

State of Alaska FY2025 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 2023

Railbelt Transmission Line and Battery Energy Storage Systems (BESS) Upgrades: AEA and the Railbelt utilities have bonded \$166 million for Bradley Lake Hydroelectric Project (Bradley Lake) Required Project Work. Transmission line work will use 65 percent of the funds and BESS will utilize the remaining 35 percent. These enhancements will reduce line losses, increase capacity, and improve the delivery of power from the Bradley Lake to Railbelt consumers. 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 comes from payments by the five Railbelt utilities above those required to retire the Bradley Lake project bonds. The total cost of upgrades is estimated in the hundreds of millions. These projects include:

- Upgrade transmission line between Bradley Lake and Soldotna Substation
- Upgrade transmission line between Soldotna Substation and Sterling Substation
- Upgrade transmission line between Sterling Substation and Quartz Creek Substation
- Battery Energy Storage Systems for Grid Stabilization

A resilient Railbelt transmission system is achievable and necessary to allow for better use of Bradley Lake's potential and renewable energy integration. This will be the largest transmission line work in 30 years.

AEA removed an out of use 69 kilovolt-ampere (kVA) transmission line that extended through miles of multiple property owners. Removal will allow easier upgrade of the AEA-owned 115 kVA transmission line to 230 kVA standards (Sterling to Quartz Creek substations) and cleanup site control documents.

AEA and the Railbelt utilities submitted proposals for hundreds of millions of dollars in grant funds in response to the United States Department of Energy (USDOE) Requests for Proposals for grid resiliency projects. To date, AEA has been successful in receiving federal funds for grid resilience and is currently in negotiation for a large federal USDOE award for transmission upgrades.

Dixon Diversion Project: AEA is studying the Dixon Diversion Project to optimize the energy potential of the AEA-owned Bradley Lake Hydroelectric Project. Similar to the West Fork Upper Battle Creek Diversion Project, the Dixon Diversion Project would divert water from Dixon Glacier. This would increase Bradley Lake's annual energy production by 50 percent, or 24,000-30,000 homes. Summer 2023 water measurements confirm energy estimates. It would be the largest renewable project in Alaska in 30 years. The project could be constructed and operational in 10 years.

Statewide Grid Resilience and Reliability (IIJA Formula Funds): AEA is the sole state entity for the State of Alaska to apply for, receive, and administer the Infrastructure Investment and Jobs Act (IIJA) Section 40101(d) federal funds. AEA was awarded \$22,174,492 for federal fiscal years (FFY) 2022 and 2023, part of approximately \$60.5 million allocated over five years to implement a wide range of resilience measures intended to mitigate the impact of disruptive events, including:

- Weatherization technologies and equipment;
- Fire-resistant technologies and fire prevention systems;
- Monitoring and control technologies;
- Undergrounding of electrical equipment;
- Utility pole management;
- Relocation of power lines or the re-conductoring of power lines with low-sag, advanced conductors;
- Vegetation and fuel-load management;

- Use or construction of distributed energy resources for enhancing system adaptive capacity during disruptive events, including:
 - Microgrids; and
 - Battery-storage subcomponents;
- Adaptive protection technologies;
- Advanced modeling technologies;
- Hardening of power lines, facilities, substations, of other systems; and
- Replacement of old overhead conductors and underground cables.

Funding may also be used for the training, recruitment, retention, and retraining of skilled and properly credentialed workers in order to perform the work required for the resilience measures listed above.

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 which could increase the energy produced by the Bradley Lake Hydroelectric Project by 50 percent on the Railbelt. The total project cost is estimated to be between \$300-450 million, depending on which option is most economically viable. Partial funding of \$5 million for Dixon Diversion was appropriated in FY2024.

Transmission Congestion: The Alaska Railbelt Grid will experience significant changes over the next few years. These changes include 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, has identified required project work 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 FY2025

The Alaska Energy Authority (AEA) has been selected for a \$206.5 million grant from the USDOE for a Railbelt Innovative Resiliency Project. Match of \$206.5 million is required. AEA, the Railbelt utilities, and the Regulatory Commission of Alaska (RCA) are partners in this project as collaborative decision makers representing all primary transmission owners and operators of Alaska's largest electrical grid (the Railbelt). Alaska is at a critical transition point with a once-in-a-generation opportunity to build resiliency and develop a fuel-diverse, low-carbon economy, by investing in essential electric infrastructure. The USDOE funds for grid resiliency provide a federal funding opportunity to defray a portion of the total estimated cost of required upgrades.:

- Installation of High Voltage Direct Current (HVDC) submersible cable connecting the Kenai Peninsula to the Central Region (Anchorage and Mat-Su Valley).
- Installation of new Battery Energy Storage Systems (BESS) at Central and Northern (Fairbanks) regions.

The parallel transmission and batteries will enable energy to more reliably travel from one region to another and allow additional clean energy sources to connect on the transmission grid system.

These projects will provide jobs and other economic development opportunities throughout the Railbelt representing some of the most significant improvements to the Railbelt electrical grid in Alaska's history.

Statutory and Regulatory Authority

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

Contact Information

Contact: Curtis W. Thayer, Executive Director
Phone: (907) 771-3000
E-mail: cthayer@akenergyauthority.org

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

	FY2023 Actuals	FY2024 Enrolled	FY2024 Authorized	FY2024 Management Plan	FY2025 Governor Adjusted Base	FY2025 Governor	FY2024 Management Plan vs FY2025 Governor	
1000 Personal Services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
2000 Travel	0.0	22.5	22.5	47.5	47.5	47.5	0.0	0.0%
3000 Services	652.3	745.8	745.8	720.8	970.8	1,128.5	407.7	56.6%
4000 Commodities	0.0	8.0	8.0	8.0	8.0	18.0	10.0	125.0%
5000 Capital Outlay	0.0	5.0	5.0	5.0	5.0	5.0	0.0	0.0%
7000 Grants, Benefits	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
8000 Miscellaneous	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Totals	652.3	781.3	781.3	781.3	1,031.3	1,199.0	417.7	53.5%
Fund Sources:								
1107 AEA Rcpts (Other)	652.3	781.3	781.3	781.3	1,031.3	1,199.0	417.7	53.5%
Unrestricted General (UGF)	0.0	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	0.0%
Other Funds	652.3	781.3	781.3	781.3	1,031.3	1,199.0	417.7	53.5%
Federal Funds	0.0	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	0.0%
Permanent Part Time	0	0	0	0	0	0	0	0.0%
Non Permanent	0	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 FY2024 Enrolled To FY2024 Authorized *****												
FY2024 Enrolled												
1107 AEA Rcpts	Enrolled	781.3	0.0	22.5	745.8	8.0	5.0	0.0	0.0	0	0	0
	Subtotal	781.3	0.0	22.5	745.8	8.0	5.0	0.0	0.0	0	0	0
***** Changes From FY2024 Authorized To FY2024 Management Plan *****												
Align Authority with Anticipated Expenditures												
	LIT	0.0	0.0	25.0	-25.0	0.0	0.0	0.0	0.0	0	0	0
Align authorization for anticipated expenditures in the travel and services lines, consistent with the FY2024 Travel Plan.												
	Subtotal	781.3	0.0	47.5	720.8	8.0	5.0	0.0	0.0	0	0	0
***** Changes From FY2024 Management Plan To FY2025 Governor Adjusted Base *****												
Align Owned Facilities Management and Support with Anticipated Receipts												
1107 AEA Rcpts	IncM	250.0	0.0	0.0	250.0	0.0	0.0	0.0	0.0	0	0	0
The Alaska Energy Authority (AEA) owns multiple facilities in Alaska: the Bradley Lake Hydroelectric Project, the Alaska Intertie, and the Railbelt Transmission Line and Battery Energy Storage Systems. Operation and maintenance for these assets is funded by reimbursement from Railbelt utilities and received as AEA Corporate Receipts.												
Additional authority in contractual services is needed to cover the increased costs and resources to support the owned assets and complete required project work. This authority will support payroll costs for staff specifically working towards optimizing the energy resource potential at Bradley Lake and adding a new Railbelt hydroelectric project that will contribute significant amounts of reliable, low-cost renewable energy into the Railbelt system.												
	Subtotal	1,031.3	0.0	47.5	970.8	8.0	5.0	0.0	0.0	0	0	0
***** Changes From FY2025 Governor Adjusted Base To FY2025 Governor *****												
Add Authority for Senior Staff Accountant (08-#146) to Support Operation and Maintenance of Owned Facilities (FY25-FY27)												
1107 AEA Rcpts	IncT	167.7	0.0	0.0	157.7	10.0	0.0	0.0	0.0	0	0	0
The Alaska Energy Authority (AEA) owns multiple facilities in Alaska: the Bradley Lake Hydroelectric Project, the Alaska Intertie, and the Railbelt Transmission Line and Battery Energy Storage Systems. Operation and maintenance for these assets is funded by reimbursement from Railbelt utilities and received as AEA Corporate Receipts.												
Managing the financial operations of the assets and the associated revenue recovery from the utilities is complex and requires additional staff support. Positions in support of the AEA are budgeted in the Alaska Industrial Development and Export Authority (AIDEA) and funded through an annual reimbursable services												

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		
										PFT	PPT	NP
agreement. Authority for the position is added in the AEA and the position is added in AIDEA. This request includes \$25.0 for annual statewide core services costs for the position and \$10.0 for one-time startup commodity costs for the position.												
The following position is added: Full-time Senior Accountant, 08-#146, range 18/20, located in Anchorage												
	Totals	1,199.0	0.0	47.5	1,128.5	18.0	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		FY2023 Actuals	FY2024 Management Plan	FY2025 Governor
2000	Travel		0.0	47.5	47.5
Object Class	Servicing Agency	Explanation	FY2023 Actuals	FY2024 Management Plan	FY2025 Governor
2000 Travel Detail Totals			0.0	47.5	47.5
2000	In-State Employee Travel	In-State Transportation - Transportation costs for travel relating to administration, meetings, boards and commissions.	0.0	42.2	42.2
2002	Out of State Employee Travel	Out-of-State Transportation - Transportation costs for travel relating to administration, meetings, boards and commissions.	0.0	5.3	5.3

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

Component: Alaska Energy Authority Owned Facilities (2599)

Line Number	Line Name		FY2023 Actuals	FY2024 Management Plan	FY2025 Governor
3000	Services		652.3	720.8	1,128.5
Object Class	Servicing Agency	Explanation	FY2023 Actuals	FY2024 Management Plan	FY2025 Governor
3000 Services Detail Totals			652.3	720.8	1,128.5
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	57.3	297.3
3038	Inter-Agency Management/Consulting	Commerce - AIDEA (1234) Alaska Industrial Development and Export Authority support.	602.3	600.0	767.7
3038	Inter-Agency Management/Consulting	Commerce - AIDEA (1234) Bradley Lake and Battle Creek Administrative Fee.	50.0	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		FY2023 Actuals	FY2024 Management Plan	FY2025 Governor
4000	Commodities		0.0	8.0	18.0
Object Class	Servicing Agency	Explanation	FY2023 Actuals	FY2024 Management Plan	FY2025 Governor
4000 Commodities Detail Totals			0.0	8.0	18.0
4000	Business	Supplies for office, library, training, and instructional needs, including small equipment, tools and subscriptions.	0.0	7.0	17.0
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		FY2023 Actuals	FY2024 Management Plan	FY2025 Governor
5000	Capital Outlay		0.0	5.0	5.0
Object Class	Servicing Agency	Explanation	FY2023 Actuals	FY2024 Management Plan	FY2025 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	FY2023 Actuals	FY2024 Management Plan	FY2025 Governor
5107 AEA Rcpts (1107 AEA Rcpts)			652.3	781.3	1,211.9
5420 Alaska Energy Authority Corporate Receipts		Administration fees project support revenues for owned facilities, including Bradley Lake, Battle Creek, and the Alaska Intertie.	652.3	781.3	1,211.9

Inter-Agency Services (1682)

Department of Commerce, Community, and Economic Development

Component: Alaska Energy Authority Owned Facilities (2599)

	FY2023 Actuals	FY2024 Management Plan	FY2025 Governor
Component Totals	652.3	650.0	817.7
With Department of Commerce, Community, and Economic Development	652.3	650.0	817.7

Object Class	Servicing Agency	Explanation	FY2023 Actuals	FY2024 Management Plan	FY2025 Governor
3038 Inter-Agency Management/Consulting	Commerce - AIDEA (1234)	Alaska Industrial Development and Export Authority support.	602.3	600.0	767.7
3038 Inter-Agency Management/Consulting	Commerce - AIDEA (1234)	Bradley Lake and Battle Creek Administrative Fee.	50.0	50.0	50.0