

2021 State of Reliability

The *State of Reliability* provides analysis of past bulk power system performance to identify system trends and emerging reliability risk. It also highlights the health of the interconnected bulk power system and the effectiveness of reliability risk mitigation activities.

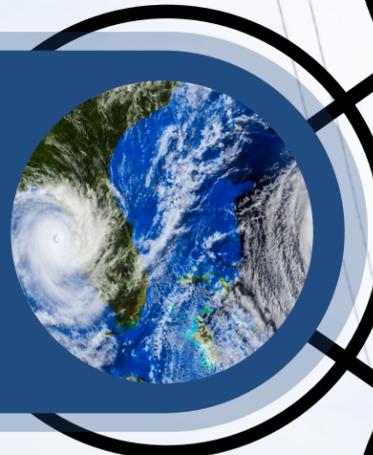
The bulk power system remained reliable even though operator-initiated load shedding increased in 2020. Pandemic impacts were avoided through advanced planning.



Summer load shedding underscores energy adequacy risk and a growing vulnerability to extreme weather.



Collectively, weather events and wildfires caused transmission outages with greater frequency than in prior years and were contributors to the most widespread transmission outages. Outages due to human error and equipment failure show continued improvement.



Supply chain disruptions increase the threat landscape and the urgency of cyber security risk response.



As the fuel mix continues to transform, increasing amounts of weather-dependent generation—like solar and wind—require more supplemental and flexible resources to help balance supply and demand. More transmission is needed to access diverse resources.



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