SSQ line, which depicts a helicopter removing an old pole; part of an agreement with Alaska Fish and Wildlife when the line was purchased. As a commitment to being good neighbors, the line was removed within two years of the agreement, even though the deadline was set for five years. This demonstrates AEA's dedication to maintaining positive relations and ensuring that upgrades are well-regarded by all stakeholders.

[4:39:11 PM](#)

MR. THAYER moved to slide 9 and elaborated on GRIP funding:

[Original punctuation provided.]

**Grid Resilience and Innovation Partnerships (GRIP):
HDVC Line**

\$413 Million (206.5 Million Federal and \$206.5 Million Alaska Match)

AEA secured \$206.5 million for GRIP Topic Area 3: Grid Innovation through the United States Department of Energy's Grid Deployment Office. A cost share of 100 percent, or \$206.5 million, is required for a total project amount of \$413 million. The Railbelt Innovation Resiliency project will construct a high - voltage direct current (HDVC) submarine cable to serve as a parallel transmission route from the Kenai Peninsula to Anchorage, creating a much -needed redundant system in case of disruptive events.

Anticipated outcomes and benefits include:

Increases transfer capacity between regions that enables higher renewable energy integration into the electricity system.

Improves resilience and reliability for tribal and disadvantaged communities in the Railbelt region, and a reduction in reliance on fossil fuel generation and associated emissions.

Supports the retention of high-quality jobs in the region, including 650 highly paid jobs with competitive employer -sponsored benefits. Creates apprenticeship and internship programs to train a new generation of line workers and wireworkers to reinvigorate Alaska's energy workforce.

MR. THAYER said that the major focus is on the GRIP funding, which aims to install a High Voltage Direct Current (HVDC) line from Kenai to Beluga, crossing beneath Cook Inlet. This line, highlighted by the broken yellow line on the map, has a total projected cost of \$413 million, with \$206.5 million covered by a federal grant and an equal amount required as a cost match from other sources. The initial and most critical phase of the project involves the HVDC line, which will provide essential redundancy. In contrast to the lower 48 states, where redundancy requirements are more stringent, we have been relying on a single line for over 40 years. For example, during the recent SSQ line fire, power was cut off for four months, costing northern utilities an additional \$12 million due to the inability of existing infrastructure to handle the load. Similarly, during recent winter storms, a week-long outage between Goodwood and Whittier highlighted the vulnerabilities of our current system. The HVDC line is crucial for improving grid resilience. In the GRIP funding cycle, there were 700 applications, and our project was awarded the fifth highest amount in the nation. This success is a testament to the collaborative effort of the utilities and their collective support for the grant application. Securing this funding represents a significant step forward, but AEA still needs to secure the remaining funds to complete the project.

[4:41:26 PM](#)

CO-CHAIR GIESSEL asked for confirmation of her understanding that it makes that imperative for funding.

MR. THAYER replied yes.

[4:41:34 PM](#)

MR. THAYER replied that it is not necessary to secure all the funding within the first year. The Department of Energy requires a commitment to the total funding but will match contributions as they are made. For example, if we contribute \$20 million, they will provide an additional \$20 million. The project follows a bell curve in terms of funding: initial costs will ramp up, particularly during the ordering and construction phases of the HVDC line, and then decrease as the project progresses. The

project is planned to span eight years, though there are several challenges, including securing a manufacturer for the HVDC line. Only five companies worldwide can produce this technology, and we are competing with other HVDC projects both nationally and globally. Despite these challenges, the aim is to complete the project within the eight-year timeframe unless an extension is mandated by legislative action, which is not the current plan.

[4:42:27 PM](#)

SENATOR CLAMAN inquired about the state match of \$206.5 million, asking if it needs to be provided over the course of the eight-year project, rather than in the first year.

[4:42:41 PM](#)

MR. THAYER replied that is correct. He said the full amount is not required in the first year. However, by years three and four, we will need to reach peak cash flow levels. This is due to the requirement to pay 20 percent upfront when ordering the HVDC line, with the remainder due as production progresses over the following three to four years, given the lead time involved.

[4:43:03 PM](#)

CO-CHAIR GIESSEL commented that the revenue does not increase.

[4:43:08 PM](#)

SENATOR CLAMAN asked whether the state is the only entity that can provide the match, or if utility companies could bond and provide the match independently of state funding.

[4:43:21 PM](#)

MR. THAYER replied that the match simply needs to be identified; it does not have to come solely from the state. It can be comprised of a combination of sources.

[4:43:37 PM](#)

CO-CHAIR BISHOP noted concerns about the reliability of legislative commitments. He said his goal is to secure all necessary funding this year with broad support to demonstrate a strong commitment to upgrading the transmission line. He expressed this sentiment based on historical information he has shared with his office.

[4:44:11 PM](#)

MR. THAYER expressed his appreciation for that sentiment.

[4:44:21 PM](#)

MR. THAYER moved to slide 10 and elaborated on the Dixon Diversion project:

[Original punctuation provided.]

Dixon Diversion Project

\$5-7 Million for Studies and \$342 Million for Construction

AEA is studying the Dixon Diversion Project to optimize the energy potential of the AEA-owned Bradley Lake Hydroelectric Project. Like the West Fork Upper Battle Creek Diversion Project, the Dixon Diversion Project would divert water from Dixon Glacier in order to increase Bradley Lake's annual energy production by 50 percent.

- Located five miles from Bradley Lake and would utilize existing powerhouse at Bradley Lake
- Estimated annual energy 100,000-200,000 MWh (~24,000-30,000 homes)
- Estimated to offset 1.5-1.6 billion cubic feet of natural gas per year in Railbelt power generation (equal to 7.5 percent of Alaska's unmet natural gas demand projected for 2030)
- Estimated completion is 2030
- *Funding will be used for engineering studies (feasibility, hydrological, geological) and environmental studies (fisheries, water quality, geomorphology).

MR. THAYER said that the Dixon diversion project, which is currently underway, involves several components visible on the map. The project includes Bradley Lake (marked in orange), where the dam would be raised, and the powerhouse located above the dam. The Dixon diversion, fed by Nuka Glacier and flowing into Martin River, is shown as a hot pink line indicating a five-mile diversion from Martin River to Bradley Lake. This diversion aims to raise the dam by 14 feet. The project's estimated cost is \$342 million. The primary benefit is a 50 percent increase in Bradley Lake's capacity, which would offset 1.5 billion cubic feet of natural gas used in Cook Inlet. Currently, engineering, feasibility, hydrology, and environmental studies, including fisheries and water quality assessments, are in progress. Since the project is an amendment to an existing license rather than a new license, the approval process is streamlined. There is

consideration of whether the project could be completed by 2029, although the current target is 2030. Displacing as much natural gas as possible remains a key objective.

[4:46:01 PM](#)

MR. THAYER moved to slide 11 and explained the SSQ transmission lines:

[Original punctuation provided.]

**Sterling to Quartz (SSQ) and Soldotna to Sterling
Transmission Lines**

\$90 Million (Under Construction)

In 2020, AEA acquired the SSQ Transmission Line, a critical component of the interconnected Railbelt transmission system on the Kenai Peninsula, as part of the Bradley Lake Hydroelectric Project.

- **Location** - 39.4 miles of 115 kilovolt (kV) transmission and out of use 69 kV transmission from Sterling to Quartz substation (Kenai Lake)
- **Benefits** - AEA ownership ensures better cost alignment, increase reliability, and more timely repairs and upgrades
- **Status** - 69 kV line decommissioned & removed. Engineers are designing and are procuring equipment for the upgrade of the existing 115 kV line to 230 kV. Upgrade will reduce line losses, increase line reliability and system resiliency
- **Cost** - Estimated cost to upgrade line to 230 kV standards is \$63 million for SSQ and \$27 million for Soldotna to Sterling

MR. THAYER said the next item is the Sterling to Port Creek SSQ transmission lines, highlighted by the broken yellow line on the map. This transmission line connects the Homer system to Chugach, which is currently upgrading their system to 230 kV. The Sterling to Port Creek line, however, has not been upgraded in 55 years and is the weakest link in the system. The map shows the two lines coming out of Homer and the connection to the SSQ line. The project involves a 40-mile transmission line upgrade, which cost about \$2 million several years ago. When AEA bonded against Bradley, excess payments from debt service utilities were used for required project work. The Department of Law has classified this transmission line upgrade as required project

work, so there is no cost to the state treasury or ratepayers, as it involves reallocating existing funds. The project is currently in progress, with ongoing procurement and engineering activities.

[4:47:54 PM](#)

SENATOR DUNBAR asked if, once the HVDC line is complete, there will be a consideration to reroute power through the HVDC line to Anchorage, bypassing the Sterling line and the existing lines coming from Homer.

[4:48:11 PM](#)

MR. THAYER replied that it goes back to needing redundancy - two lines to move power. Beluga has one line and Heely has two lines to Fairbanks.

[4:48:40 PM](#)

SENATOR DUNBAR asked if, once the HVDC line is complete, there will be a consideration to reroute power through the HVDC line to Anchorage, bypassing the Sterling line and the existing lines coming from Homer.

[4:49:07 PM](#)

MR. THAYER replied that having redundancy with two lines and two circuits is essential for reliable power transmission. The ultimate goal is to connect the HVDC line up to Beluga and then consider adding another HVDC line from Beluga to Healy. This would provide redundancy throughout the system, extending reliability all the way to Fairbanks, while maintaining the two lines from Healy through Fairbanks.

[4:49:50 PM](#)

MR. THAYER moved to slide 12 and explained the battery energy storage system:

[Original punctuation provided.]

Battery Energy Storage Systems for Grid Stabilization

\$194 Million Total Cost (\$57 Million Current Available Funds)

- **Scope**

- The BESS projects consist of an upgrade to the existing BESS system in the North, and also new BESS systems in the Southern, and Central regions of the grid. The Northern BESS is located at Fairbanks, the Southern BESS is located in Kenai, the Central Region

BESS will be located at Anchorage. BESS will be needed to fully realize the benefits of a 230 kV bulk power supply system, regulate energy from various generation, and increase resilience.

- **Schedule**
 - Estimated completion date is 2026:
 - Southern (Kenai) - In service
 - Central (Anchorage) - October 2024
 - Northern (Fairbanks) - To be determined
- **Budget**
 - Estimated cost is up to \$194 million (depending on technology choices and capacity)
- **Benefits**
 - Increase system resilience, transfer capability, more efficient use of system and lowering impediments to additional renewable generation development

MR. THAYER noted that part of the \$166 million bonding accounts for \$57 million allocated for battery energy storage systems. The total cost to install these systems across all three locations is approximately \$194 million, indicating that they are currently only a quarter of the way funded. Homer currently has its system in service, while Anchorage's system is under construction with an expected completion date of October 2024. AEA is collaborating with Chugach and MEA to determine the ownership structure, particularly in terms of maximizing tax credit benefits, which could potentially cover up to 50 percent of the costs through tax credits. This is part of the Infrastructure Investment and Jobs Act (IIJA) and Inflation Reduction Act (IRA) funding mechanisms that are being explored. He pointed out that the battery in Fairbanks is 20 years old and only lasts seven minutes, whereas the new battery in Anchorage will have a two-hour capacity for 440 megawatts, and Kenai will have a 40-megawatt battery with a two-hour capacity. For Anchorage and Fairbanks, the battery systems consist of Tesla batteries housed in what appear to be white, 20-foot-long Conex containers laid side by side. These systems can be expanded by simply adding more connected units. These batteries will eliminate the need for spinning reserves, where natural gas generators are kept running in anticipation of power outages. Instead, the battery will provide that reserve power. The battery systems will help address minor frequency issues, including those associated with the Bradley Lake hydroelectric facility. Although the frequency issues have been largely

engineered out, the batteries will further stabilize the system. Bradley Lake was designed to have three pits with 40-megawatt generators. However, only two 60-megawatt generators were installed, which has led to frequency issues that have since been mitigated. The implementation of battery storage is the final step in addressing these engineering challenges.

[4:52:44 PM](#)

MR. THAYER moved to slide 13 and spoke to the Grid Resilience Formula Grant Program:

[Original punctuation provided.]

Grid Resilience Formula Grant Program, IIJA 40101(d)

\$60 Million (Over Five Years)

Per IIJA section 40101(a)(1),⁸ a disruptive event is defined as "an event in which operations of the electric grid are disrupted, preventively shut off, or cannot operate safely due to extreme weather, wildfire, or a natural disaster."

- Over the next five years, Alaska will receive **\$60 million in federal formula grants** to catalyze projects to increase grid resilience against disruptive events. In August 2023, **the first two years of allocations, \$22.2 million**, was awarded to AEA. AEA's competitive solicitation for these funds closed in February 2024. Notification of sub-awards are expected Q2 2024, pending DOE approval. For fiscal year 2025, AEA requested **\$17,627,018**, Alaska's formula allocation for year 3, in Federal Receipt Authority and **\$1,816,579** in matching funds.
- Resilience measures include but are not limited to:
 - Relocating or reconductoring powerlines
 - Improvements to make the grid resistant to extreme weather
 - Increasing fire resistant components
 - Integrating distributed energy resources like microgrids and energy storage
- Formula-based funding requires a **15 percent state match and a 33 percent small utility match**.

MR. THAYER stated that the state legislature has been very generous over the past three years. It provided \$1.8 million in

matching funds, while AEA leveraged to secure \$39 million in federal funds. The purpose of this program is to implement resilience measures for utilities, such as relocating and reconnecting power lines, enhancing resistance to extreme weather, and installing fire-resistant components. These improvements will benefit not just the Railbelt but areas across the state. Once the program is fully implemented, over \$60 million will have been allocated to these resilience measures. He mentioned that the first portion of funding, totaling \$22 million, was closed on February 16. AEA is currently working through the process to allocate an additional \$40 million this spring. Furthermore, they anticipate receiving another \$17 million later this year, which will also be distributed similarly to their Renewable Energy Project (REP) program. The overall goal is to ensure that over \$60 million will be invested in facilities statewide to bolster their resilience against various challenges.

[4:53:52 PM](#)

MR. THAYER moved to slide 15 and spoke to the EV Infrastructure Implementation Plan:

[Original punctuation provided.]

State of Alaska Electric Vehicle (EV) Infrastructure Implementation Plan

- AEA and the Alaska Department of Transportation & Public Facilities (DOT&PF), continue their partnership in deploying the **State of Alaska EV Infrastructure Implementation Plan (The Plan)**.
- The **first round of Alaska NEVI awards was announced on September 25, 2023**. AEA and DOT&PF selected projects in nine communities for a total investment of \$8 million. The \$6.4 million in NEVI funding will be matched with \$1.6 million from private entities selected to install, own, and operate the new EV charging stations.
- On September 29, 2023, the Federal Highway Administration approved the fiscal year 2024 plan. This **unlocked \$11 million in addition to \$19 million** available in the fiscal years 2022 and 2023.
- Phases 2 and 3 of The Plan will develop charging infrastructure in more than 30 communities along the **Marine Highway System** and in hub communities as funding allows.

MR. THAYER said that federal funding opportunities for electric vehicle (EV) infrastructure amount to \$52 million, administered through the Alaska Department of Transportation & Public Facilities (DOT&PF). AEA developed an EV plan and has taken the lead in managing this funding, with DOT handling the back-office accounting. This arrangement has enabled \$20 million to be allocated for immediate projects. The primary focus is on creating an alternative fuel corridor between Anchorage and Fairbanks, which will feature nine charging stations. Plans include extending the network south to Homer and north to the Dalton Highway, as well as incorporating the marine highway system. Communities served by the marine highway are eligible for EV charging stations in their ports and service areas, although not on the ferries themselves. AEA's EV plan was among the top six in the country, leading to an early allocation of funds due to the plan's high quality. The Federal Highway Administrator specifically highlighted Alaska in the announcement of the funding.

[4:55:19 PM](#)

MR. THAYER moved to slide 16 and spoke to home energy rebate allocations:

[Original punctuation provided.]

Home Energy and High Efficiency Rebate Allocations

AEA is collaborating with the Alaska Housing Financing Corporation to distribute Alaska's allocation of \$74 Million

Home Efficiency Rebates

- Rebates for energy efficiency retrofits range from \$2,000-\$4,000 for individual households and up to \$400,000 for multifamily buildings.
- Grants to states to provide rebates for home retrofits.
- Up to \$2,000 for retrofits reducing energy use by 20 percent or more, and up to \$4,000 for retrofits saving 35 percent or more.
- Maximum rebates amounts are doubled for retrofits of low-and moderate-income homes.
- **Alaska's Allocation is \$37.4 million.**
- **No State match is required.**

- Funding is estimated to be available between fall 2024 and spring 2025.

Home Electrification and Appliance Rebates

- Develop a high efficiency electric home rebate program.
- Inclusive of means testing and will provide 50 percent of the project cost for incomes ranging from 80 percent to 150 percent of area median income. Rebates to cover 100 percent of the proposed cost for incomes 80 percent of area medium income and below, with similar tiers applied for multifamily buildings.
- Includes a \$14,000 cap per household, with an \$8,000 cap for heat pump costs, \$1,750 for a heat pump water heater, and \$4,000 for electrical panel/service upgrade.
- Other eligible rebates include electric stoves, clothes dryers, and insulation/air sealing measures.
- **Alaska's Allocation is \$37.1 million.**
- **No State match is required.**
- **Funding is estimated to be available between fall 2024 and spring 2025.**

MR. THAYER added that Alaska Housing has taken the lead and AEA would perform some of the accounting. However, the money will not be available until late 2024-2025.

[4:56:27 PM](#)

MR. THAYER moved to slide 17 and summarized the Black Rapids Training Site (BRTS) Defense Community Infrastructure Pilot program:

[Original punctuation provided.]

Black Rapids Training Site (BRTS) Defense Community Infrastructure Pilot Program

\$15.7 Million

AEA partnered with Golden Valley Electric Cooperative (GVEA) was awarded this grant from the Office of Local Defense Community Cooperation under the Defense Community Infrastructure Pilot Program. **Federal Receipt Authority of \$12.7 Million received in fiscal**

year 2024. A \$3 million supplemental budget request was submitted by AEA to complete additional work requested by the Department of Defense. No State match is required.

GVEA will use the funds to extend a transmission line 34 miles along the Richardson Highway to BTRS. Currently, BTRS is powered by three diesel generators that are nearing the end of their useful lives. This extension will improve long-term sustainability and reliability for BTRS by tying them into GVEA's power grid.

MR. THAYER noted that no state match is required and highlighted the quick turnaround of the application process, which resulted in securing the grant.

[4:57:14 PM](#)

MR. THAYER moved to slide 17 and listed other federal funding opportunities:

[Original punctuation provided.]

Other Federal Funding Opportunities

Energy Efficiency Revolving Loan Fund - \$4.5 million

\$4,569,780 to establish and capitalize a revolving loan fund, under which the State shall provide loans and grants for residential energy audits, upgrades, and retrofits to increase energy efficiency, physical conform and air quality of existing building infrastructure. AEA will administer the program in collaboration with the Alaska Housing Finance Corporation (AHFC).

State Energy Program - \$3.6 million

\$3,661,930 to develop Statewide Energy Plan and Statewide Energy Security Profile, as well as (1) update AkWarm Energy Modeling Software to the requirements imposed by the Inflation Reduction Act and (2) modernize Alaska Retrofit Information Systems database to accept the AkWarm modifications in collaboration with AHFC.

Electric Vehicle (EV) Charging Equipment Competitive - \$1.6 million

\$1,670,000 to (1) increase access to vehicle electrification in multiple rural and underserved communities across Alaska; (2) demonstrate the benefits of EVs to key decision-makers and the broader public to accelerate clean transportation transition; and (3) support the development of community charging equipment. A 20 percent match is required, shared by AEA and project partners. Funds will become available in Fall 2023.

State-Based Home Energy Efficiency Contractor Training Grant Program - \$1.3 million

\$1.3 million to fund a State-Based Home Energy Efficiency Contractor Training Grant Program to develop and implement a state workforce energy program that prepares workers to deliver energy efficiency, electrification, and clean energy improvements, including those covered by the Inflation Reduction Act Home Energy Rebate Programs.

MR. THAYER reiterated that AEA will partner with Alaska Housing to administer the programs.

[4:58:21 PM](#)

MR. THAYER moved to slide 19 and discussed solar for all competition:

[Original punctuation provided.]

Solar For All Competition

\$100 Million (Application Pending)

- **AEA and AHFC collaborating to develop a Statewide Solar Program:**
- AEA focus on development of community solar projects in disadvantaged communities using a Renewable Energy Fundstyle grant program.
 - AHFC focus on residential rooftop solar for low income households.
- **Program benefits include:**
 - energy cost savings, increased resiliency, equitable access to solar, asset ownership benefits low income and disadvantaged, communities, workforce development, and reduction in greenhouse gas emissions.

- This is a competitive grant program – no match required.
- AEA and AHFC submitted an application for a \$100 million grant.

MR. THAYER said that, excluding bonding funds and the Bradley Lake project, AEA has secured over \$635 million in federal funds, resulting in a 1,000 percent budget increase over the past four years. This figure does not include GRIP funding or additional funds for the current year. Partnering with AHFC, the initiative also aims to support residential rooftop solar for low-income housing. If successful, the grant could bring in an additional \$100 million, potentially increasing their total to \$750 million, with no state match required. AEA expects to know the outcome by late this month or early next month.

[4:59:58 PM](#)

MR. THAYER moved to slide 21 and explained the Power Cost Equalization (PCE) program:

[Original punctuation provided.]

Power Cost Equalization (PCE)

The PCE program was established in 1984 as one of the components of a statewide energy plan.

The cost of electricity for Alaska's rural residents is notably higher than for urban residents. PCE lowers the cost of electric service paid by rural residents. Ultimately ensuring the viability of rural utilities and the availability of reliable, centralized power.

750 kWh: RESIDENTIAL

Residential customers are eligible for PCE credit up to 750 kWhs per month.

70 kWh: PUBLIC FACILITIES

Community facilities can receive PCE credit for up to 70 kWhs per month multiplied by the number of residents in a community.

\$42M: FUNDS DISBURSED

In the fiscal year 2024, AEA disbursed \$42 million to rural electric utilities for the benefit of rural communities

MR. THAYER mentioned that when he and his colleague began their roles, noting that their focus was initially on specific objectives outlined in their original mission slides. However, over the past four years, AEA's responsibilities have expanded significantly, including initiatives such as bonding and other projects. He provided a brief recap of the Power Cost Equalization (PCE) program, explaining that it provides up to 750 kilowatts of energy support for residential customers, while public facilities receive 70 kilowatts. He reported that AEA dispersed \$42 million under this program, with the funding source being the endowment.

[5:00:29 PM](#)

MR. THAYER moved to slide 22 and spoke to power system upgrades:

[Original punctuation provided.]

Rural Power Systems Upgrades and Bulk Fuel Upgrades*

AEA and Federal Partners, Denali Commission (*\$2 Million)

Rural Power Systems Upgrade

- Capital Budget - \$2.5 Million
- ~197 Eligible communities
- 35 Active projects

Bulk Fuel Upgrade

- Capital Budget - \$2 Million
- ~400 Rural bulk fuel facilities
- 35 Active projects

MR. THAYER acknowledged the challenges associated with Rural Power System Upgrades, noting that there are 197 eligible communities with 35 active projects. He referenced the Rewarding Efforts to Decrease Unrecycled Contaminants in Ecosystems (REDUCE) Act project, explaining that while there should be three generators on-site, only two are operational because one is outside the building and not in use. He emphasized that staying ahead of maintenance for these powerhouses is a significant challenge, with approximately \$300 million in deferred maintenance. There are 400 bulk fuel facilities, which are owned by the communities rather than the state. However, the state, through the Alaska Energy Authority (AEA), has assumed greater responsibility for these projects. He clarified that while the statute permits the state to take on this role, it is

not mandatory, but AEA has consistently provided support. There is a capital budget request similar to last year's, with federal matching dollars available for these projects. He highlighted the efforts made by the team, including conducting inventory assessments of the powerhouses, traveling to each site, creating 3D models, and digitizing all manuals. This digitization allows technicians to remotely access detailed information about the equipment, such as the hours of operation and specific manual pages, to troubleshoot issues efficiently. The team is applying the same approach to bulk fuel tanks and working with the Coast Guard to ensure compliance in these facilities.

[5:01:56 PM](#)

MR. THAYER moved to slide 23 and reviewed the electric emergency response:

[Original punctuation provided.]

Electric Emergency Response

Capital Request: General Fund - \$200,000

AEA provides support when an electric utility has lost or will lose the ability to generate or transmit power to its customers and the condition is a threat to life, health, and/or property. Funding provides the current level of technical support through the Electrical Emergencies Program.

- During the fiscal year 2023 there were six (6) electrical emergencies. Power was restored within 24 hours in each case.
- The average cost of an electrical emergency assistance is approximately \$45,000 each

MR. THAYER explained that as deferred maintenance in rural powerhouses continues to accumulate, the need for funding to address electrical emergencies is likely to increase. Although the average cost of addressing an electrical emergency has been around \$45,000, one community experienced an emergency over Christmas that may require close to \$200,000 in assistance. AEA maintains a watch list of certain communities that do not have access to an Alaska Village Electric Cooperative (AVEC) or another utility and rely solely on a clerk and an operator. These communities have been identified as likely to face issues. To prepare for potential emergencies, AEA has stockpiled essential items like oil filters and other necessary equipment

in their warehouse, tailored to the specific needs of each community's powerhouse.

[5:03:00 PM](#)

CO-CHAIR BISHOP commended AEA for its prompt response during emergencies. He shared that when the Yukon River flood took out the Yukon power plant, AEA acted swiftly.

[5:03:18 PM](#)

MR. THAYER moved to slide 24 and spoke to the Renewable Energy Fund (REF):

[Original punctuation provided.]

Renewable Energy Fund (REF)

AEA, in concert with the REF Advisory Committee, has forwarded to the Legislature a capitalization request of \$32 million for Round 16 of the REF. An appropriation of \$32 million would fully fund all 24 recommended projects. Funding approval for the REF is at the discretion of the Legislature and Governor.

REF Highlights

- Round 13: 11 Projects - \$4.75M
- Round 14: 27 Projects - \$15M
- Round 15: 18 Projects - \$17M
- Round 16: 24 Projects - Pending

- \$317 million invested in the REF by the State since inception.
- 100+ operational projects and 60 are in development.

The Department of Energy recently announced \$125 million for solar and hydroelectric projects in rural Alaska – several of these projects benefited from seed money from REF totaling almost \$12 million.

MR. THAYER noted that AEA has provided seed money for several projects in these areas. Specifically, the \$12 million invested by AEA has successfully leveraged \$225 million in federal funds for these projects. The Renewable Energy Project (REP) program yields significant returns, noting that it has displaced 85 million gallons of diesel since its inception. The program has gone through several funding rounds in recent years. Last year,

the legislature funded Round 16 with \$17 million. The Renewable Energy Advisory Committee, composed of five public members and four legislators, recommended \$32 million in funding, which is currently pending before the legislature. The governor's budget includes a \$5 million allocation for the program, down from \$7 million the previous year. The projects are ranked in priority order, which aids in determining funding decisions. This prioritization helps ensure that the most critical and impactful projects receive the necessary support.

[5:04:25 PM](#)

MR. THAYER moved to slide 25 and spoke to the Power Project Fund (PPF) Loan Program:

[Original punctuation provided.]

Power Project Fund (PPF) Loan Program

The PPF loan program continues to see an increase in applications due to federal matching fund requirements and other incentives. The Inflation Reduction Act provides tax credits of up to 40 percent. A fund capitalization of \$25 million would allow for additional funds needed to support the increased demand in funding.

Outstanding Loans

- \$31 Million
- 16 Loans

Uncommitted Cash Balance

- Program in abeyance until additional capital is secured

Pending Applications

- \$755,500
- Loans Under Review

Competitive Rates

- Current PPF Interest Rate
- 5.43 percent as of March 2024

MR. THAYER noted that the project has no existing delinquencies. The program features patient capital with a 12-month rolling average interest rate of 5.43 percent. He highlighted several projects supported by the fund, including solar projects in Hope and Houston, a wind farm in Delta Junction, and a cogeneration unit at Baxter Senior Living in Anchorage. The fund has been committed fully, and they are working on cash flow analysis to

accommodate smaller loans. The program has been successful, not only because it provides funding for projects but also because it helps communities meet federal match requirements. Overall, the PPF loan program has proven to be a successful initiative.

[5:05:32 PM](#)

MR. THAYER moved to slide 26 and showed a photo of the AEA team.

[5:06:02 PM](#)

MR. THAYER moved to slide 27:

[Original punctuation provided.]

Susitna-Watana At-A-Glance

The proposed Susitna-Watana Hydroelectric Project is a large hydro project that would provide long-term stable power for generations of Alaskans. The project would result in approximately 70 percent of the power generated in the Railbelt originating from renewable sources, up from the current 15 percent – a nearly four-fold increase.

Dam Height - 705 feet
Dam Elevation - 2,065 Feet
Reservoir Length - ~42 miles
Reservoir Width- ~1.25 miles
Installed Capacity - 618 MW
Annual Energy - 2,800,000 MWh
Cost - ~\$5.6 billion (2014\$)

MR. THAYER noted that the project is located north of Donkey Creek, 22 miles downstream from Devils Canyon. The proposed dam would have a height of 700 feet and a length of 2,000 feet, with an installed capacity of 618 megawatts. The estimated cost of the project in 2014 was \$5.6 billion, although this figure may have changed and will need to be updated. He highlighted the need to explore any available tax credits or other programs that could impact the project's financials. The Susitna-Watana project could potentially meet 50 percent of the current Railbelt energy demand. This would significantly reduce the risk of energy shortages and enhance energy security.

[5:06:43 PM](#)

MR. THAYER moved to slide 28 and explained the purpose of the Susitna-Watana project:

[Original punctuation provided.]

Why Susitna-Watana?

50 percent estimated supply of current Railbelt energy demand

100+ years is the project life providing long-term, stable rates

\$11.2 billion estimated energy cost savings (\$2014) over first 50 years

The Susitna-Watana Hydroelectric Project would offset the need for 22.6 billion cubic feet per year of Cook Inlet natural gas if it were operational today.

[5:07:17 PM](#)

SENATOR DUNBAR inquired about the permitting process for the project.

[5:07:28 PM](#)

MR. THAYER moved to slides 29 - 31 and spoke to the history of Susitna-Watana:

[Original punctuation provided.]

Susitna-Watana History

1950s

First studies conducted by U.S Bureau of Reclamation

1980s

Alaska State studies project but oil prices cause state to postpone

2010

50 percent Renewable Energy Goal by 2025

2011

Alaska Legislature unanimously authorizes Alaska Energy Authority to pursue Susitna-Watana Hydro

2012

Studies begin on Susitna River and surrounding areas

2017

Licensing Abeyance

2019

Abeyance Rescinded

MR. THAYER noted that if the Susitna-Watana project were in operation, it would displace 22.6 billion cubic feet of natural gas. Initial reports from the 1950s identified the location as a potential hydro project before natural gas was discovered in the

inlet. The project was revisited in the 1980s as part of the state's renewable energy goals. By 2010, the state aimed to achieve 50 percent renewable energy, but current levels are closer to 32-33 percent. In 2011, the legislature approved \$200 million in funding to pursue the FERC licensing process for Susitna-Watana. Currently, the project is about two-thirds complete in the licensing process, with an estimated \$80 to \$100 million needed to finalize it. He mentioned the need to update these figures and verify the validity of existing studies, as FERC's standards have evolved and become more supportive of dam projects. The studies for Susitna-Watana began in 2012, but by 2017, the project was placed on hold with no further funds expended.

[5:08:49 PM](#)

MR. THAYER moved to slide 32 and highlighted job opportunities in Susitna-Watana:

Susitna-Watana Employment Opportunities

Pre-Construction Employment

~5,000 Direct jobs
~3,870 Indirect jobs

Construction Employment

~12,000 Direct jobs
~11,305 Indirect jobs

Operations Employment (Life of Project)

~24-28 Direct jobs
~105 Indirect jobs

MR. THAYER estimated that the project would create approximately 17,000 direct jobs and 15,000 indirect jobs.

[5:09:02 PM](#)

MR. THAYER moved to slide 33 and spoke to a visual depicting the timeline of the Susitna-Watana project. In response to Senator Dunbar's previous question, he explained that while the pre-application phase for review takes about two-to-three years, the overall timeline for construction and operation would likely extend to 15 to 20 years. The construction phase itself is projected to last nine-to-11 years. He compared the project's timeline to the Iceland model, noting that large hydro projects in Iceland were developed about 40 years ago, whereas discussions about Susitna-Watana began around the same time and have yet to come to fruition.

5:10:57 PM

There being no further business to come before the committee, Co-Chair Giessel adjourned the Standing Senate Resources Committee meeting at 5:10 p.m.