



2025 State of Reliability

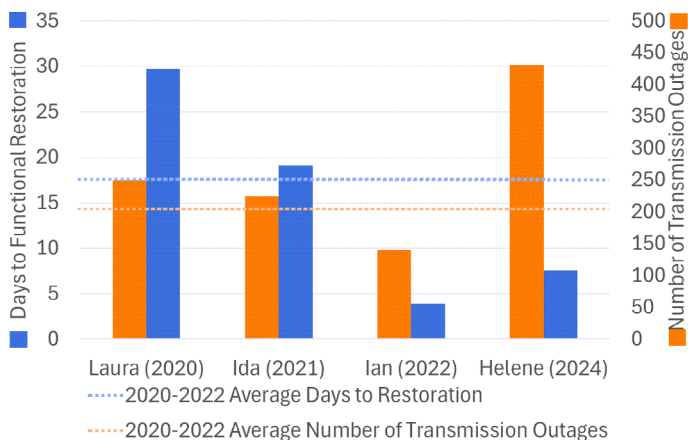
[SOR Overview](#) | [SOR Technical Assessment](#) | [SOR Video](#)

NERC's 2025 *State of Reliability* (SOR) provides an in-depth analysis of the 2024 bulk power system (BPS) performance. It identifies system performance trends and emerging reliability risks; reports on the relative health of the interconnected system; and measures the success of mitigation activities deployed. The SOR shows that today's transmission system is demonstrably more reliable and resilient with the severity and duration of outages declining, and system restoration times becoming shorter. However, newer and emerging risks are challenging grid reliability in new ways, which will require agility to better assess these risks, and develop and implement mitigations, all while the system undergoes rapid transformation.



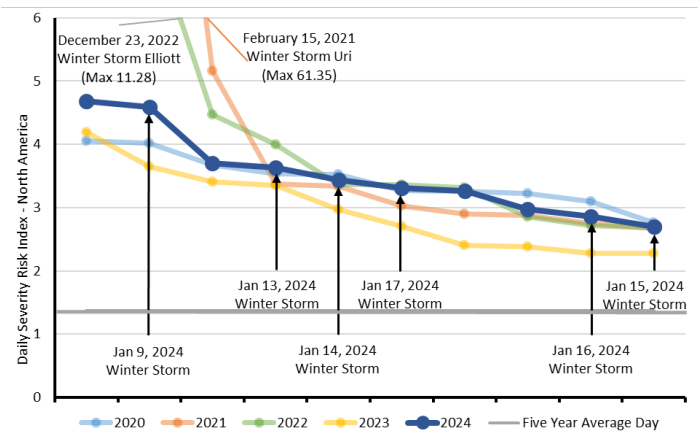
Severe weather: Despite Hurricane Helene's record-setting transmission outages, BPS functionality recovered in half the average time of prior Category 4 hurricanes.

Transmission Restoration



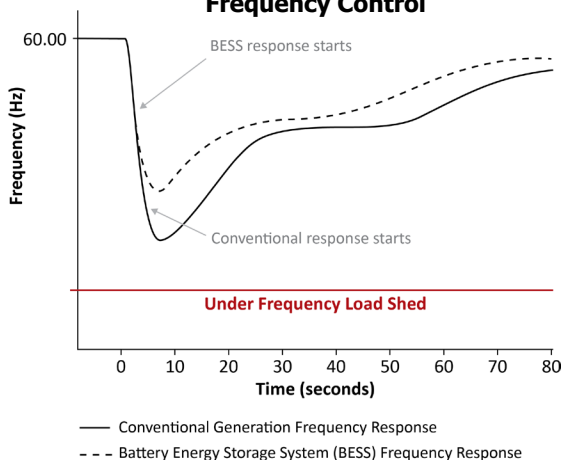
Generator performance in the cold: Major winter storms continue to pose a significant risk to generator reliability; however, performance improvements were seen following NERC and FERC efforts, with no operator-initiated load shed.

Annual Top 10 Most Severe BPS Performance Days



Battery storage: Installations in the Texas and Western Interconnections are improving frequency control. These improvements are a result of quicker response times arresting the frequency closer to the target of 60Hz.

Frequency Control



Large loads : The size and speed of interconnection are creating one of the greatest near-term reliability challenges. Recent events have shown the importance of improving industry's understanding of large load behavior.

Large Load Loss Events

