

State of Alaska FY2024 Governor's Operating Budget

Department of Commerce, Community, and Economic Development Alaska Energy Authority Owned Facilities Component Budget Summary

Component: Alaska Energy Authority Owned Facilities

Contribution to Department's Mission

Management and development of AEA owned infrastructure.

Major Component Accomplishments in 2022

Alaska Intertie Project: AEA owns the Alaska Intertie, a 170-mile long, 345 kilovolt (kV) transmission line between Willow and Healy, which saves Golden Valley Electric Association ratepayers \$30 million annually by purchasing lower cost electricity generated by Cook Inlet natural gas and the Bradley Lake Hydroelectric Project. As the owner, AEA is also an active member of the Intertie Management Committee (IMC). In FY2020, the IMC completed a study of an electromechanical oscillation on the Railbelt, including the Intertie, which may pose a threat to system stability. AEA directly manages the snow load monitoring system and the static Volt Ampere Reactive compensator service contract, both of which support the proper operation of the Intertie allowing for continued energy cost savings.

Bradley Lake Hydroelectric Project: Alaska's largest renewable energy project is the Bradley Lake Hydroelectric Project. At approximately 4.5 cents per kilowatt-hour (kWh), it provides the least expensive power on the Railbelt. Following the successful completion of the West Fork Upper Battle Creek Diversion project in 2020, AEA is studying the Dixon Diversion Project, which would divert water from Dixon Glacier increasing the annual energy production of Bradley Lake by 50 percent, or the equivalent of 14,000-28,000 homes. Also in 2020, AEA completed the acquisition of the Sterling to Quartz Creek Transmission line as part of the Bradley Lake Project ensuring better alignment of interests for the operation of the Project in the future. This segment is under design to double the transmission voltage, which will allow more energy and less losses to flow through it. AEA continues to examine required project work opportunities and how to add to/expand the project while increasing the use of renewable energy within Alaska's Bulk Electric System.

Electric Reliability Organization: The Alaska Legislature passed SB 123 in 2020, a culmination of years of work to implement institutional reform in the Railbelt region of the State. SB 123 mandates the creation of an Electric Reliability Organization (ERO) to carry out specific duties for the entirety of the interconnected bulk power system. The Railbelt utilities, in accordance with the legislative efforts, have created a Railbelt Reliability Council (RRC), which was approved by the Regulatory Commission of Alaska in September 2022 to become the ERO. AEA is a member of the RRC and serves on its board of directors. As such, AEA must devote significant staff resources towards the development of foundational documents for this new entity. The Alaska Intertie and the Bradley Lake Hydroelectric Project are integral components of the bulk power system. Prudent management of these state-owned assets requires AEA to play a significant role in whatever regulations are ultimately promulgated at the Regulatory Commission of Alaska.

Transmission Congestion Mitigation: AEA made significant strides towards improving the reliability of the Railbelt bulk power system with the purchase of the Sterling to Quartz Creek Transmission Line. Through this purchase, AEA is better aligned with future efforts to deliver infrastructure improvements at reasonable costs. With that in mind, AEA and the Railbelt utilities announced plans to bond by end of the calendar year an estimated \$175 million on transmission line upgrades at no additional cost to ratepayers and with no burden on the State treasury. These transmission projects will reduce the constraints on the Railbelt grid by improving the Kenai Peninsula's transmission capacity to export power from Bradley Lake, while also allowing for the integration of additional renewable energy generation. From a stability grid perspective, the construction and coordination of a Battery Energy Storage Systems, or BESS, in the southern, central, and northern regions will reassert control over the grid operating point (frequency) and mitigate the small signal instability that occurs between Bradley Lake Hydroelectric Project and the grid. These projects will be the initial phase of some of the most significant improvements to the Railbelt electrical grid in Alaska's history. Funding for the projects is coming from payments by the five Railbelt utilities in excess of those required to retire the Bradley Lake project bonds pursuant to the Power Sales Agreement. These projects include:

- Soldotna to Quartz Creek Transmission Line Upgrade (115 kilovolts (kV) to 230 kV)
- University to Quartz Creek Transmission Line Upgrade (115 kV to 230 kV)
- Bradley Junction to Soldotna parallel 115 kV Transmission Line

- Battery Energy Storage Systems

The case for transmission upgrades has never been stronger. A resilient Railbelt transmission system is achievable and necessary to allow for better use of Bradley Lake’s potential and the integration of renewable energy projects. This will be the largest transmission line work in the last 30 years.

Key Component Challenges

Identification of Renewable Energy Opportunities: AEA continues to explore ways to provide economically viable solutions in energy production development that improve resiliency and diversify the state’s energy supply. This includes investigation of opportunities to remove constraints to the lowest-cost energy production facility on the Railbelt and expand its capacity. AEA is looking at the feasibility stage of the Dixon Diversion Project that could increase the Bradley Lake Hydroelectric Project by 50 percent on the Railbelt. The cost is estimated to be between \$400-600 million, depending on which option is most economically viable. Continual study funding has not been secured.

Statewide Grid Resilience and Reliability (IIJA Formula Funds): AEA is responsible for standing up a competitive program, similar to the Renewable Energy Fund program, to disburse \$60 million of Infrastructure Investment and Jobs Act (IIJA) funding. AEA is working with utilities to identify and fund transmission projects around the state that will help catalyze projects that increase grid resilience against disruptive events. Project funding will be partially through IIJA Section 40101 formula grants to states, which will provide \$12.1 million in federal funds (which will require a 15 percent match from the State) to Alaska on an annual basis for the next five years.

Transmission Congestion: The Alaska Railbelt Grid will experience significant changes over the next few years. These changes will be driven by the creation of an Electric Reliability Organization that will oversee reliability standards, integrated resource planning, and project siting and approval; rapidly changing loads due to population shifts, electric vehicle use and beneficial electrification; and renewable energy price competitiveness compared to traditional power generation. These change mechanisms often result in transmission congestion, e.g. transmission limitations that restrict the security-constrained economic dispatch of electric power. AEA has participated in planning, design, construction, and management of Railbelt assets, including transmission lines. Over the next several years, AEA will work with Railbelt stakeholders to develop and implement solutions to relieve transmission congestion within the Railbelt. AEA in partnership with the Railbelt utilities, have identified required project work with an anticipated capital budget of an estimated \$175 million to increase reliability, decrease line loss, and allow for increased power transmission to the Railbelt. Challenges include finding enough skilled labor, significant equipment cost inflation, and supply chain problems creating wait times into years for critical equipment.

Significant Changes in Results to be Delivered in FY2024

No significant result changes at this time.

Statutory and Regulatory Authority

AS 44.83	Alaska Energy Authority
AS 37.07.020(e)	State Facilities Operations and Maintenance
3 AAC 105	Alaska Energy Authority

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Component Detail All Funds
Department of Commerce, Community, and Economic Development

Component: Alaska Energy Authority Owned Facilities (2599)
RDU: Alaska Energy Authority (453)

Non-Formula Component

	FY2022 Actuals	FY2023 Conference Committee	FY2023 Authorized	FY2023 Management Plan	FY2024 Governor	FY2023 Management Plan vs FY2024 Governor	
71000 Personal Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
72000 Travel	0.0	30.0	30.0	22.5	22.5	0.0	0.0%
73000 Services	609.5	737.7	738.3	745.8	745.8	0.0	0.0%
74000 Commodities	0.0	8.0	8.0	8.0	8.0	0.0	0.0%
75000 Capital Outlay	0.0	5.0	5.0	5.0	5.0	0.0	0.0%
77000 Grants, Benefits	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
78000 Miscellaneous	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Totals	609.5	780.7	781.3	781.3	781.3	0.0	0.0%
Fund Sources:							
1107 AEA Rcpts (Other)	609.5	780.7	781.3	781.3	781.3	0.0	0.0%
Unrestricted General (UGF)	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Designated General (DGF)	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Other Funds	609.5	780.7	781.3	781.3	781.3	0.0	0.0%
Federal Funds	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Positions:							
Permanent Full Time	0	0	0	0	0	0	0.0%
Permanent Part Time	0	0	0	0	0	0	0.0%
Non Permanent	0	0	0	0	0	0	0.0%

Change Record Detail - Multiple Scenarios with Descriptions
Department of Commerce, Community, and Economic Development

Component: Alaska Energy Authority Owned Facilities (2599)

RDU: Alaska Energy Authority (453)

Scenario/Change Record Title	Trans Type	Totals	Personal Services	Travel	Services	Commodities	Capital Outlay	Grants, Benefits	Miscellaneous	Positions		NP
										PFT	PPT	
***** Changes From FY2023 Conference Committee To FY2023 Authorized *****												
FY2023 Conference Committee												
1107 AEA Rcpts	ConfCom	780.7	0.0	30.0	737.7	8.0	5.0	0.0	0.0	0	0	0
		780.7										
Transfer Unallocated Rate Adjustments to AEA Owned Facilities												
1107 AEA Rcpts	Unalloc	0.6	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0	0	0
		0.6										
Subtotal		781.3	0.0	30.0	738.3	8.0	5.0	0.0	0.0	0	0	0
***** Changes From FY2023 Authorized To FY2023 Management Plan *****												
Align Authority with Anticipated Expenditures												
LIT		0.0	0.0	-7.5	7.5	0.0	0.0	0.0	0.0	0	0	0
Align authorization for anticipated expenditures in the travel line, consistent with the FY2023 Travel Plan.												
Subtotal		781.3	0.0	22.5	745.8	8.0	5.0	0.0	0.0	0	0	0
***** Changes From FY2023 Management Plan To FY2024 Governor *****												
Totals		781.3	0.0	22.5	745.8	8.0	5.0	0.0	0.0	0	0	0

Line Item Detail (1676)
Department of Commerce, Community, and Economic Development
Travel

Component: Alaska Energy Authority Owned Facilities (2599)

Line Number	Line Name		FY2022 Actuals	FY2023 Management Plan	FY2024 Governor
2000	Travel		0.0	22.5	22.5
Object Class	Servicing Agency	Explanation	FY2022 Actuals	FY2023 Management Plan	FY2024 Governor
2000 Travel Detail Totals			0.0	22.5	22.5
2000	In-State Employee Travel	In-State Transportation - Transportation costs for travel relating to administration, meetings, boards and commissions.	0.0	20.9	20.9
2002	Out of State Employee Travel	Out-of-State Transportation - Transportation costs for travel relating to administration, meetings, boards and commissions.	0.0	1.6	1.6

Line Item Detail (1676)
Department of Commerce, Community, and Economic Development
Services

Component: Alaska Energy Authority Owned Facilities (2599)

Line Number	Line Name		FY2022 Actuals	FY2023 Management Plan	FY2024 Governor
3000	Services		609.5	745.8	745.8
Object Class	Servicing Agency	Explanation	FY2022 Actuals	FY2023 Management Plan	FY2024 Governor
3000 Services Detail Totals			609.5	745.8	745.8
3001	Financial Services	Accounting, auditing, management consulting, grantee monitoring, loan servicing and insurance related services.	0.0	10.0	10.0
3004	Telecommunications	Local, long distance, and cellular telephone charges, television, data/network, telecommunication equipment, and other wireless charges from outside vendors.	0.0	1.5	1.5
3006	Delivery Services	Freight, courier services, and postage.	0.0	1.0	1.0
3007	Advertising and Promotions	Advertising, promotions and legal notices.	0.0	1.0	1.0
3011	Other Services	Other professional services.	0.0	82.3	82.3
3038	Inter-Agency Management/Consulting	Commerce - AIDEA (1234) Alaska Industrial Development and Export Authority support.	609.5	600.0	600.0
3038	Inter-Agency Management/Consulting	Commerce - AIDEA (1234) Bradley Lake and Battle Creek Administrative Fee.	0.0	50.0	50.0

Line Item Detail (1676)

**Department of Commerce, Community, and Economic Development
Commodities**

Component: Alaska Energy Authority Owned Facilities (2599)

Line Number	Line Name		FY2022 Actuals	FY2023 Management Plan	FY2024 Governor
4000	Commodities		0.0	8.0	8.0
Object Class	Servicing Agency	Explanation	FY2022 Actuals	FY2023 Management Plan	FY2024 Governor
4000 Commodities Detail Totals			0.0	8.0	8.0
4000	Business	Supplies for office, library, training, and instructional needs, including small equipment, tools and subscriptions.	0.0	7.0	7.0
4002	Household/Institutional	Cleaning, food, and other household supplies.	0.0	1.0	1.0

Line Item Detail (1676)

**Department of Commerce, Community, and Economic Development
Capital Outlay**

Component: Alaska Energy Authority Owned Facilities (2599)

Line Number	Line Name		FY2022 Actuals	FY2023 Management Plan	FY2024 Governor
5000	Capital Outlay		0.0	5.0	5.0
Object Class	Servicing Agency	Explanation	FY2022 Actuals	FY2023 Management Plan	FY2024 Governor
5000 Capital Outlay Detail Totals			0.0	5.0	5.0
5004	Equipment	Equipment and furniture.	0.0	5.0	5.0

Revenue Detail (1681)

Department of Commerce, Community, and Economic Development

Component: Alaska Energy Authority Owned Facilities (2599)

Revenue Type (OMB Fund Code) Revenue Source	Component	Comment	FY2022 Actuals	FY2023 Management Plan	FY2024 Governor
5107 AEA Rcpts (1107 AEA Rcpts)			609.5	781.3	781.3
5420 Alaska Energy Authority Corporate Receipts		Administration fees project support revenues for owned facilities, including Bradley Lake, Battle Creek, and the Alaska Intertie.	609.5	781.3	781.3

Inter-Agency Services (1682)

Department of Commerce, Community, and Economic Development

Component: Alaska Energy Authority Owned Facilities (2599)

	FY2022 Actuals	FY2023 Management Plan	FY2024 Governor
Component Totals	609.5	650.0	650.0
With Department of Commerce, Community, and Economic Development	609.5	650.0	650.0

Object Class	Servicing Agency	Explanation	FY2022 Actuals	FY2023 Management Plan	FY2024 Governor
3038 Inter-Agency Management/Consulting	Commerce - AIDEA (1234)	Alaska Industrial Development and Export Authority support.	609.5	600.0	600.0
3038 Inter-Agency Management/Consulting	Commerce - AIDEA (1234)	Bradley Lake and Battle Creek Administrative Fee.	0.0	50.0	50.0