CHUGACH ELECTRIC ASSOCIATION, INC.
ANCHORAGE, ALASKA

OPERATIONS COMMITTEE MEETING

AGENDA

Jim Nordlund, Chair
Dan Rogers, Vice Chair
Sisi Cooper, Director
Susanne Fleek-Green, Director
Mark Wiggin, Director

March 18, 2026 | **4:00 P.M.** | **Chugach Board Room**

I. CALL TO ORDER *(4:00 p.m.)*
   A. *Roll Call*
II. APPROVAL OF THE AGENDA* *(4:05 p.m.)*
III. APPROVAL OF THE MINUTES* *(4:10 p.m.)*
   A. *January 21, 2026 (Mankel)*
IV. PERSONS TO BE HEARD *(4:10 p.m.)*
   A. *Member Comments*
V. NEW BUSINESS *(4:25 p.m.)*
   A. *Bylaw Change – Membership Fee** (Wilkson) (4:25 p.m.)*
   B. *Reliability Report (Laughlin/M.Miller) (4:40 p.m.)*
   C. *Decarbonization Program Update (D. Highers) (5:00 p.m.)*
   D. *Gas Supply Update (Rudeck/Herrmann) (5:15 p.m.)*
VI. DIRECTOR COMMENTS *(5:30 p.m.)*
VII. EXECUTIVE SESSION* *(scheduled) (5:45 p.m.)*

(Recess 20-minutes)

   A. *Gas Supply Update (Rudeck/Herrmann/Szymoniak) (6:05 p.m.)*
VIII. NEW BUSINESS *(none)*
IX. ADJOURNMENT* *(7:00 p.m.)*

* ***Denotes Action Items***
** ***Denotes Possible Action Items***
3/17/2026 2:23:27 PM

CHUGACH ELECTRIC ASSOCIATION, INC.
Anchorage, Alaska

January 21, 2026
Wednesday
4:00 p.m.

OPERATIONS COMMITTEE MEETING

Recording Secretary: Amanda Mankel

I. CALL TO ORDER

Chair Nordlund called the Operations Committee meeting to order at 4:02 p.m. in the boardroom of Chugach Electric Association, Inc., 5601 Electron Drive, Anchorage, Alaska.

A. Roll Call

Committee Members Present:
Jim Nordlund, Chair
Dan Rogers, Vice Chair
Mark Wiggin, Director
Sisi Cooper, Director – *via teleconference*
Susanne Fleek-Green, Director, *arrived at 4:13 p.m.*

Board Members Present:
Katherine Jernstrom, Director
Rachel Morse, Director, *arrived at 4:18 p.m.*

Guests and Staff Attendance Present:

Arthur Miller	Trish Baker	David Caye
Sherri Highers	Randall Chicola	Nikki Giordano
Matthew Clarkson	Kate Ayers	Emily Mueller
Andrew Laughlin	Whitney Wilkson	Dan Herrmann
Allan Rudeck	Sean Skaling	Michael Truex, McMillen
Katie Millen	Eugene Ori	Samantha Owen, McMillen
Nick Szymoniak	Julie Hasquet	Julia Rosset, McMillen
Dustin Highers	Bart Armfield	Tom Wiley, Member
Dusty Menefee	Mark Henspeter	Bernie Smith, Member

Via Teleconference:

Stephanie Huddell	Heather Slocum	George Donart, Member
Sandra Cacy		

II. APPROVAL OF THE AGENDA

Director Rogers moved, and Director Wiggin seconded the motion to approve the agenda. The motion passed unanimously.

Director Fleek-Green was not present at the time of the vote.

III. APPROVAL OF THE MINUTES

Director Wiggin moved, and Director Rogers seconded the motion to approve August 13, 2025, Operations Committee Meeting minutes. The motion passed unanimously.

Director Fleek-Green was not present at the time of the vote.

IV. PERSONS TO BE HEARD

Bernie Smith, member, thanked Chugach for the detailed BRU report, discussed deadline for drilling, commented in support of the Hydro Plan, and gave a brief update on the MAC meeting.

V. NEW BUSINESS**

A. Beluga River Unit

1. 2025 BRU Performance Report (Armfield)

Bart Armfield, Consultant, presented the report and answered questions from the Committee

Director Fleek-Green arrived at 4:13 p.m.
Director Morse arrived at 4:18 p.m.

2. ARO and Reserve Update (Herrmann)

Dan Herrmann, Manager, Natural Gas and Energy Resources, presented the update and answered questions from the Committee.

B. Hydro Projects Communications Plan (D. Highers/Hasquet/Owen)

Dustin Highers, VP Corporate Programs, Julie Hasquest, Sr. Manager, Corporate Communications, Samantha Owen, McMillen, and Michael Truex, McMillen, presented the plan and answered questions from the Committee.

C. Gas Supply Update (Rudeck/Herrmann)

Allan Rudeck, Chief Strategic Officer, and Dan Herrmann, Manager, Natural Gas and Energy Resources, presented the update and answered questions from the Committee.

VI. DIRECTOR COMMENTS

Director comments were made at this time.

VII. EXECUTIVE SESSION*

A. Gas Supply Update (Rudeck/Herrmann)

At 6:15 p.m., Director Wiggin moved, and Director Rogers seconded that pursuant to Alaska Statute 10.25.175(c)(1) and (3), the Board of Directors go into executive session to: 1) discuss and receive reports regarding matters the immediate knowledge of which would clearly have an adverse effect on the finances of the cooperative; and 2) discuss with its attorneys matters the immediate knowledge of which could have an adverse effect on the legal position of the cooperative. The motion passed unanimously.

The meeting reconvened in open session at 7:16 p.m.

VIII. NEW BUSINESS (NONE)

IX. ADJOURNMENT

At 7:17 p.m., Director Fleek-Green moved, and Director Wiggin seconded the motion to adjourn. The motion passed unanimously.

CHUGACH ELECTRIC ASSOCIATION, INC.
Anchorage, Alaska

BYLAWS COMMITTEE MEETING
AGENDA ITEM SUMMARY

March 18, 2026

ACTION REQUIRED **AGENDA ITEM NO. V.A.**

____ **Information Only**
__X__ **Motion**
____ **Resolution**
____ **Executive Session**
____ **Other**

TOPIC

Proposed amendments to the Chugach Electric Association Articles of Incorporation and Bylaws authorizing the Board of Directors to establish and update the membership fee from time to time.

DISCUSSION

The Chugach Board of Directors and the Bylaws Committee recommend amendments to the Chugach Electric Association Articles of Incorporation and Bylaws related to the membership fee.

Chugach's membership fee has not been updated in more than 50 years. Currently, the Articles of Incorporation establish a fixed membership fee of five dollars ($5.00). Because the fee amount is specified in the Articles, any adjustment requires approval through a formal membership vote to amend the Articles. As a result, the Board does not currently have the ability to update the membership fee from time to time to ensure it continues to represent a fair and reasonable ownership investment for new members joining the cooperative.

The proposed amendments would authorize the Board of Directors to establish and update the membership fee from time to time through Board action. This approach aligns Chugach's governance documents with common cooperative practices and allows the Board to ensure that new members make an ownership contribution that remains fair and balanced for the cooperative and its members.

This proposal does not change electric rates, and existing members would see no change to their membership status or the fee required for such membership. Rather, the amendment simply provides the Board with the ability to ensure that new members establishing service make an appropriate ownership contribution consistent with cooperative principles.

Under the proposed revisions:

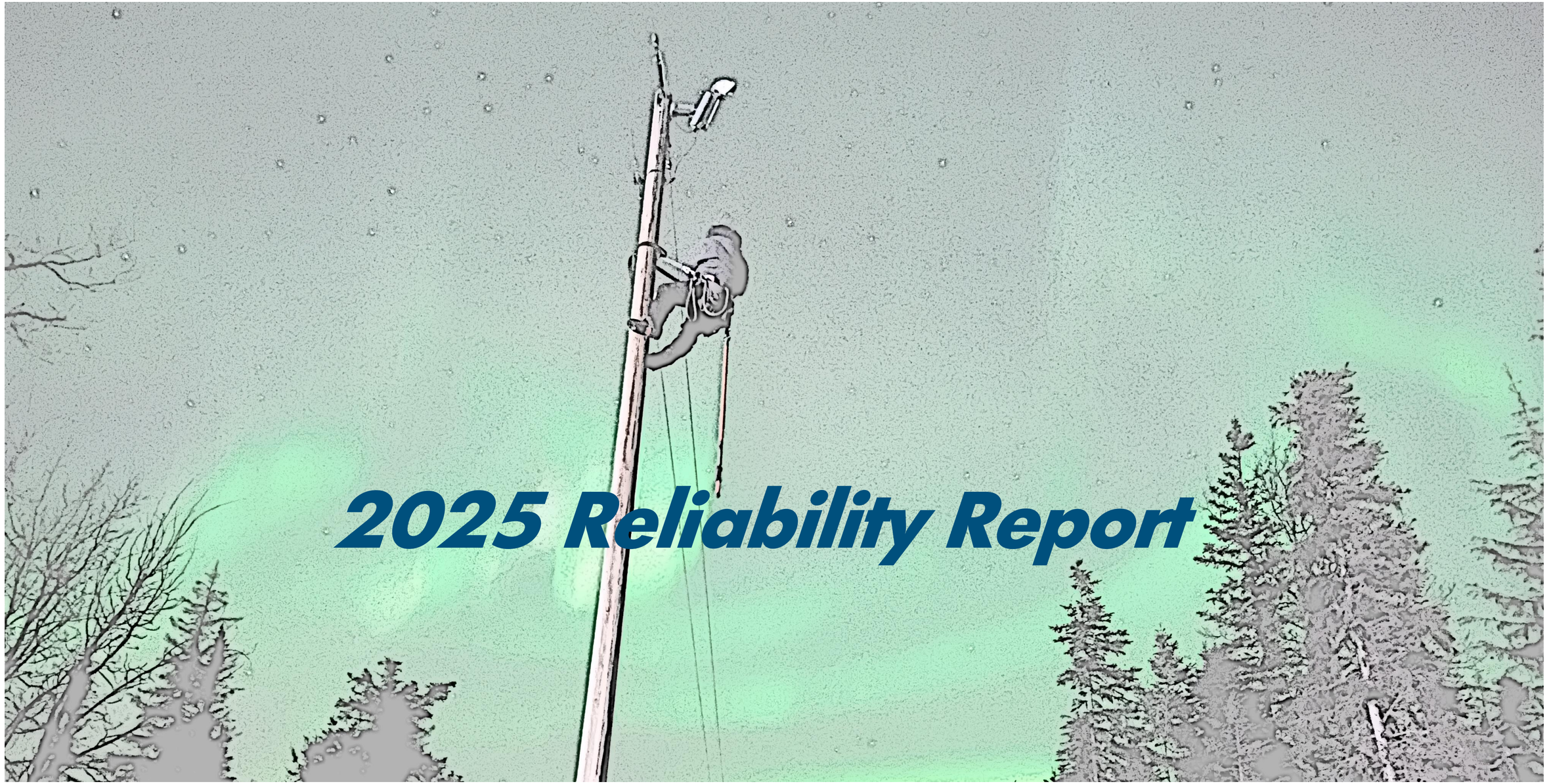
- The Articles of Incorporation would be amended to remove the fixed membership fee amount and clarify that the membership fee will be set by the Board of Directors from time to time.

- The Bylaws would be amended to state that the non-refundable membership fee shall be set by the Board of Directors, rather than specifying a fixed dollar amount.

These amendments preserve the requirement that applicants complete a membership application and be accepted for membership before receiving service.

MOTION

Move that the Operations Committee recommend that the Board of Directors approve the proposed amendments to the Chugach Electric Association Articles of Incorporation and Bylaws; direct that the amendments be submitted to the membership for approval in accordance with applicable procedures; and authorize the Chief Executive Officer to take all necessary actions and make all required filings to effectuate the amendments if approved by the membership.



2025 Reliability Report

Operations Committee Meeting
March 18, 2025

CHUGACH

2025 Year End Outage Statistics

2025	Anchorage	Beluga/ Tyonek	Hope	Indian	Cooper Landing & Moose Pass	Portage / Whittier	Girdwood	All Chugach
SAIDI	268	5,416	1,772	1,196	1,775	495	536	293
SAIFI	1.90	5.06	5.85	3.57	6.90	2.47	2.41	1.95
CAIDI	141	1,070	303	335	257	200	223	150
Meters (AVG)	110,338	161	255	186	671	149	1,851	113,661

*97.1% of Chugach consumers reside within Anchorage

SAIDI: System Average Interruption Duration Index is a measure of the average amount of time a meter lost power during a specific time period. (Minutes)
SAIFI: System Average Interruption Frequency Index is a measure of the number of times a meter experienced an out age during a specific time period. (Integer)
CAIDI: Customer Average Interruption Duration Index is a measure of the average amount of time necessary to restore power during a specific time period. (Minutes)

IEEE 1366-2022 IEEE Guide for Electric Power Distribution Reliability Indices

2025 Statistics Without Major Events

		Anchorage	Beluga / Tyonek	Hope	Indian / Bird Creek	Cooper Landing / Moose Pass	Portage / Whittier	Girdwood	System
	Members	110,338	161	255	186	671	149	1,851	113,661
With MED	SAIDI	268	5,416	1,772	1,196	1,775	495	536	293
	SAIFI	1.90	5.06	5.85	3.57	6.90	2.47	2.41	1.95
	CAIDI	141	1,070	303	335	257	200	223	150
Without MED (System)	SAIDI	124	2,141	590	267	744	290	408	137
	SAIFI	1.48	3.99	3.92	2.60	5.27	2.41	2.31	1.53
	CAIDI	84	537	150	103	141	120	176	90
Without MED (System, UFLS, STORM)	SAIDI	**102**	966	501	262	691	290	394	**113**
	SAIFI	**1.00**	3.22	1.02	2.57	4.78	2.41	2.27	**1.05**
	CAIDI	**102**	300	489	102	144	120	174	**108**

*97.1% of Chugach consumers reside within Anchorage

Major Event Day: a day in which the daily system SAIDI exceeds a threshold value, TMED. TMED is calculated utilizing five year, or best available, historical daily outage information. Its purpose is to allow major events to be studied separately from daily operation, and in the process, to better reveal trends in daily operation that would be hidden by the large statistical effect of major events.

IEEE 1366-2022 IEEE Guide for Electric Power Distribution Reliability Indices

Major Event Day Refresher

Major Event Days:

- Major Event Day (MED) analysis in **IEEE 1366** is a way utilities separate “normal, day-to-day reliability” from **rare, extreme events** like major storms, wildfires, earthquakes, or other conditions that overwhelm the system.
  - Most outages happen under routine conditions. Those are the ones a utility can most directly influence through maintenance, upgrades, vegetation management, and operational improvements.
  - Some days are fundamentally different. A severe storm can knock out large areas at once and drive outage statistics way up, even if the system is performing well the rest of the year.

Why this is valuable for a nontechnical audience:

- Fair comparisons year to year: One big storm can make a year look much worse than another. MED analysis helps avoid “storm luck” driving the story.
- Clearer accountability: It helps distinguish what’s mainly driven by extreme weather versus what’s driven by everyday system health (equipment, trees, operations).
- Better decisions: Leaders can see whether investments are improving routine reliability, while separately tracking how the system performs during major events.

2025 Incidents of Note

Storms:

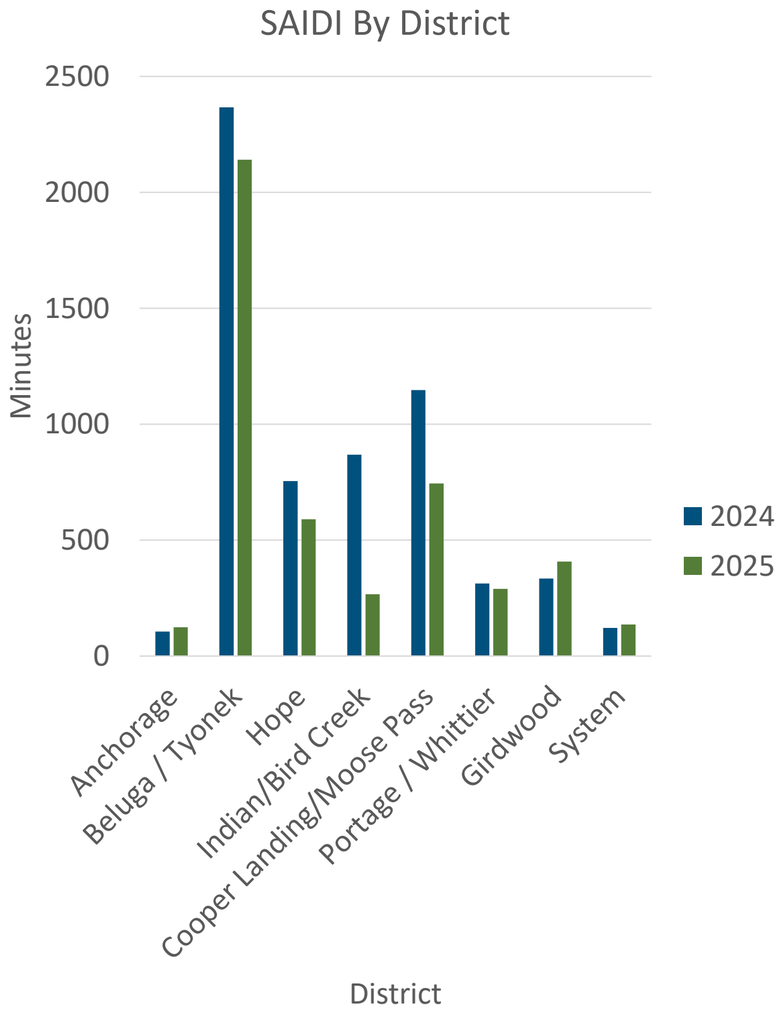
- **January 12-15** Major Wind Storm
  - Hurricane-force wind event peaked on 1/12: Anchorage saw extreme winds, including ~75 mph gusts within the city, ~107 mph in Arctic Valley, and ~132 mph at a mountain station south of Anchorage
  - This 4-day window drives ~56% of all 2025 sustained customer-minutes (CMI).It also contributes ~25% of all customer interruptions (CI).
  - Almost all the impact is on 1/12/2025: 1/12 alone = 156 SAIDI-min for the day, ~52.1% of the entire year's sustained CMI.
  - Removing this storm drops system SAIDI from 293 → 137 minutes.

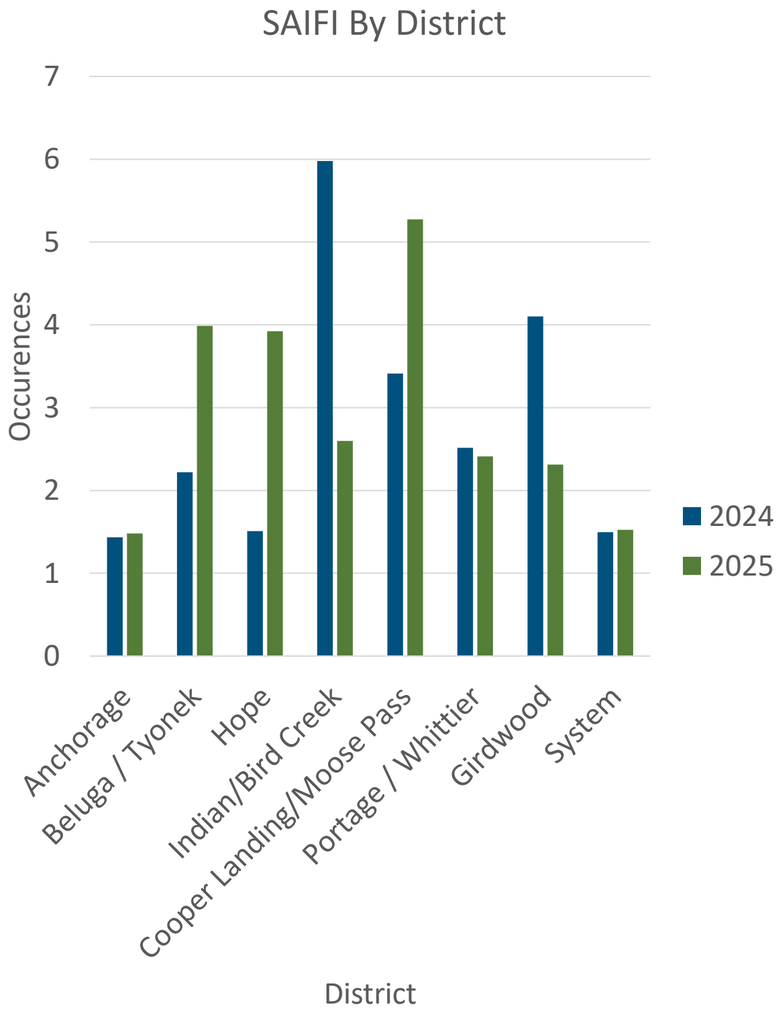
Underfrequency Load Shed Events:

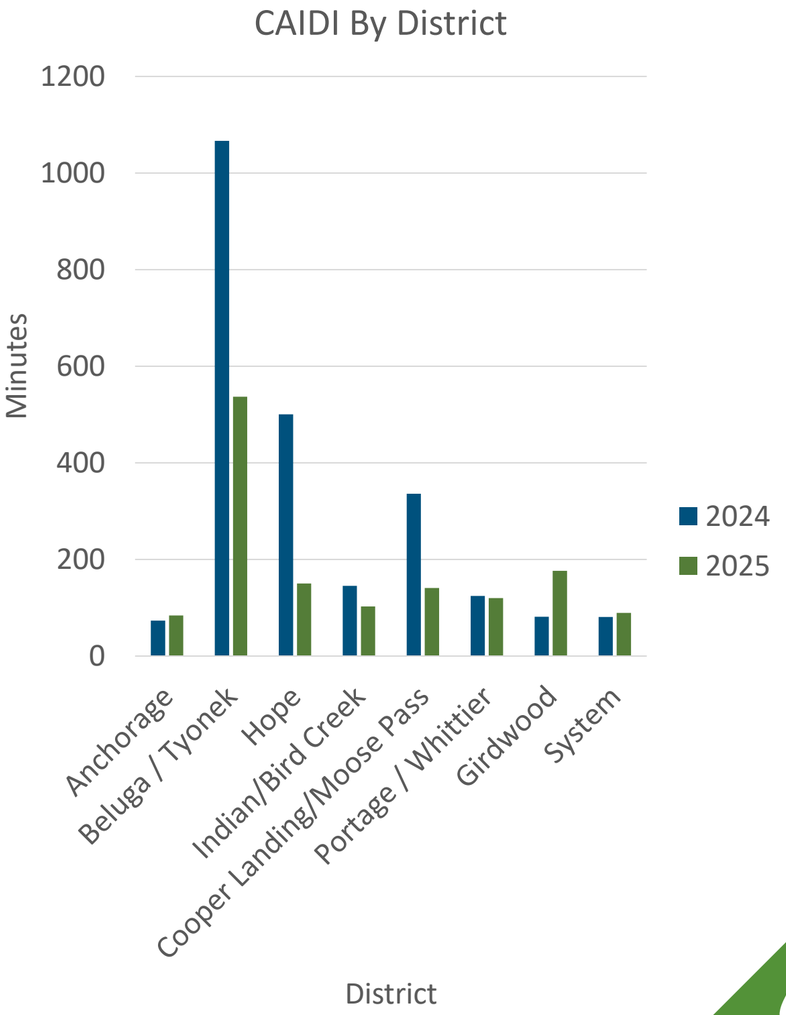
- **April 6, 2025** SPP Plant Trip (94MW, UFLS Stage 1)
- **October 27, 2025** SPP 12 & EGS Units Trip(167MW, UFLS Stage 1)

  Together, 4/6 and 10/27 account for ~23% of all 2025 customer interruptions (CI) but only ~3.9% of 2025 CMI—classic "many customers, relatively short duration" events, which tend to raise SAIFI more than SAIDI and pull CAIDI down when included.

2024 and 2025 Comparison







EIA Comparison

	All Events (With Major Event Days)			Without Major Event Days		
	SAIDI	SAIFI	CAIDI	SAIDI	SAIFI	CAIDI
2024 Chugach System	209	1.99	105	***125***	***1.42***	***88***
2025 Chugach System	293	1.95	150	***137***	***1.53***	***90***
2024 EIA Alaska1	327	2.59	126	192	1.86	103
2024 EIA US Average2	662	1.53	433	132	1.07	124

1. EIA Table 11.3 Reliability Metrics Using Any Method of U.S. Distribution System by State
2. EIA Table 11.1 Reliability Metrics of U.S. Distribution System

IEEE 1366-2022 IEEE Guide for Electric Power Distribution Reliability Indices

Reliability Goals

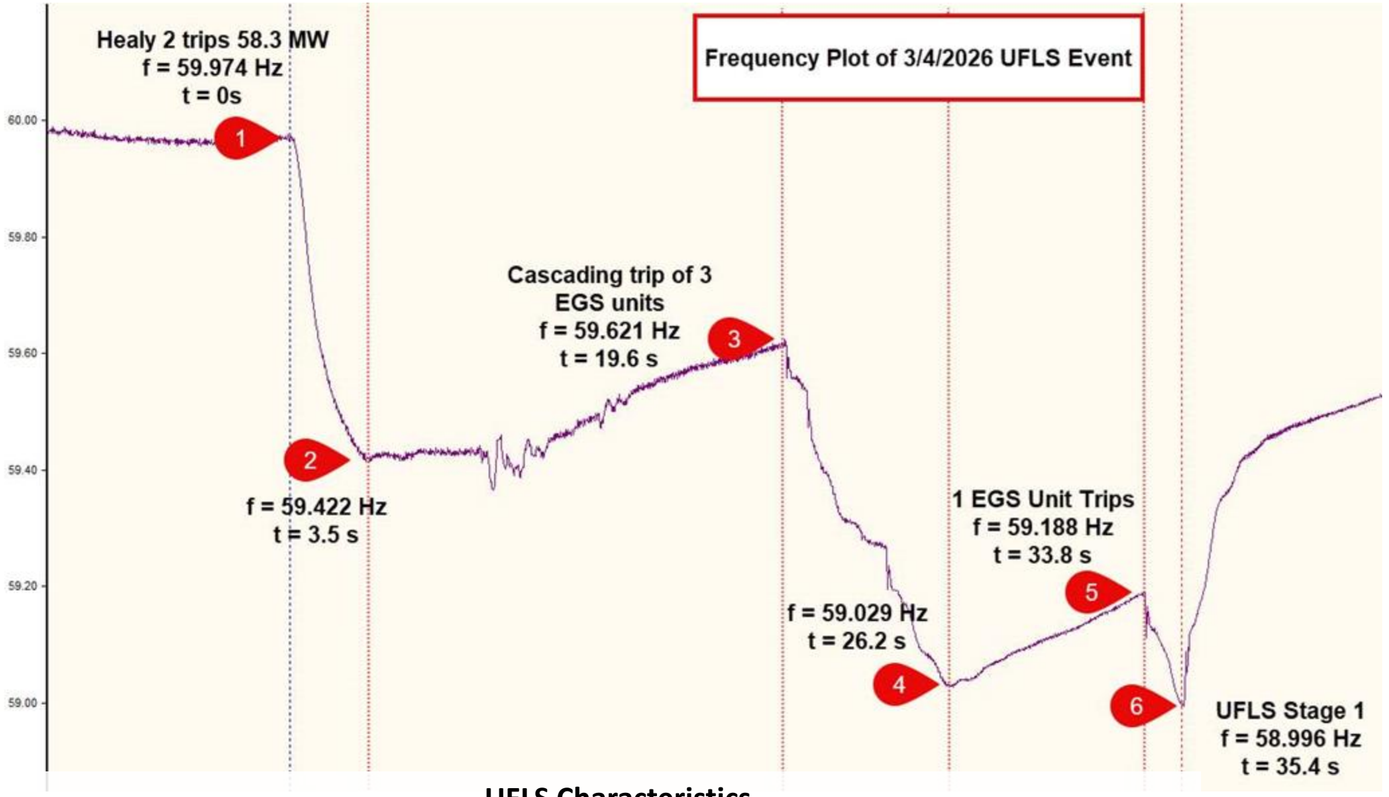
SAIDI	SAIFI	CAIDI
Minutes	Integer	Minutes
<90	<0.9	<90
91-120	0.91-1.10	91-110
121-145	1.11-1.30	111-130
146-160	1.31-1.50	131-150
>160	>1.51	>150

- Reliability is assessed based on IEEE 1366 with MED removed
- Measuring distribution performance with respect to day-to-day operation
- Transmission and generation systems events could be measured separately

2025 without MED

2025 without MED, Storm, and UFLS' removed

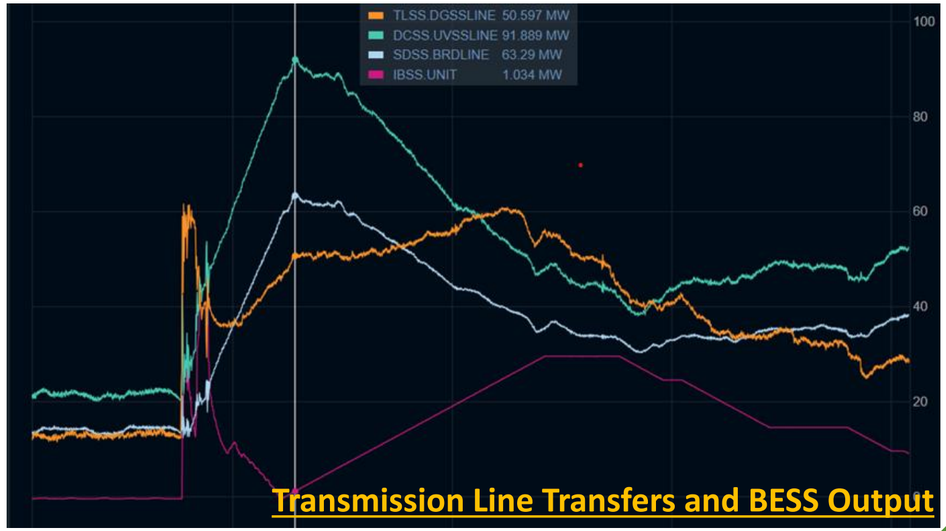
Under Frequency Load Shed Event



UFLS Characteristics

- Chugach's load at the time of the event: 299.4 MW
- The Railbelt lost 133.1 MW of generation
- Elapsed event time: 19:31
- Customers affected: 21,819
- Chugach System Load Shed: 27.2MW or 9.1%

No.	Time [s]	Event Description
Event start: March 4, 2026, at 09:29:14		
1.	t = 0.0	GVEA's Healy 2 Trips 58.3 MW of generation. Pre-event system nominal conditions.
2.	t + 3.5	System frequency arrests at 59.42 Hz.
3.	t + 19.6	System frequency at 59.62 Hz when 3 MEA EGS Units trip.
4.	t + 26.2	System frequency arrests at 59.03.
5.	t + 33.8	System frequency at 59.19 Hz when 1 MEA EGS Unit trips. MEA's generation loss totaled 74.8 MW.
6.	t + 35.4	System frequency arrests at 58.996 Hz, below UFLS Stage 1 threshold. UFLS Stage 1 is triggered. System frequency rapidly recovers.

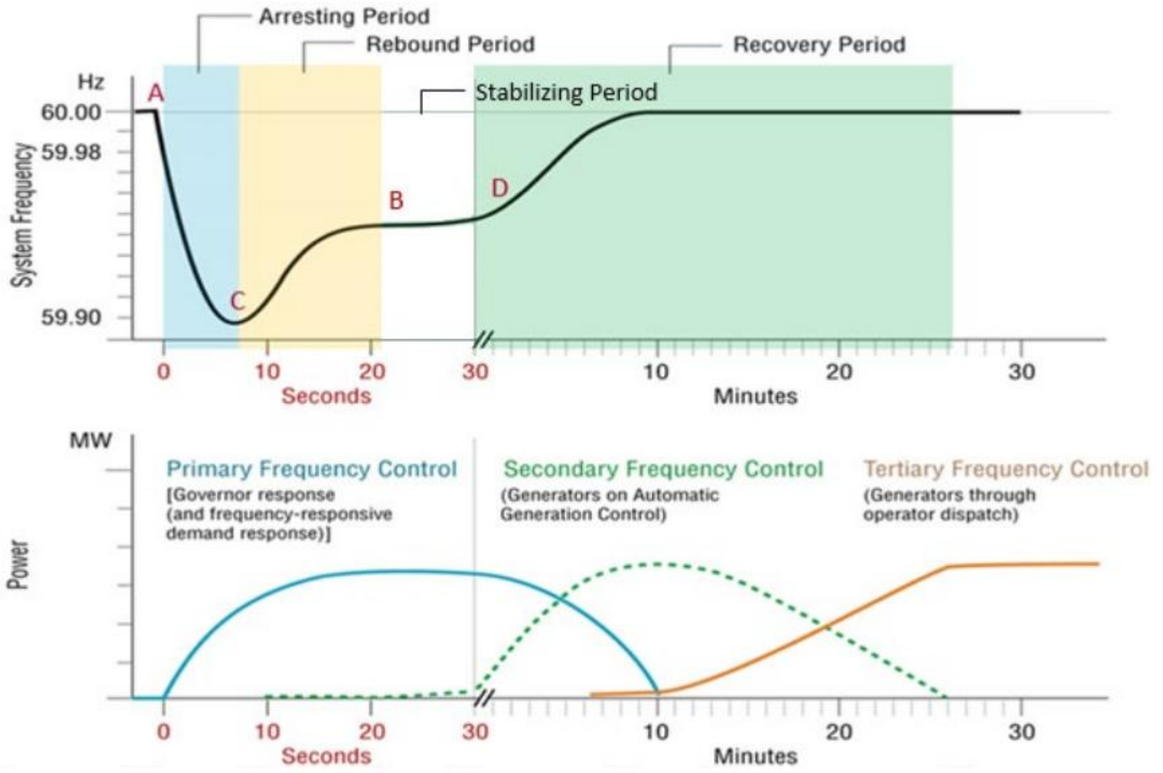


Transmission Line Transfers and BESS Output

Under Frequency Load Shed Scheme

Load Shed Stage	Amount of Load	System Condition
Stage 1	10%	59.0 Hz for 6 cycles (0.10 seconds)
Stage 2	10% (20% total)	58.7 Hz for 6 cycles (0.10 seconds)
Stage 3	10 % (30% total)	58.5 Hz for 6 cycles (0.10 seconds)
Stage 4	Remaining Fdrs	58.5 Hz for 40 cycles (0.67 seconds)

- UFLS is a scheme designed to protect a power system from under frequency conditions; load being in excess of available generation and system frequency decaying.
- Mis-coordination of generation protection with UFLS risks cascading trips; generation is expected to remain online through the range of the load shed schedule.



NERC – Reliability Guideline – Primary Frequency Control

September 2023

The Sequential Actions and Impacts on System Frequency of Primary, Secondary, and Tertiary Frequency Control

Reliability Improvements

Reliability Improvements (System)
- Focus on underground cable replacement projects
- Improvements scheduled in Tyonek
- Revise black-start plans
- Work with Railbelt partners to increase generator reliability and reduce UFLS activations

Tree Clearing
- Continued aggressive clearing of easements
- Increased danger Tree clearing

Modifications of Line Operations Schedules
- No new modifications to schedules this year
- Improving weather forecasting and tailoring preparations

Key Takeaways

IEEE Metrics and Meaning

- With MED the average Chugach consumer has power that is 99.94% available (reliable) or can expect 4.8 hours of outage annually
- Without MED the average Chugach consumer has power that is 99.97% available (reliable) or can expect 2.3 hours of outage annually
- 1366 measures distribution system performance; day-to- day operation is very efficient and effective
- Chugach's reliability aligns with the EIA national average

Areas for Improvement

- Preparation for response to major events including weather forecasting
- System contingencies such as UFLS events


QUESTIONS

Decarbonization Program

PROGRAM UPDATE

OPERATIONS COMMITTEE MEETING
MARCH 18, 2026

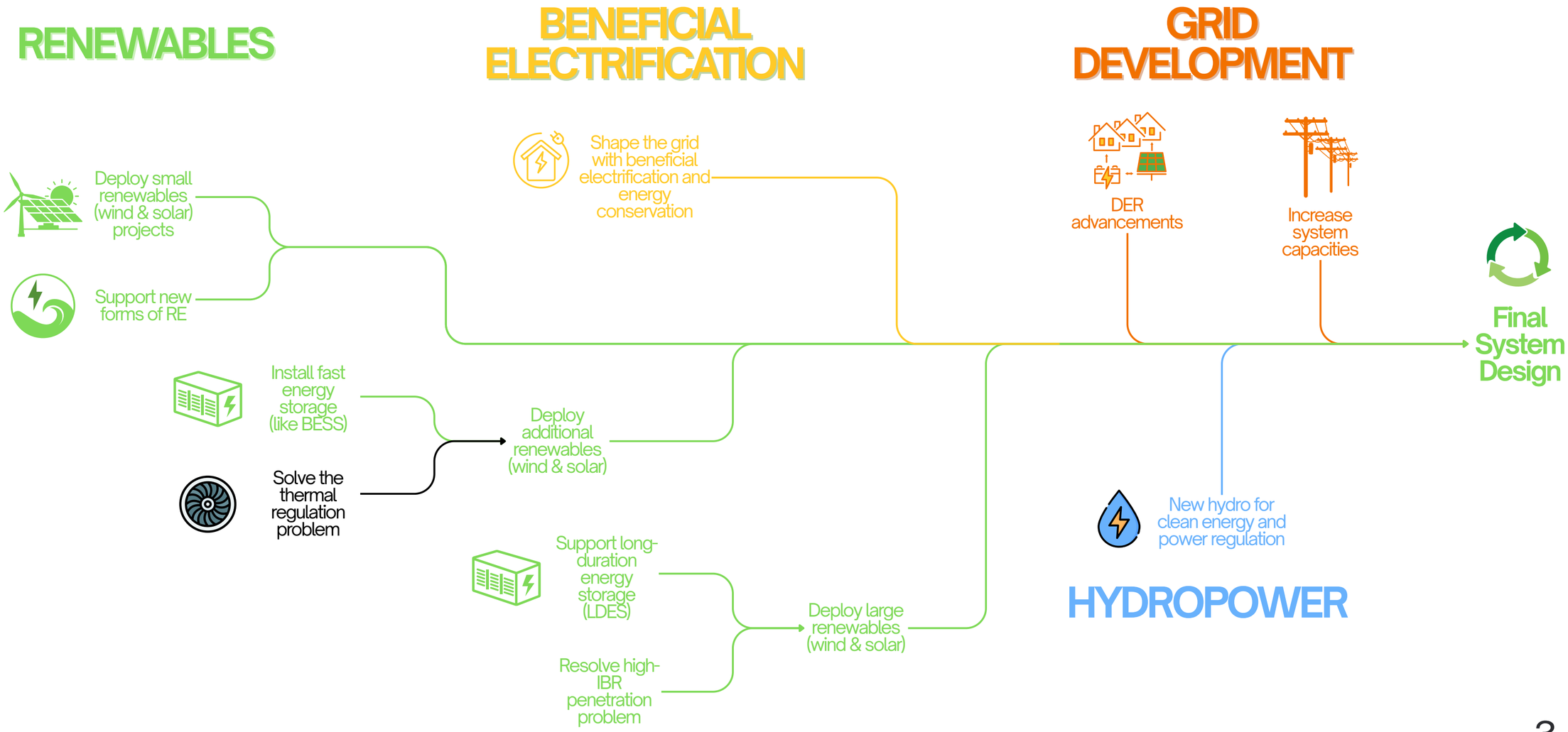
CHUGACH

Strategic Alignment

- **Strategic Plan Priority 6: Decarbonization**
  - Reduce Chugach's carbon intensity by at least 35% by 2030 and at least 50% by 2040, using 2012 as the baseline year without a negative material impact on Chugach members' rates and/or reliability
  - Regularly assess and adjust decarbonization strategies while balancing decarbonization with reliability and affordability

- **CEO Project Specific Initiative**
  - Conduct feasibility assessments and, as needed, front-end engineering design to support a finnal investment decision on utility-scale renewable generation projects aligned with the Board's decarbonization goals, while considering impacts on reliability and affordability. The analysis will also evaluate supporting technologies such as batter energy storage systems, on-site gas storage, and related integration controls. Complete feasibility assessments and perform, as necessary, front-end engineering design to inform a final investment deicsion recommendation for a second community solar project.

The Roadmap

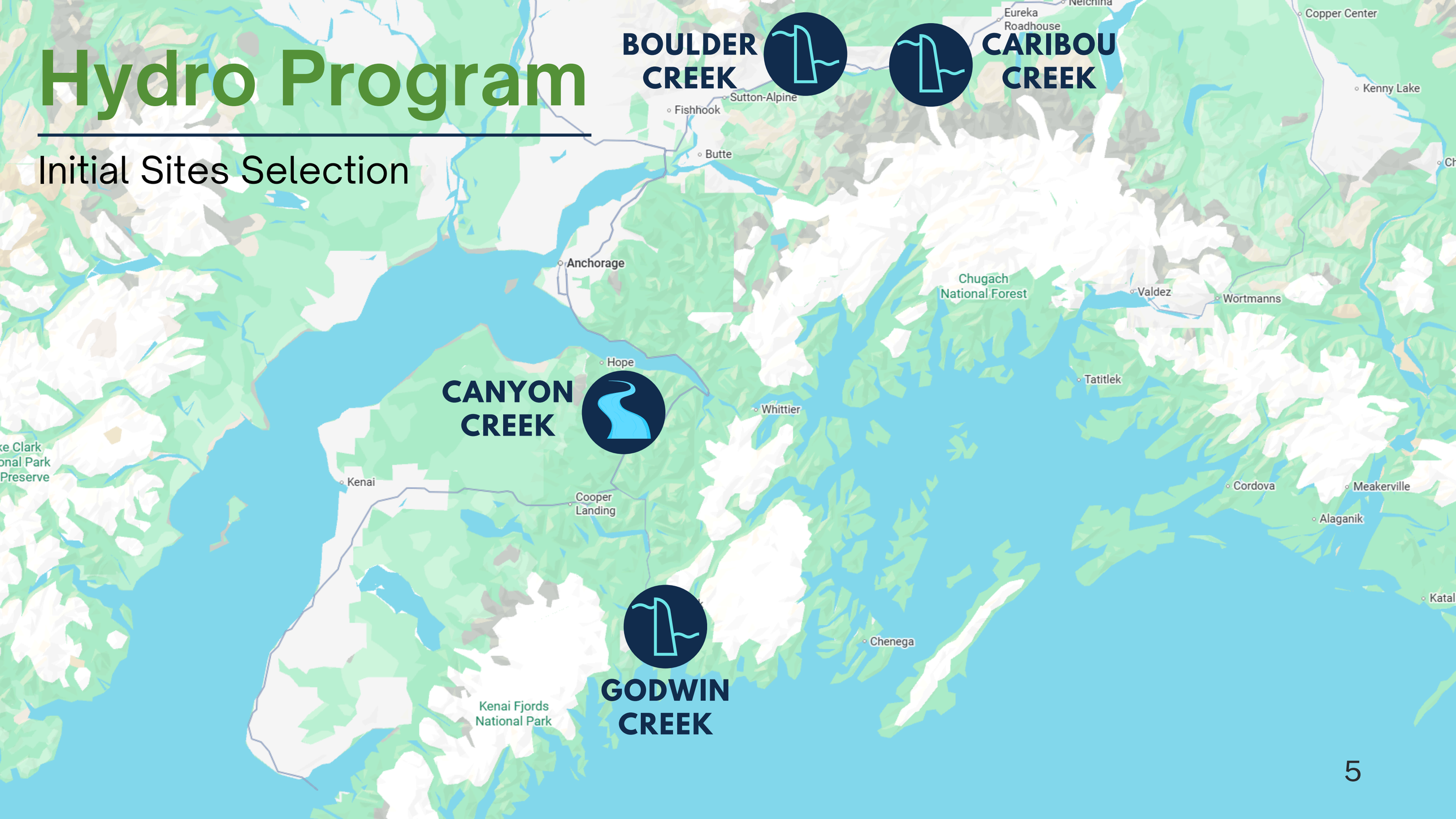

RENEWABLES
BENEFICIAL ELECTRIFICATION
GRID DEVELOPMENT
Deploy small renewables (wind & solar) projects
Support new forms of RE
Shape the grid with beneficial electrification and energy conservation
DER advancements
Increase system capacities
Final System Design
Install fast energy storage (like BESS)
Solve the thermal regulation problem
Deploy additional renewables (wind & solar)
Support long-duration energy storage (LDES)
Resolve high-IBR penetration problem
Deploy large renewables (wind & solar)
New hydro for clean energy and power regulation
HYDROPOWER

Hydro Program

- **Project Management**
  - Initial four (4) sites selected
- **Environmental & Regulatory**
  - **Permitting**
    - FERC Preliminary Permit applications submitted (2/6/2026)
    - ADNR water right permit applications submitted (2/10/2026)
  - **Stakeholder Engagement**
    - Website landing page complete
    - Stakeholder consultation record initiated
    - Next round 1:1 meetings being scheduled for April
  - **Preliminary Application Documents (PAD) Development**
    - Not started
- **Site Characterization**
  - LiDAR subcontract in progress
  - Stream gaging permits have been received for all sites; coordinating with ADNR for stream gaging support
- **Preliminary Designs**
  - Not started
- **Pre-Feasibility Reports**
  - Not started

Hydro Program

Initial Sites Selection



Renewable Energy

Renewables

- **Wind & Solar Prospecting**
  - Total 47 sites under evaluation
  - Current project interest include twelve (12) solar sites
  - 30 MW solar anticipated in IRP by 2030; selected sites should total 30 MW
- **Muni Solar**
  - MOU under consideration by Muni managers
- **Small Hydro Prospecting**
  - Polarconsult contract being finalized

Grid Dev

- **Power Regulation Projects**
  - Large regulation projects held pending growth wind/solar program
  - Storage hydro represents power regulation capacity
- **Port of Alaska Microgrid**
  - Request made to POA for microgrid project requirements document
  - Possible BESS expansion to coordinate with RE program

Renewables Screening

Screening Status	Framework Category
Disqualified	Environmental Fatal Constraints
	Infrastructure Incompatibility
	Structural Scale Mismatch
	Legal Barriers
Deferred	Size Optimization Required
	Economic Conditions - cost structure or environmental exposure
	Commercial Timing - Sequencing / Sponsorship / Capital Timing
	Grid & Interconnection Timing
	Economic Conditions - Construction Execution
	Policy & Regulatory Environment
	Commercial Timing - Definition / Alignment Required
Advance	Structurally Viable – Within Scale Cap
	Structurally Viable – Economic Revalidation
	Strategic Infrastructure Asset
	Structurally Viable – Transmission Proximity
	Structurally Viable – Strong Transmission Alignment
	Structurally Viable – Substation Onsite
	Structurally Viable – Cap and IC Alignment
Operating	Operating

Beluga Solar Project

- 10 MW AC
- ~12,560 MWh/year production
- ~94,200 Mcf/year avoided natural gas
- Target COD Q4 2027
- Budget $26.4M (without ITC)

- **Regulatory / Permitting / Lease**
  - CIRI land lease remains in progress
  - ITC compliance package in development
- **Engineering**
  - Complete engineering package being completed independently; remaining engineering in progress
- **BOC Work Package**
  - BOC Construction RFP (4/15)
- **PV Work Package**
  - PV Construction RFP (not scheduled)
- **Cost**
  - $820K/$26.4M (3.1%)
  - Costs through 2/27/2026; preliminary

- **Completed to Date**
  - Preliminary geotech complete
  - Permit analysis complete
  - Cultural survey complete
  - Bird nest survey complete
  - Irradiance meter installed on site
  - Transformer specifications completed; purchase order issued for five (5) 480V to 12.5 kV * transformers; one additional purchased as spare
  - Initial Communications design to IFC; trench and conduit installed in December 2025 *
  - Engineering package 10% complete

* Denotes actions taken to advance ITC eligibility

Questions?

Executive Session Motion
(Financial and Legal)
March 18, 2026

Chugach Electric Association, Inc.
Operations Committee Meeting

Agenda Item VII.

Move that pursuant to Alaska Statute 10.25.175(c)(1) and (3), the Board of Directors go into executive session to: 1) discuss and receive reports regarding matters the immediate knowledge of which would clearly have an adverse effect on the finances of the cooperative; and 2) discuss with its attorneys matters the immediate knowledge of which could have an adverse effect on the legal position of the cooperative.

Chugach Electric Association, Inc.
Anchorage, Alaska

Summary of Executive Session Topics for
Operations Committee Meeting on March 18, 2026
Agenda Item VII.

A. Discussion of confidential and sensitive information regarding an update of Chugach's gas supply, public disclosure of which could have an adverse effect on the finances and legal position of the Association. (AS 10.25.175(c)(1) and (3))