Winter Storm Elliott response

December 2022

Southern Company

Responding as Winter Storm Elliott enters our footprint

Winter Storm Elliott entered Southern Company's service territory with strong winds that gusted to 50+ mph and affected customers' electric service. Operating company crews responded throughout the Christmas weekend to safely restore power for some 390,000 customers affected by the high winds from Thursday night, Dec. 22, through Monday morning, Dec. 26.

Approximately **3,000** responders

2,000 company resources

&

1,000 native contractors

Service restored to **99%** of affected customers by **8 AM** CST on Christmas Day



Serving reliably during Winter Storm Elliott

Winter Storm Elliott brought historic, extended frigid temperatures that drove electricity demand to the system's highest-ever December peak load. Teams across Southern Company Operations and the system worked tirelessly 24/7 to reliably serve customers, with strong coordination across the electric generating fleet, retail operating company transmission and distribution, Fleet Operations, Fuels and Energy Trading and Bulk Power Operations. The system retained sufficient reserves throughout the event.

Our reliability is supported by

- State-led IRPs that enable seasonal Target Planning Reserve Margin (25.5% winter) & associated resource plan and investments
- Year-round extreme-weather preparedness
- Design standards for winterization & hardening
- Fuel supply assurance & diverse fuel mix
- Effective procedures, communication and training

Average temperature on Dec. 24, 2022, coldest December since 1989
13°F for 5 consecutive hours

As we addressed some system issues during Elliott, we benefited from

- Peaking generation from both steam units and dual-fuel resources not frequently operated
- Utilization of demand-side options & other system load-management resources
- Emergency Energy purchases across the peak demand hours (see timeline)
- Solar contribution

System weighted average temperature
≤30°F for 55 hours
≤20°F for 15 hours

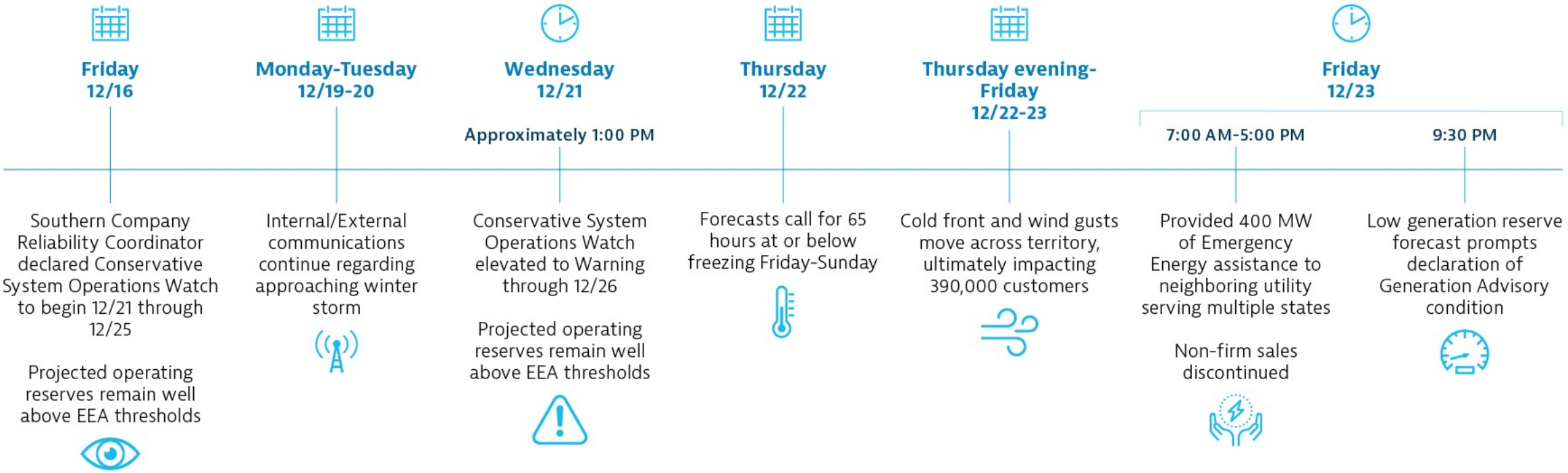
Extreme Christmas Eve cold
Atlanta, Birmingham & Gulfport
20-30°F below normal
(North Georgia low of 4°F)

Historic system hourly December peak load served
37,577 MW
Dec. 24, 7-8 a.m. CST
(All-time hourly integrated winter peak 39,130 MW Jan. 7, 2014)

Southern Balancing Area winter peak load
45,153 MW
Dec. 24, 7:53 a.m. CST
(All-time winter peak 45,887 MW Jan. 7, 2014)

Timeline

All times CST



Timeline

All times CST

Saturday, 12/24 (Christmas Eve)

Approximately 1:00 AM

EEA 1 declared by SBA due to increasing loads

1:10 AM- 5:25 AM

EEA 1 actions included

Voltage reduction program

Additional system peaking capacity requested

Interruptible customer loads curtailed

5:25 AM

EEA 2 declared by SBA due to declining operating reserves and expected load increase

Emergency Energy assistance requested from neighbor utilities

6:00 AM- 12:00 PM

Southern Company received 1000 MW of Emergency Energy assistance from Florida

7:00 AM- 8:00 AM

Southern Company received 100 MW of Emergency Energy assistance from MISO

SBA Peak load 45,153 MW @ 7:53

Southern Company hits highest December peak on record – 37,577 MW

7:00 AM- 12:00 PM

Southern Company provided 100 MW of Emergency Energy assistance to South Carolina

11:08 AM

Interruptible load restoration begins

12:00 PM - 7:00 PM

Southern Company provided 400 MW of Emergency Energy assistance to South Carolina

1:15 PM

EEA 2 downgraded to EEA 1 by SBA

7:00 PM- 9:00 PM

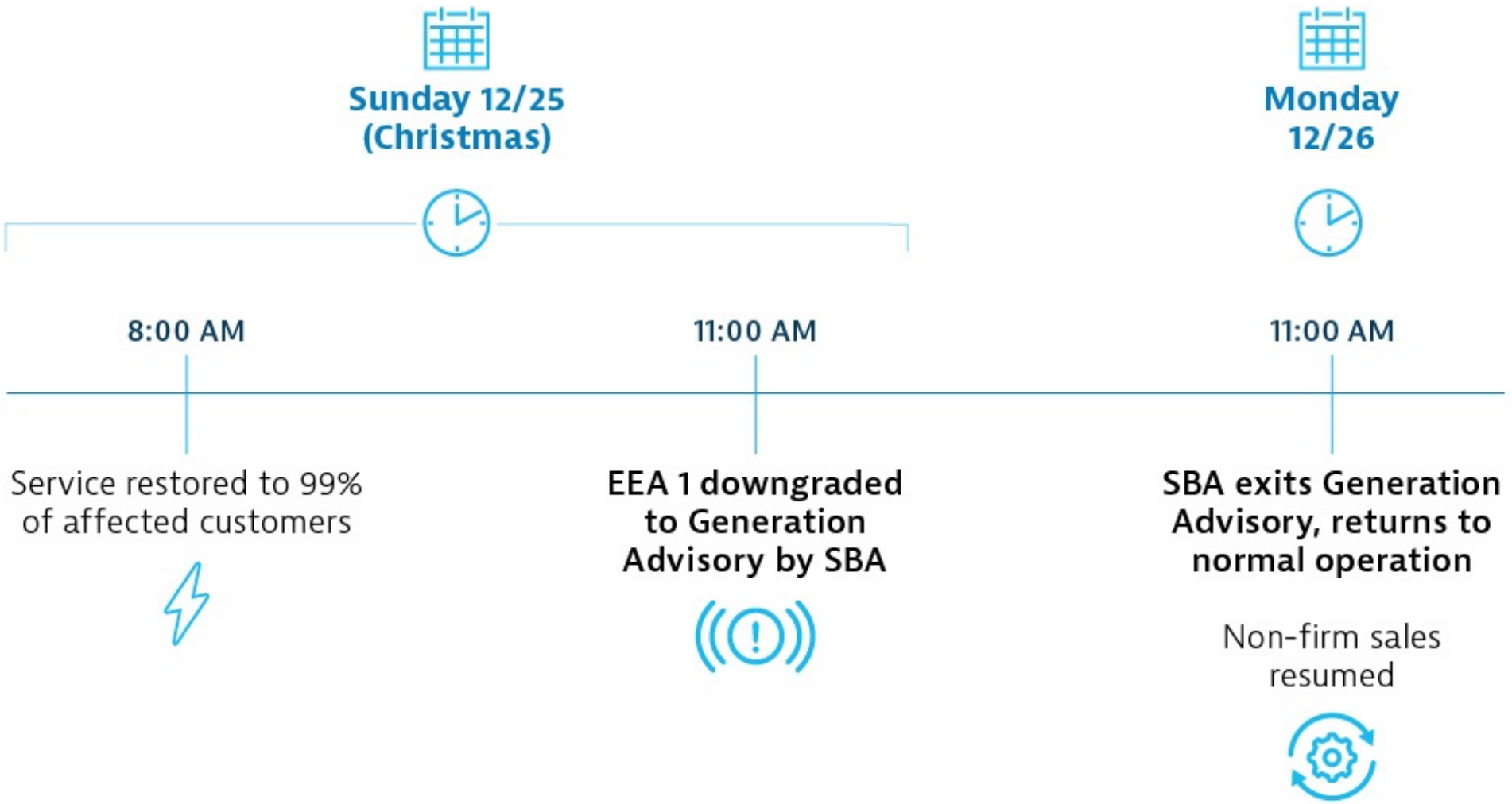
Southern Company provided 200 MW of Emergency Energy assistance to South Carolina

11:00 PM - 1:00 AM
~500 MW of gas/oil generating capacity forced offline

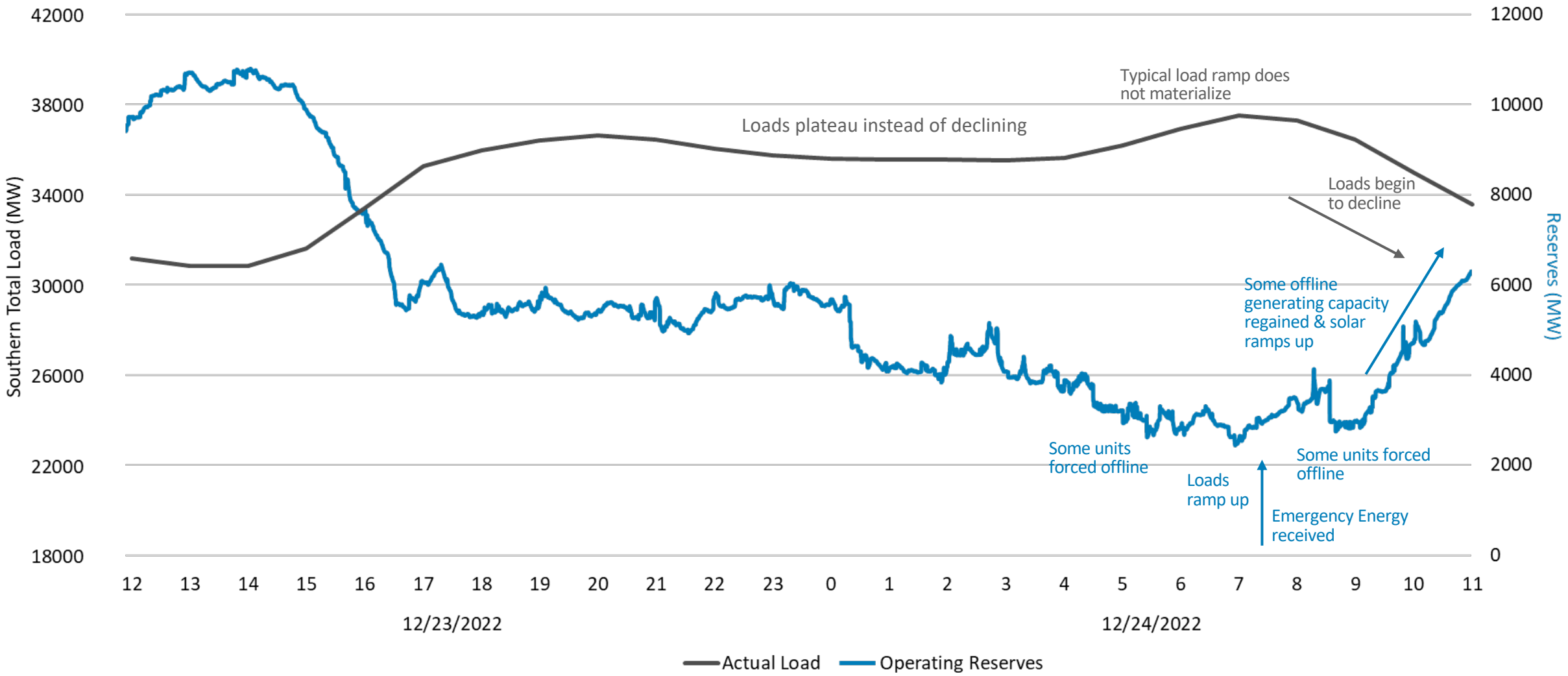
1:00 AM - 5:00 AM
Additional ~890 MW of gas/combined cycle generating capacity forced offline

Starting at 8:00 AM
Reserve margin improves as loads begin to ease, some offline generating capacity is regained and solar ramps up

Timeline


Sunday 12/25
(Christmas)
Monday
12/26
8:00 AM
11:00 AM
11:00 AM
Service restored to 99%
of affected customers
EEA 1 downgraded
to Generation
Advisory by SBA
SBA exits Generation
Advisory, returns to
normal operation
Non-firm sales
resumed

Load and operating reserves




Southern
Company