

Exhibit No. 12

Evergy West – Exhibit 12
SPP December 2022
Winter Storm Elliot Report
File No. EA-2022-0328



*Working together to responsibly and economically
keep the lights on today and in the future.*

DECEMBER 2022 WINTER STORM ELLIOTT

C.J. BROWN

DIRECTOR, SYSTEM OPERATIONS



SouthwestPowerPool



southwest-power-pool



SPPorg

2022 WINTER STORM GRID EMERGENCY

TIMELINE OF OPERATIONAL COMMUNICATIONS: DEC. 19-26, 2022

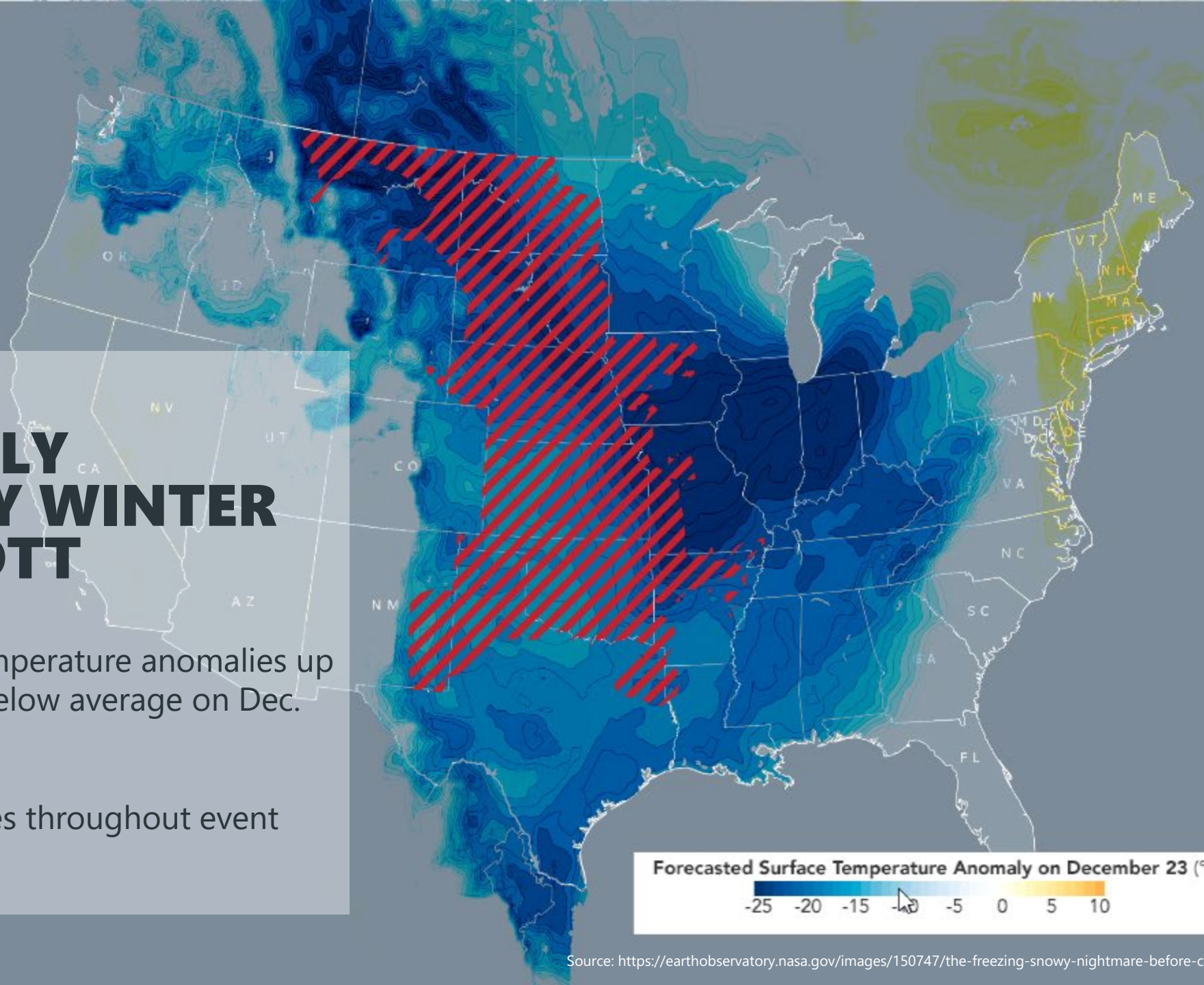
Fri. 12/16 to Mon. 12/19	Tue. 12/20	Wed. 12/21	Thu. 12/22	Fri. 12/23	Sat. 12/24	Sun. 12/25	Mon. 12/26
<p>Fri. 12/16: Internal communication with operations notes upcoming cold weather. Operations monitoring conditions with no identified needs for resource alerts at that date.</p> <p>-----</p> <p>Mon. 12/19, 13:54 SPP operations issues a Cold Weather Advisory to begin on 12/21/22 at 20:00.</p> <p>-----</p> <p>Mon. 12/19, 14:30 SPP Communications sends Grid Notice email to all subscribers regarding the upcoming Weather Advisory</p>	<p>17:57 SPP BA issues a Resource Advisory (<i>supersedes Weather Advisory</i>) effective 12/23 00:00 through 12/25 00:00</p> <p>-----</p> <p>18:01 SPP BA moves up start of Resource Advisory to 12/22 00:00</p>	<p>10:00 SPP Comms. sends Grid Notice of upcoming Resource Advisory</p>	<p>Resource Advisory in effect</p>	<p>Resource Advisory in effect</p> <p>08:27 EEA1 declared</p> <p>10:00 End of EEA</p> <p>11:00 Conservative Operations declared, anticipated end 12/25 00:00</p> <p>17:20 EEA1 declared</p> <p>20:20 End of EEA. Conservative Operations Continues</p>	<p>Conservative Operations in effect</p> <p>08:29 SPP extends anticipated end of Conservative Operations through 12/25 12:00</p>	<p>Conservative Operations in effect</p> <p>12:00 Conservative Operations ends but Resource Advisory in effect until midnight</p>	<p>Weather Advisory in effect</p> <p>10:00 SPP returns to Normal Operations</p>

Time blocks are not to scale

SPP REGION SIGNIFICANTLY IMPACTED BY WINTER STORM ELLIOTT

Experienced surface temperature anomalies up to 25 degrees Celsius below average on Dec. 23, 2023.

Extreme wind chill values throughout event



Forecasted Surface Temperature Anomaly on December 23 (°C)

-25 -20 -15 -10 -5 0 5 10

DRIVERS OF ENERGY EMERGENCY ALERTS

1. Generation unavailability

- Lack of fuel supply
- Extreme cold weather-related outages

2. Record winter energy consumption

- New record set 12/22/22 @ 18:27: 47,157 MW

ADVANCE PREPARATIONS

- **Alerted** operators as conditions changed
- **Provided** advance notification to members committee
- **Communicated** with Operating Reliability Working Group and provided public notifications as system conditions changed
- **Committed** gas generation early to help fuel procurement

OTHER NOTABLE CHALLENGES

- **Dec. 20:** SPP began receiving natural gas notifications that flexibility and other non-firm usage of pipelines would be greatly limited through Dec. 28
- **Dec. 23:**
 - SPP Chenal facility transformer malfunctioned and operated on backup generators during the event
 - SPP Chenal data center cooling system was inoperable due to low temperatures for 6 hours until system bypass was put in place
- **Dec. 23 & 24:** Missouri river developed ice block preventing river flow and threatened 1000s of MWs of generation

OPERATIONAL DATA

KEY POINTS FOR ELLIOTT & URI COMPARISON

For SPP, Elliott was not as severe as winter storm Uri (Feb. 2021)

Fewer gas and wind outages in Elliott than Uri

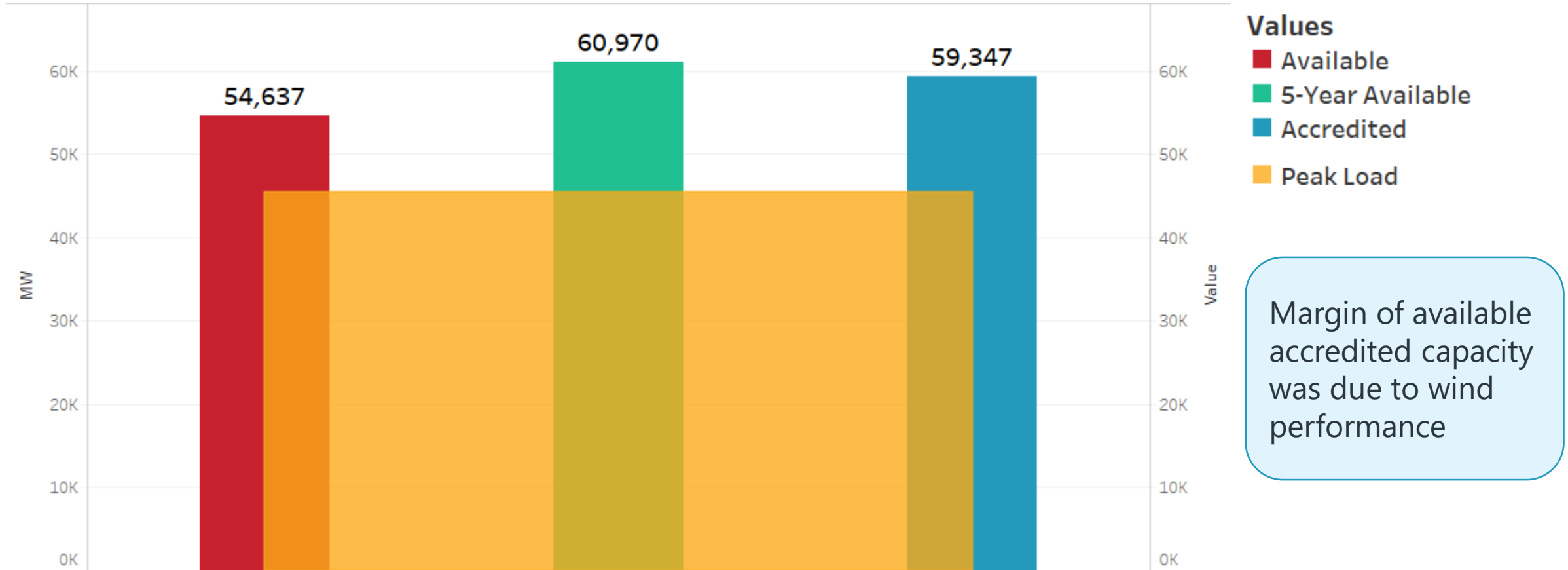
Coal outages and derates were worse in Elliott

While there was no BA directed load shed in Elliott, there was BA load shed potential

TOTAL ACCREDITED CAPACITY BREAKDOWN VS. LOAD

12/23/2022 06:00

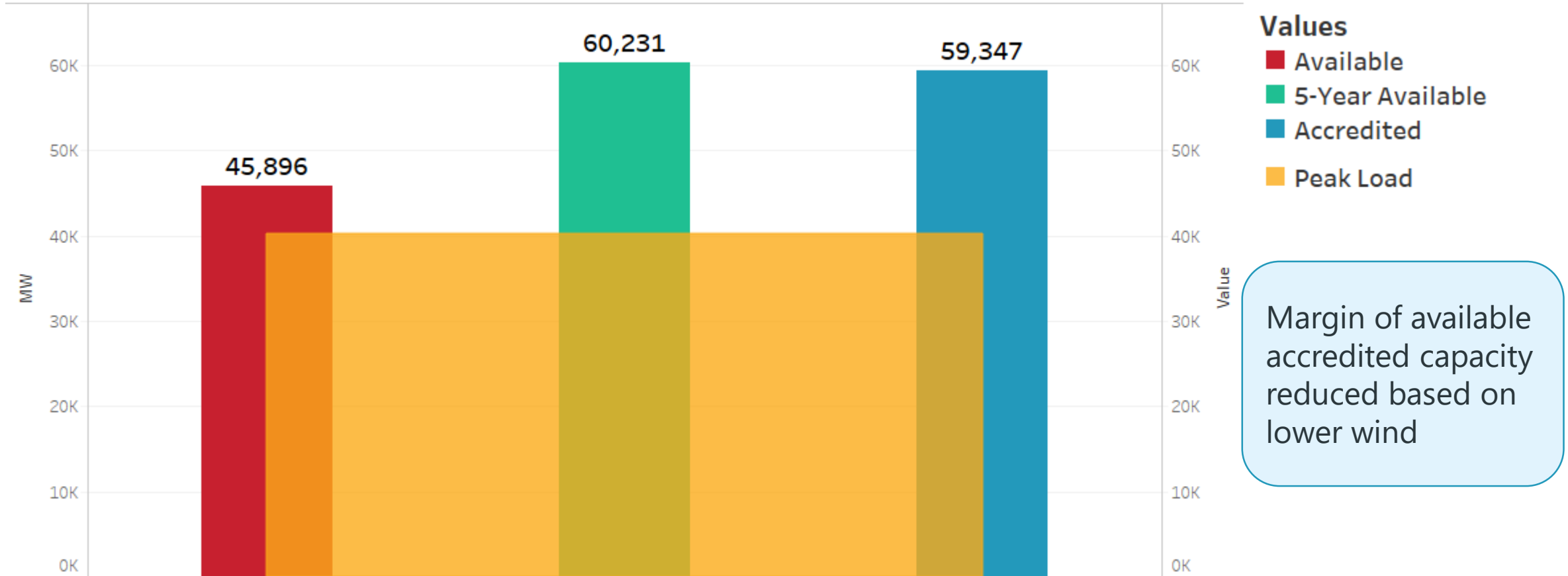
ELLIOTT



TOTAL ACCREDITED CAPACITY BREAKDOWN VS. LOAD

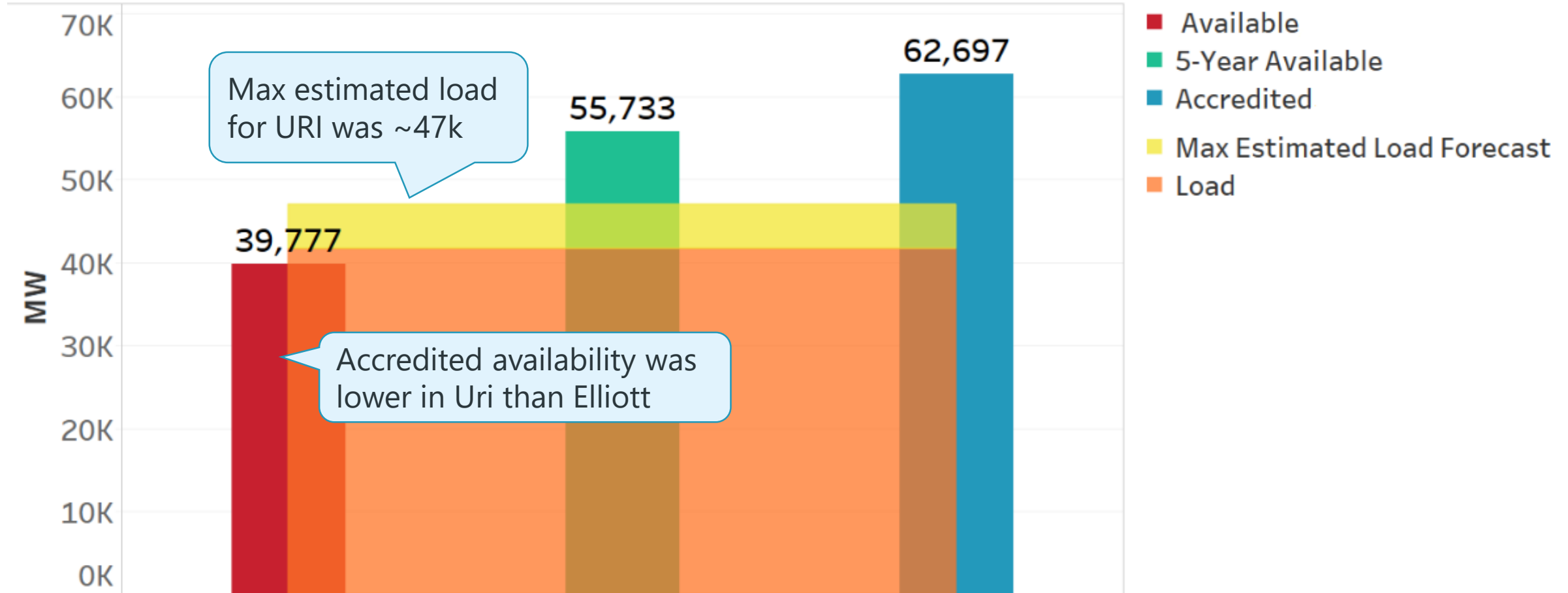
12/24/2022 06:00

ELLIOTT

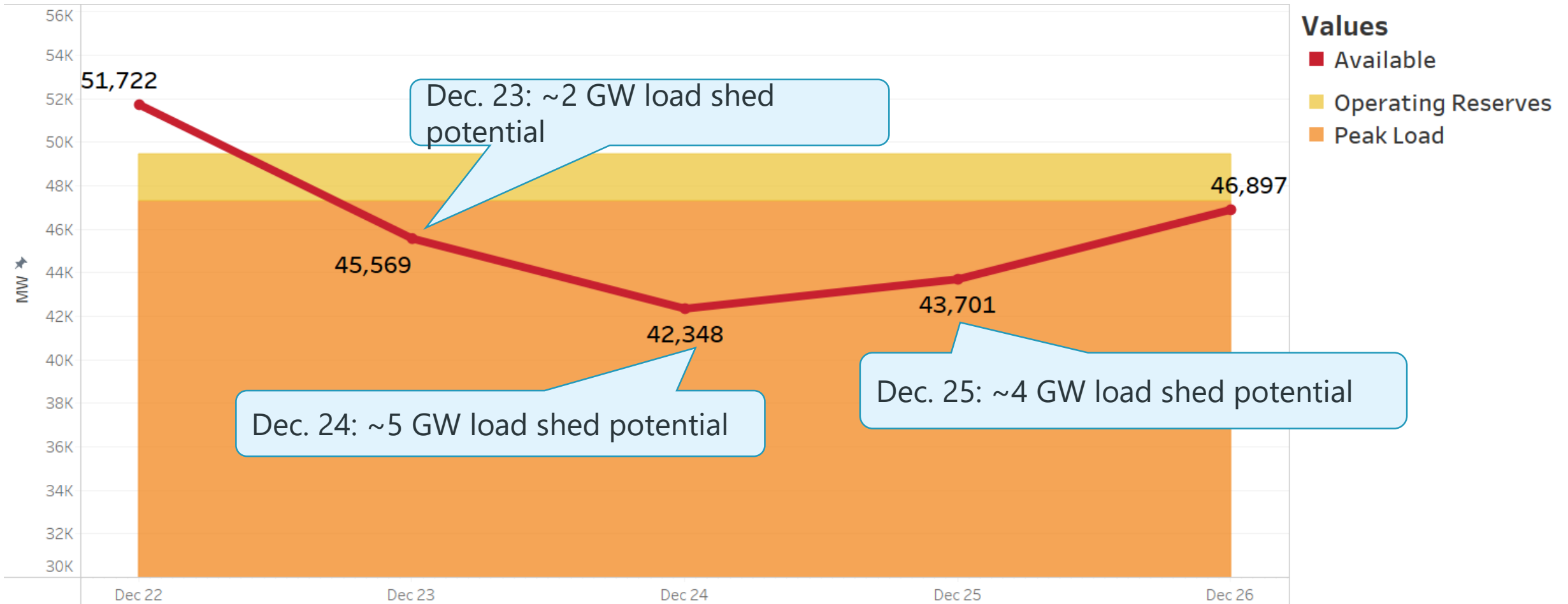


TOTAL ACCREDITED CAPACITY BREAKDOWN VS. LOAD

URI



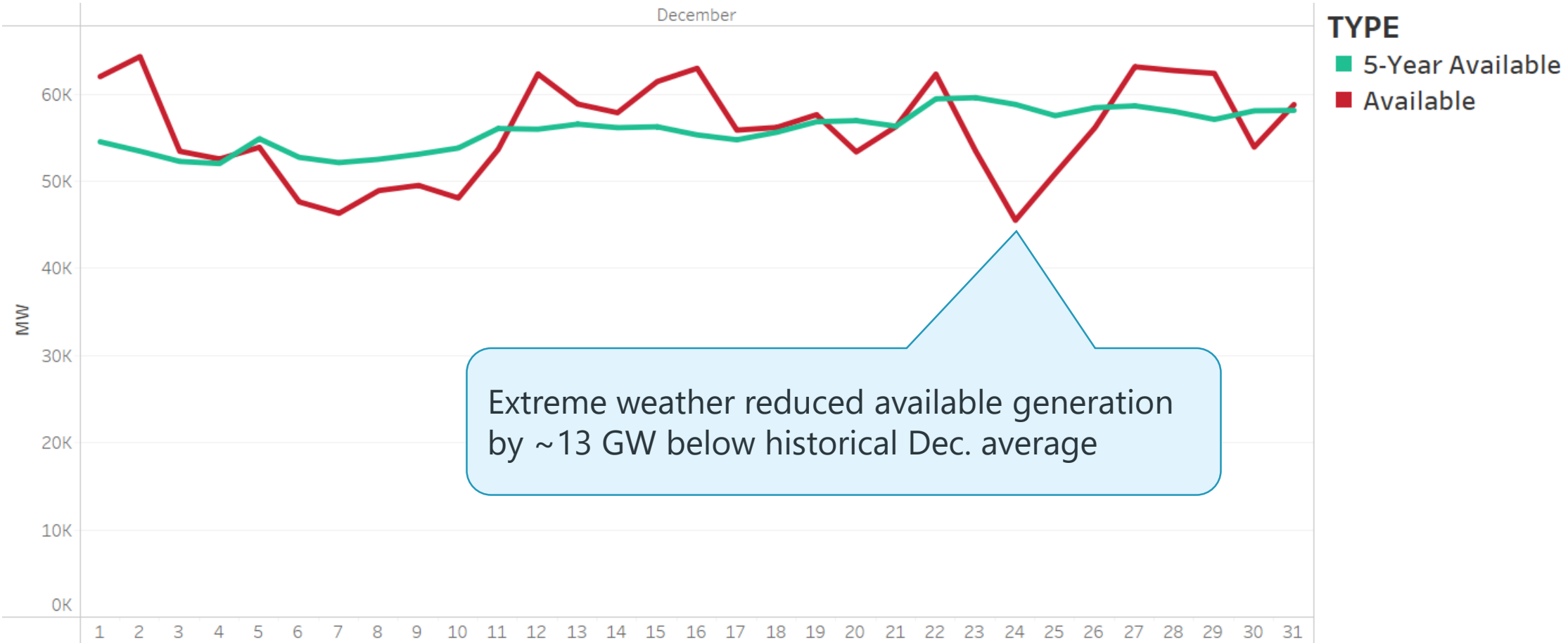
PEAK OBLIGATION VS. DAILY ACCREDITED AVAILABLE CAPACITY **ELLIOTT**



**This compares the maximum obligation during the time frame (Load + Operating Reserves) to the accredited availability on that day.

AVAILABLE GENERATION IN SPP MARKET

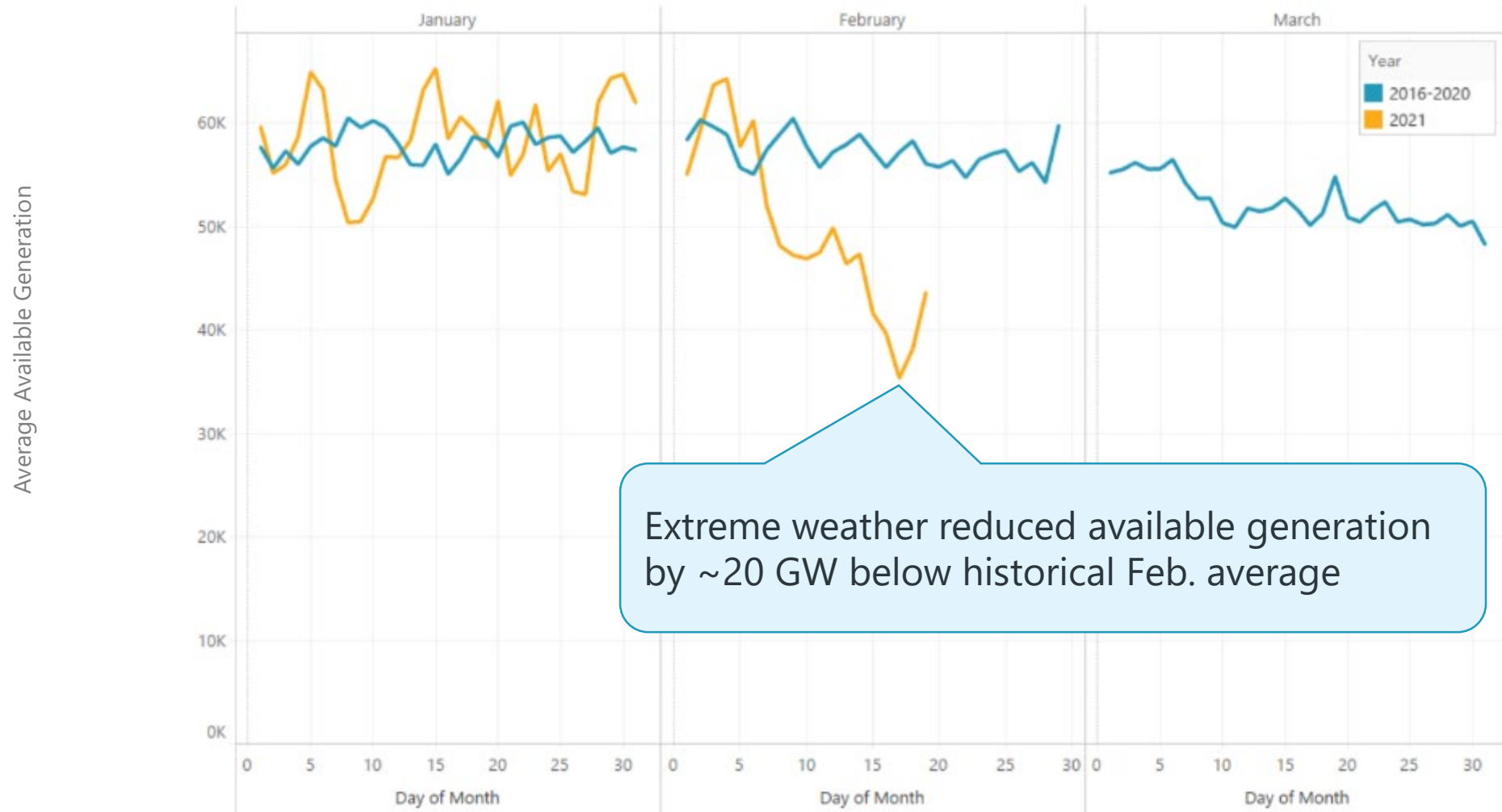
ELLIOTT



Extreme weather reduced available generation by ~13 GW below historical Dec. average

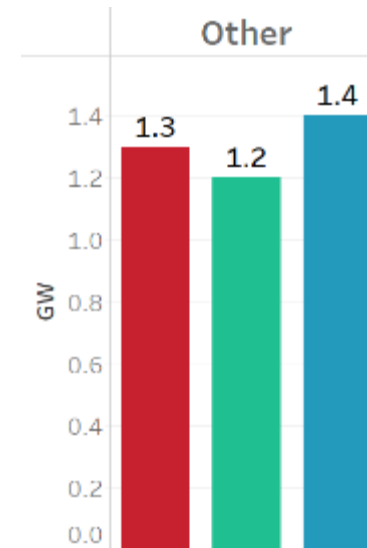
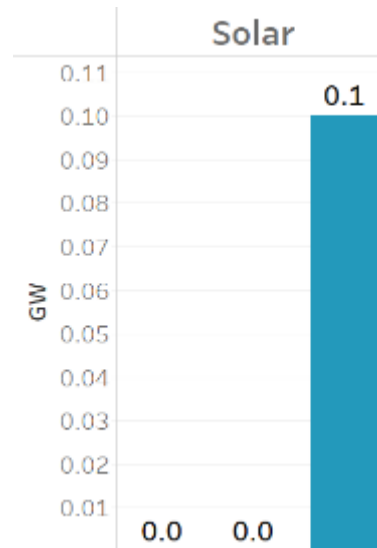
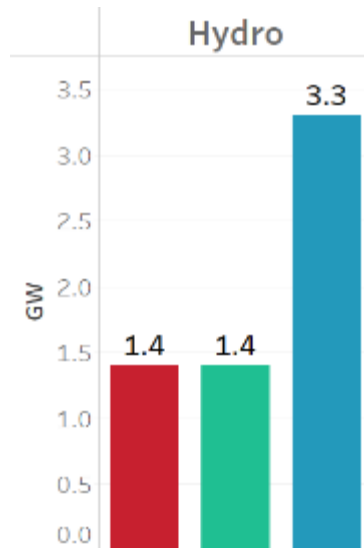
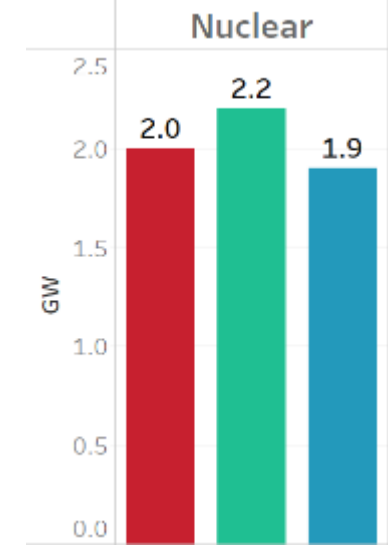
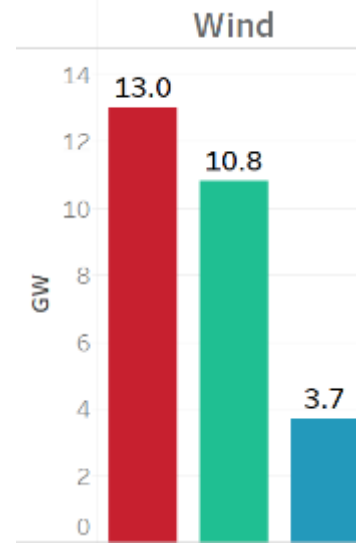
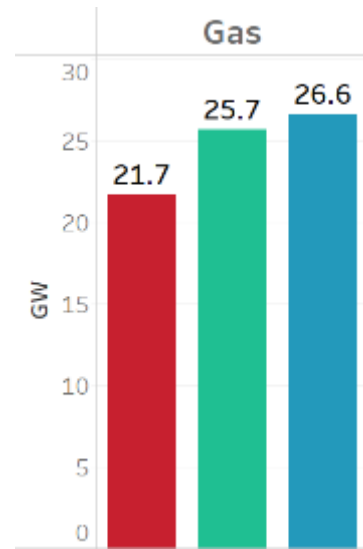
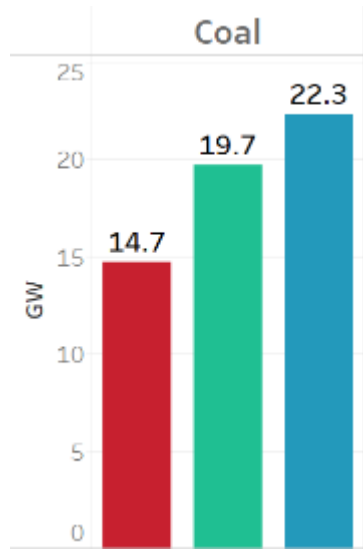
AVAILABLE GENERATION IN SPP MARKET

URI



FUEL TYPE CAPACITY BREAKDOWN

12/23/2022 06:00 ELLIOTT

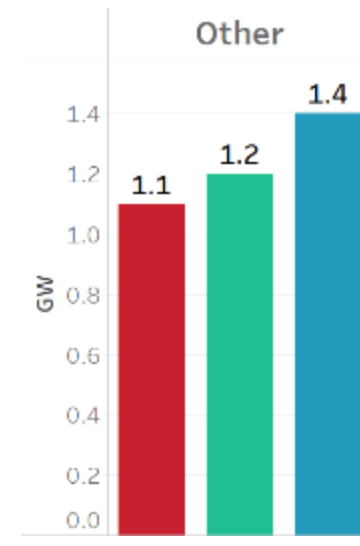
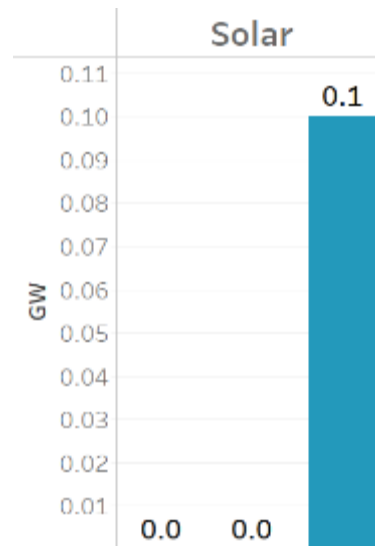
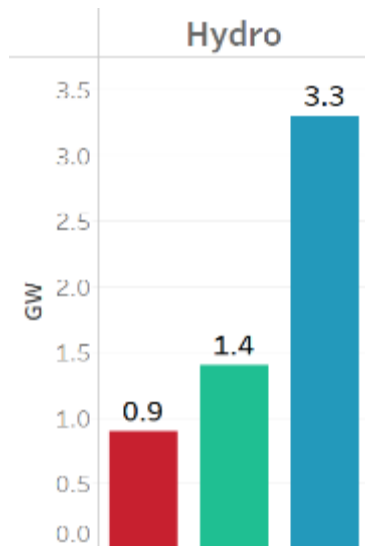
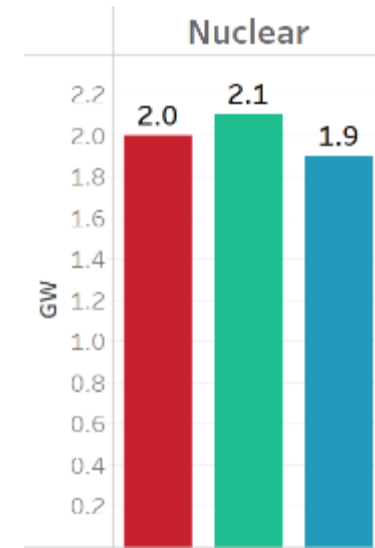
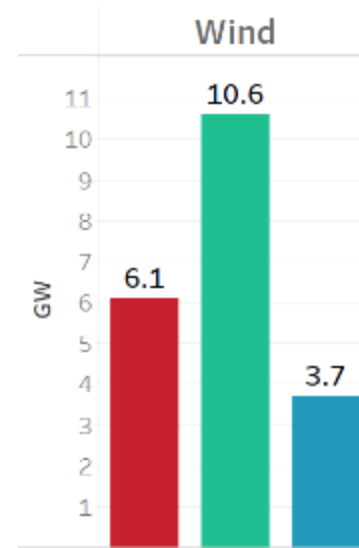
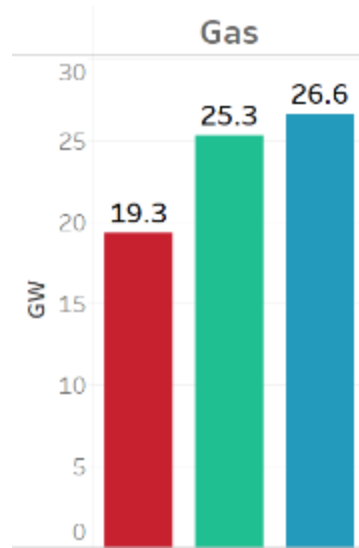
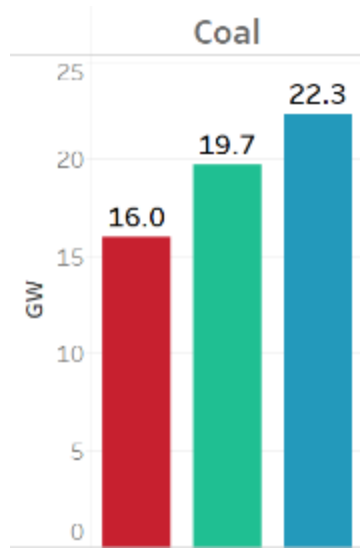


Measure Names

- Available
- 5-Year Available
- Accredited

FUEL TYPE CAPACITY BREAKDOWN

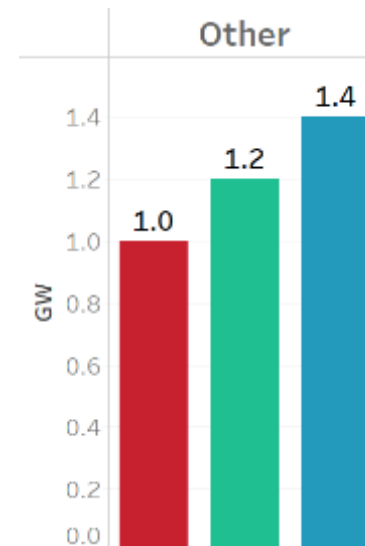
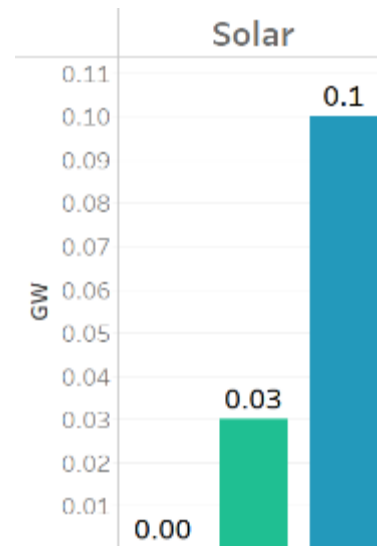
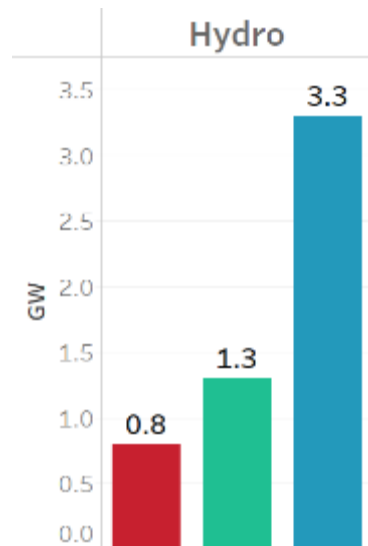
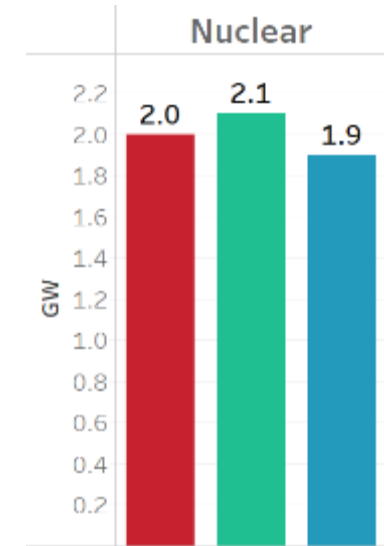
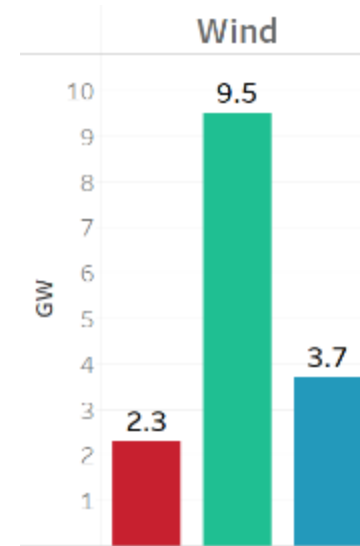
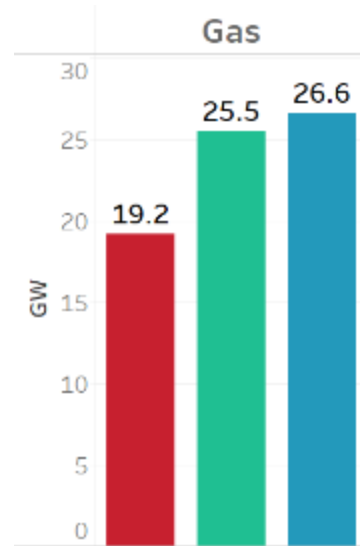
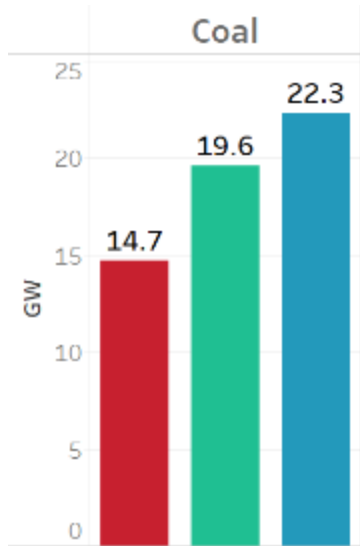
12/24/2022 06:00 ELLIOTT



Measure Names

- Available
- 5-Year Available
- Accredited

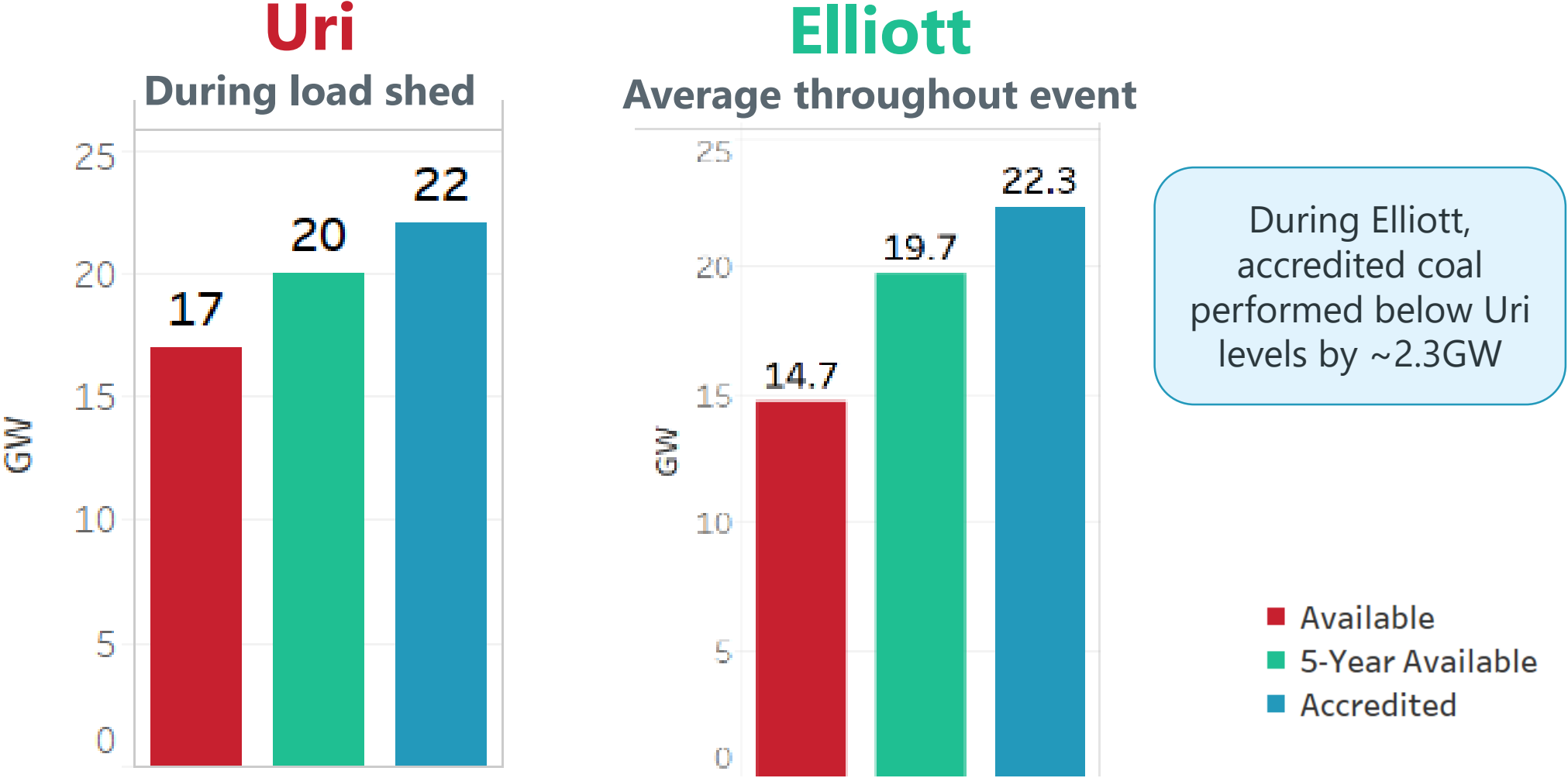
FUEL TYPE CAPACITY BREAKDOWN 12/22-12/24 ELLIOTT (MINIMUM AVAILABLE)



Measure Names

- Available
- 5-Year Available
- Accredited

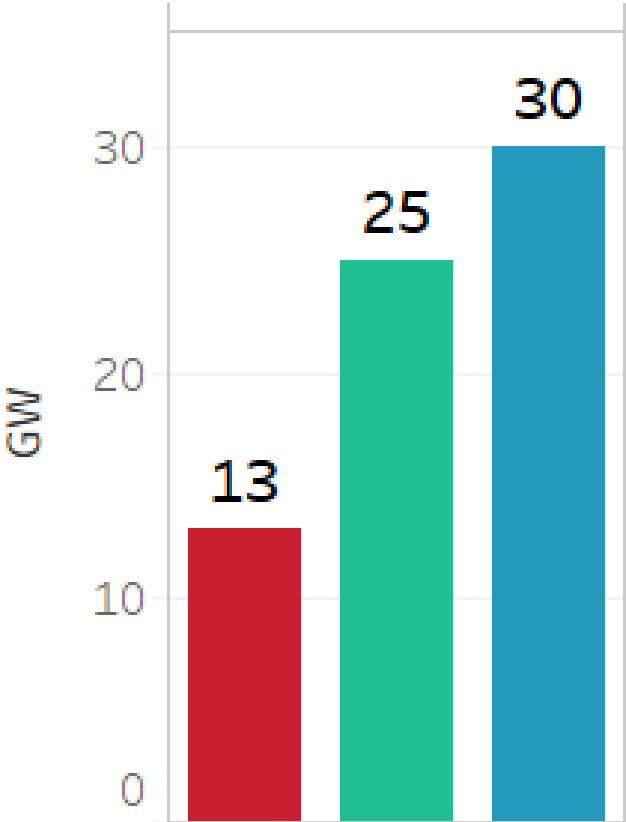
URI VS ELLIOTT COAL AVAILABILITY



URI VS ELLIOTT GAS AVAILABILITY

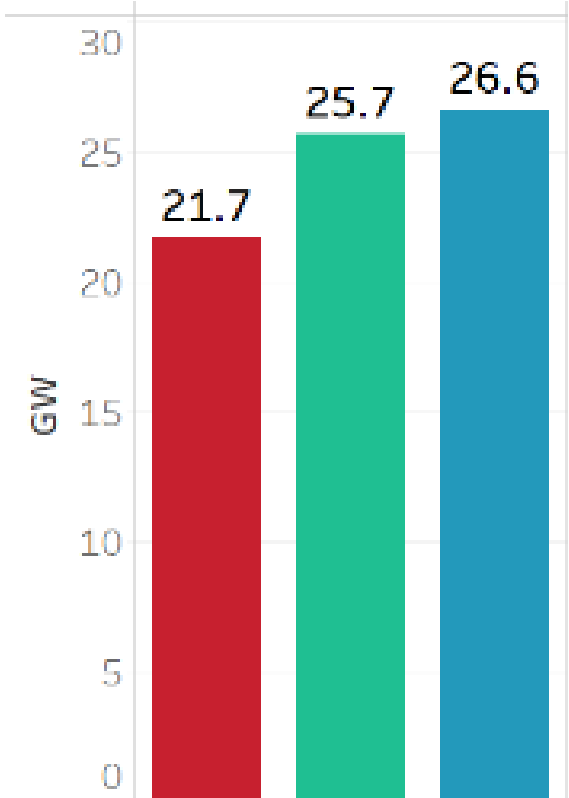
Uri

During load shed



Elliott

Average throughout event



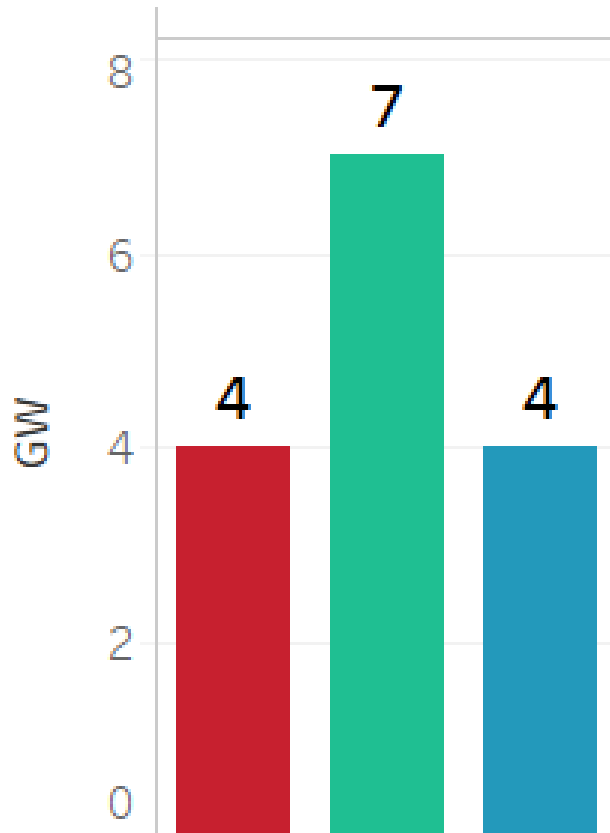
During Elliott, accredited gas performed above Uri levels by ~8.7 GW

- Available
- 5-Year Available
- Accredited

URI VS ELLIOTT WIND AVAILABILITY

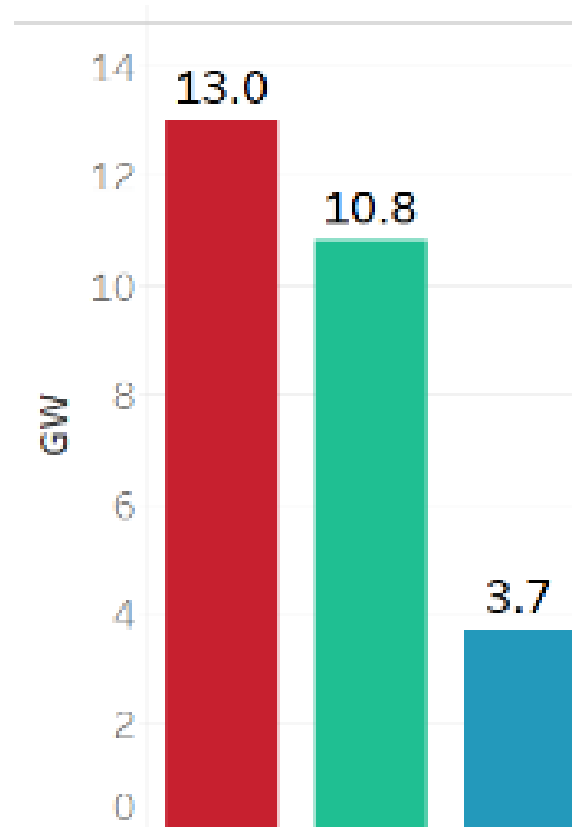
Uri

During load shed



Elliott

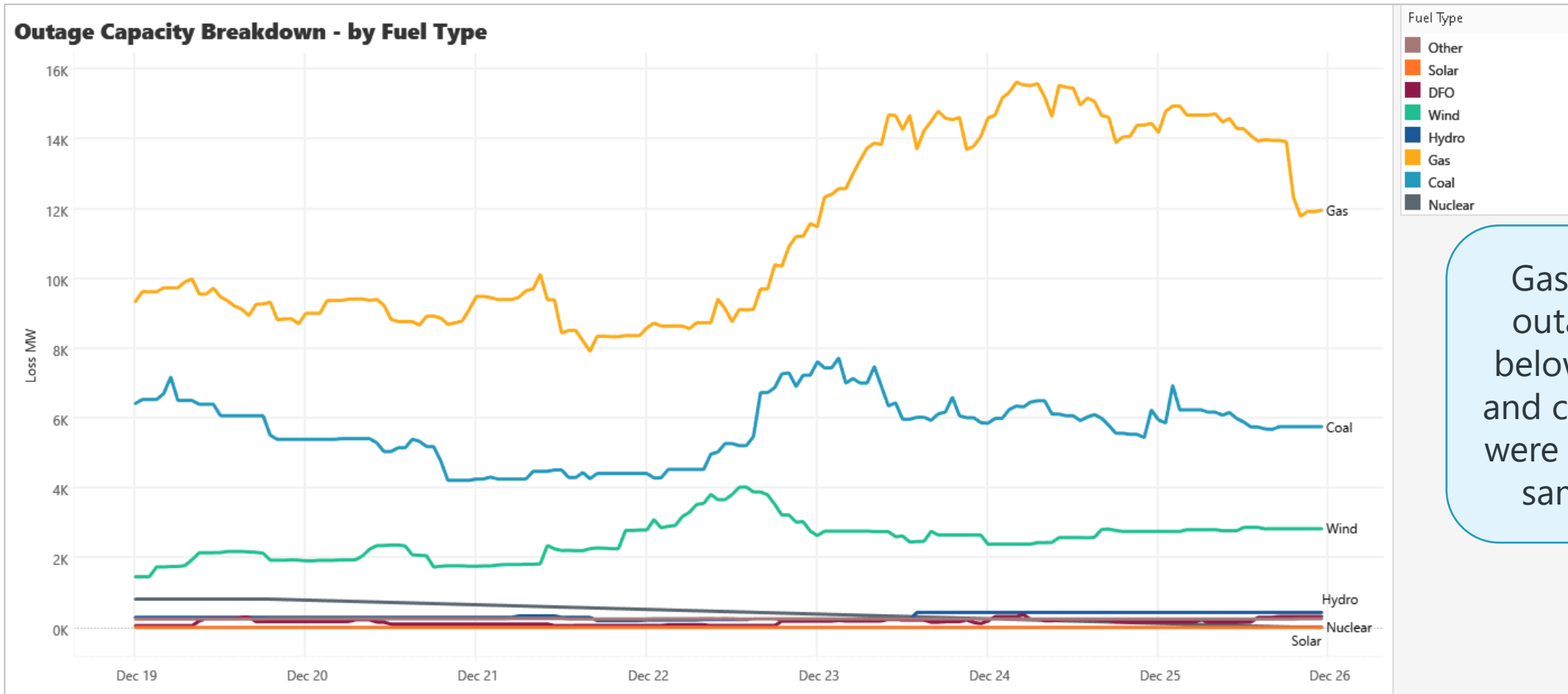
Average throughout event



During Elliott, accredited wind performed above Uri levels by ~9 GW

- Available
- 5-Year Available
- Accredited

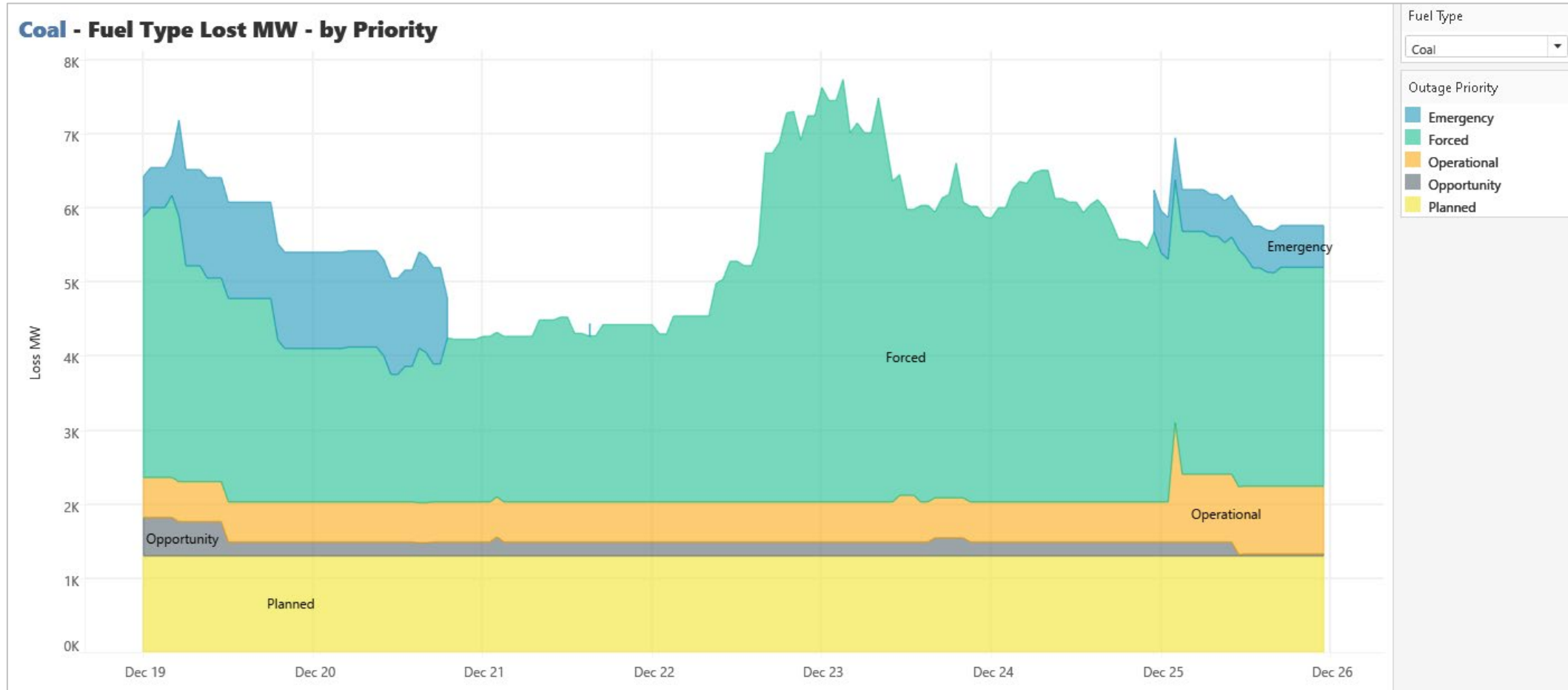
GENERATING CAPACITY OUTAGES ELLIOTT



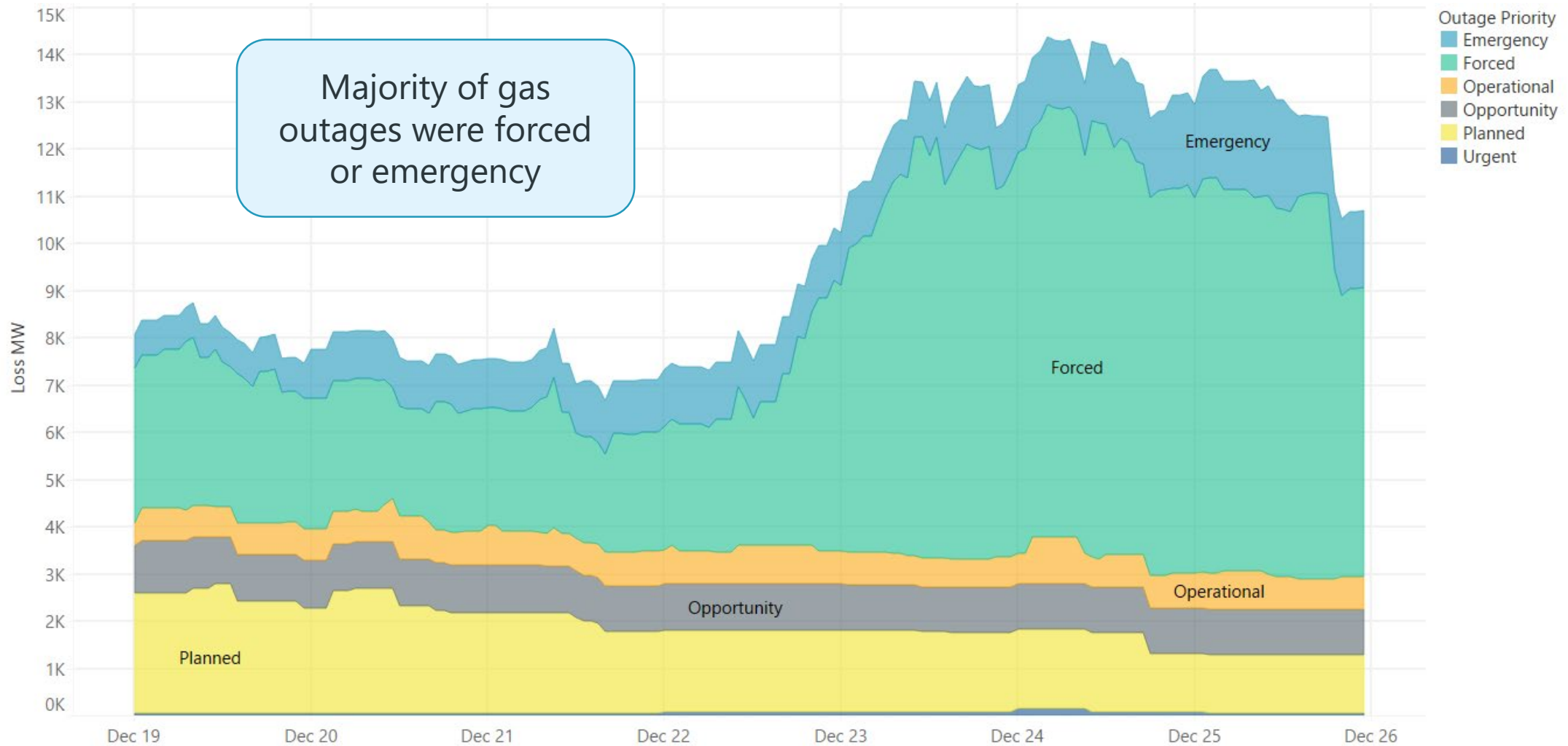
Gas and wind outages were below Uri levels and coal outages were roughly the same as URI

COAL BY PRIORITY ELLIOTT

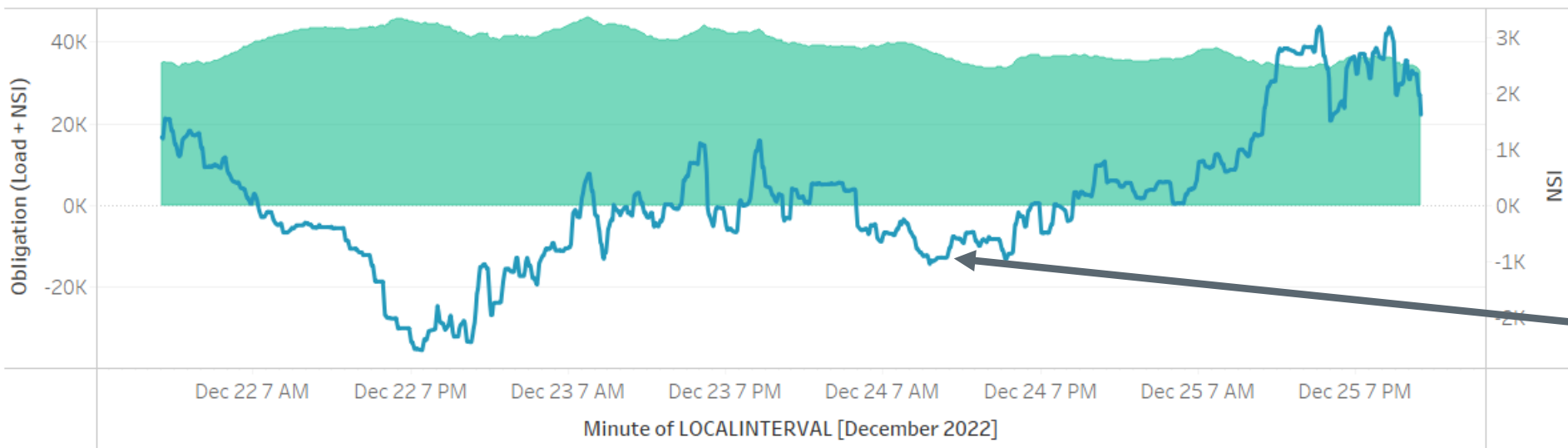
Majority of coal outages were forced or emergency



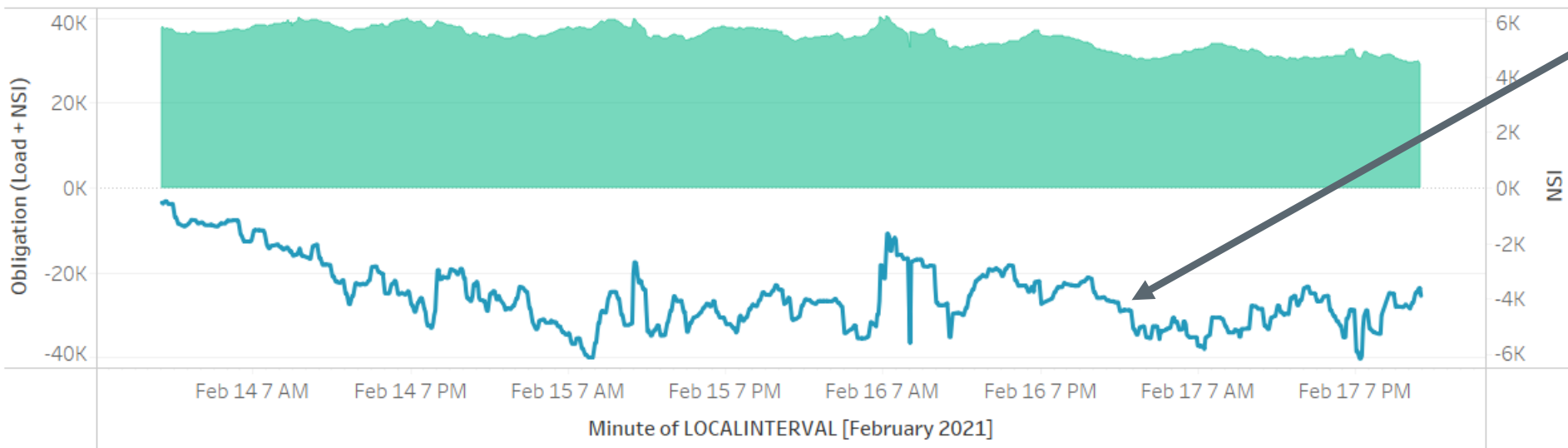
GAS BY PRIORITY ELLIOTT



2022 Winter Event Obligation and Net Scheduled Interchange **Elliott**



2021 Winter Event Obligation and Net Scheduled Interchange **Uri**

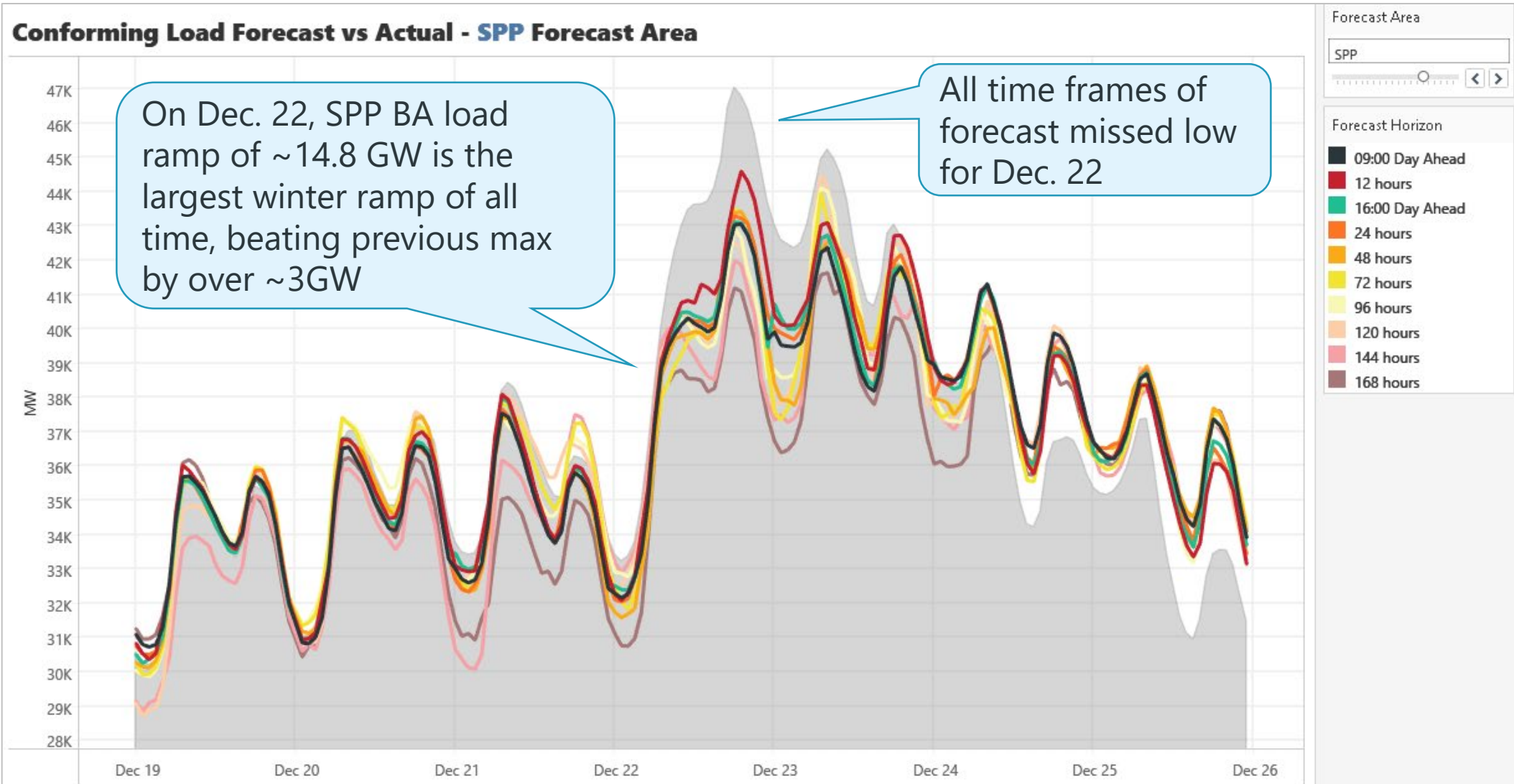


Measure Names
■ NSI
■ OBLIGATION

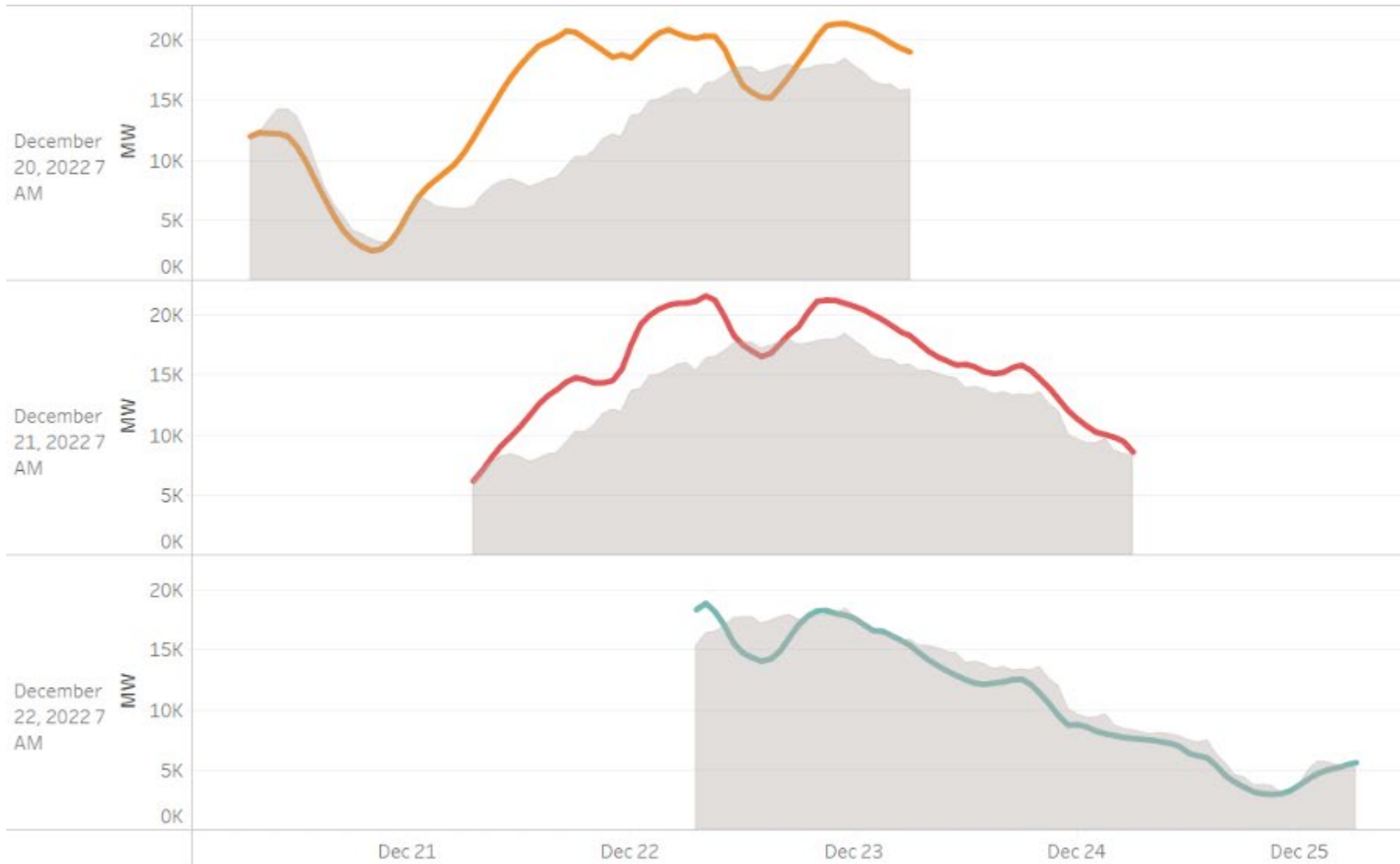
SPP imports were well below Uri levels during Elliott & SPP was exporting for much of the event

FORECAST

SPP LOAD FORECAST ELLIOTT



WIND FORECAST (COLD WEATHER/ICING) VS. ACTUAL ELLIOTT



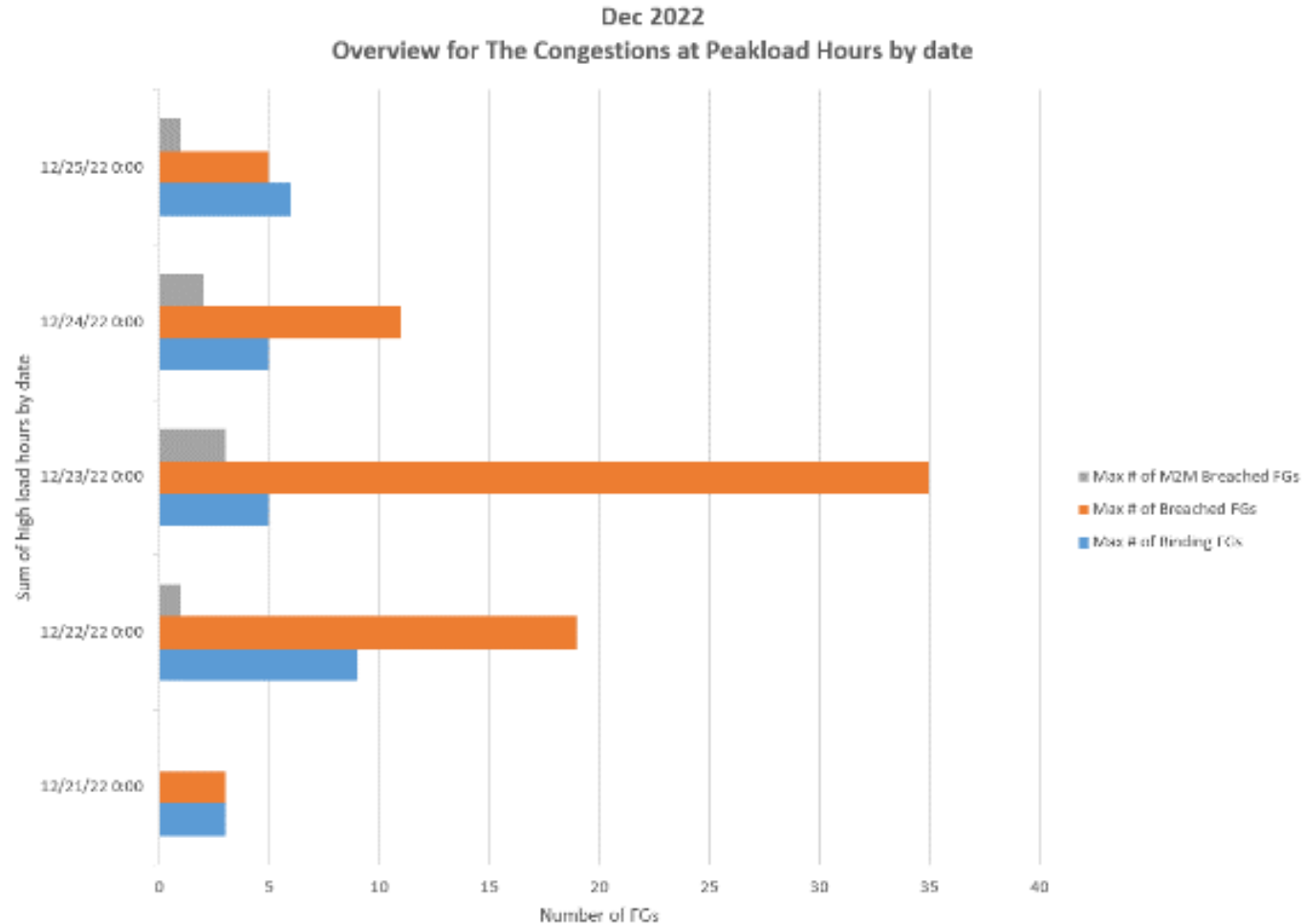
Forecast Time

- December 20, 2022 7 AM
- December 21, 2022 7 AM
- December 22, 2022 7 AM
- Actual Wind

“Icing” wind forecast performed very well for the event

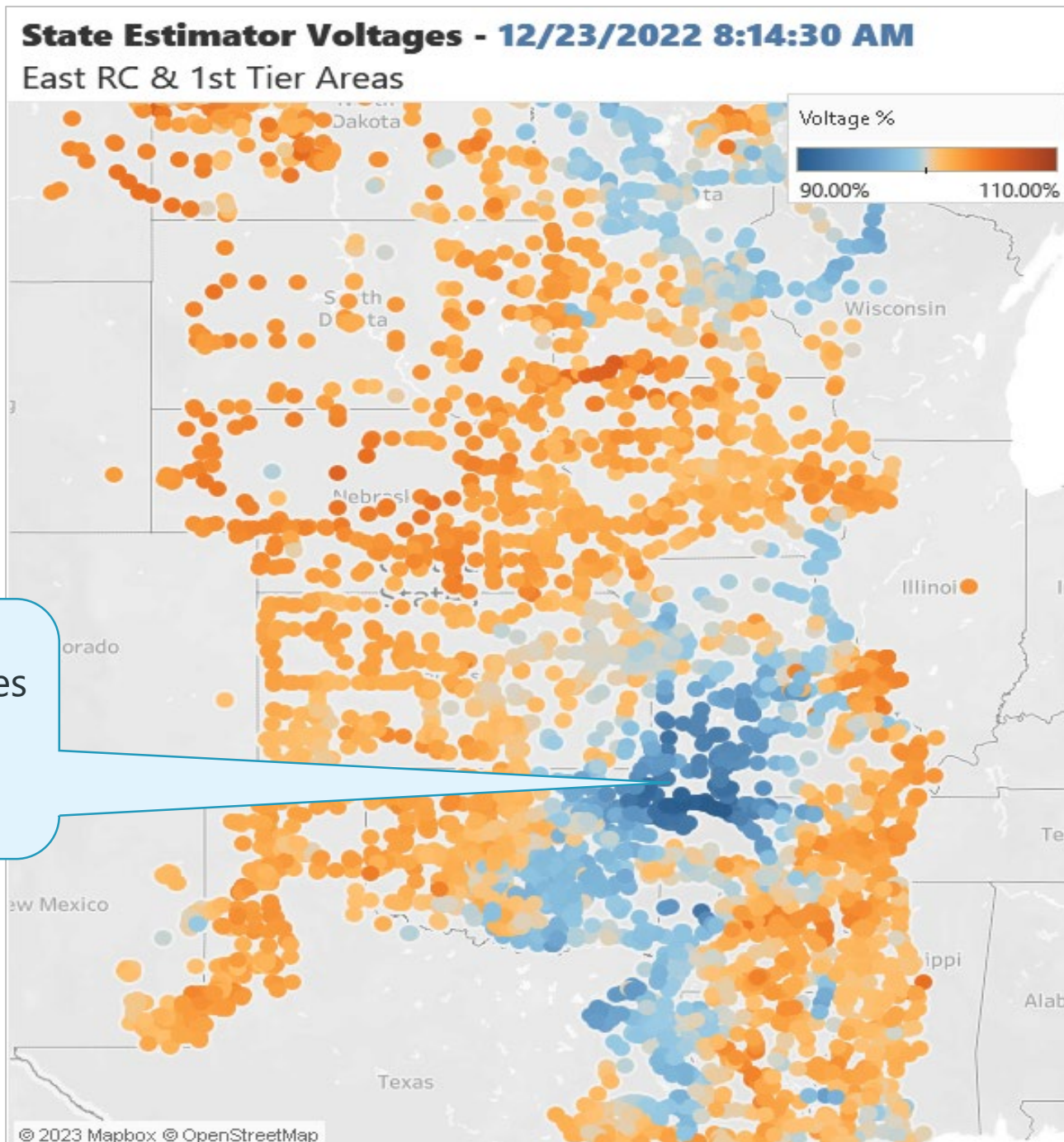
SYSTEM CONGESTION

OVERVIEW FOR THE CONGESTIONS AT PEAK LOAD



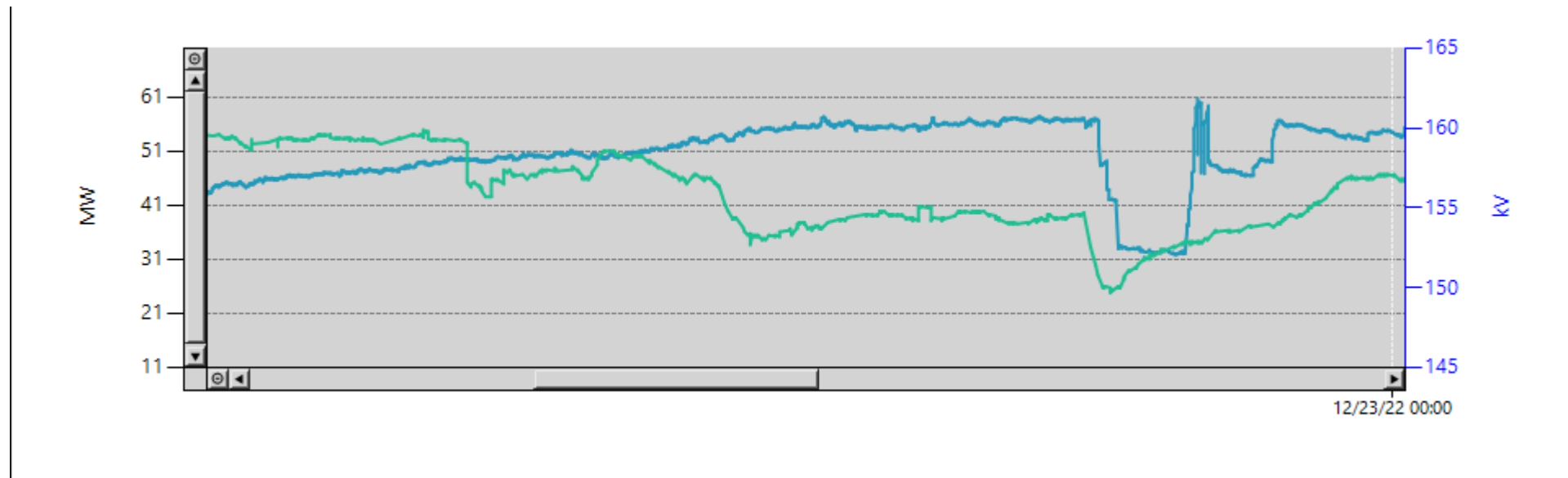
- **Elliott:** Max of 35 breached flowgates, w/50-60 actively managed by Reliability Coordinator and Markets
- **Uri:** Max of 28 breached flowgates, w/50-60 actively managed by Reliability Coordinator and Markets

SPP VOLTAGE HEAT MAP ELLIOTT



TOP-DIRECTED LOAD SHED

- Low voltages ultimately resulted in TOP-directed load shed
- EDE shed appx 25 MW on 12/22 from 21:00 to 21:15 primarily due to the lack of ability to deliver available native resources



NEXT STEPS

Complete post event review and gather lessons learned

Participate as requested in FERC/NERC/MRO inquiry

Continue to support resource adequacy efforts

- IRATF
- SAWG
- RSC



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