

Media Release

Grid Resilience to Severe Weather and Protection System Performance Improved; Risks from Cyber and Physical Security Increased

June 15, 2017

ATLANTA -- The North American Electric Reliability Corporation's [State of Reliability 2017](#) report reviews past performance of the bulk power system, examines the state of system design, planning and operations, and the ongoing efforts by NERC and industry to continually improve system reliability and resiliency.

This independent review of bulk power system is based on analysis of data and metrics, which enables NERC to examine trends, identify potential risks to reliability, establish priorities and develop effective mitigation strategies.

"This year's report found that the bulk power system provided an adequate level of reliability during 2016." said James Merlo, vice president and director of Reliability Risk Management at NERC. "This analysis helps NERC and industry determine the effectiveness of mitigation efforts and provides recommendations to maintain a reliable and secure grid."

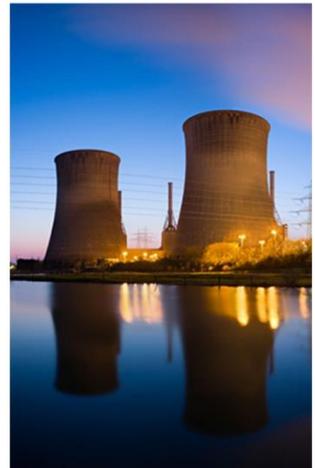
In 2016, protection system misoperations continued a four-year decline, decreasing to 8.7 percent — down from 9.5 percent in 2015 and 10.4 in 2014. However, the three largest causes of misoperations remains the same — incorrect settings/logic/design errors, relay failure/malfunctions, and communication failures. This shows that continued focus on regional education, outreach and training efforts with stakeholders is needed.

Other findings include:

- **No Category 4 or 5 events.** For the second consecutive year, there were no Category 4 or 5 events consecutive year and only two Category 3 events.

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- **Frequency response shows improvement, but requires continued focus.** Three of the four interconnections trended “improving” while the Québec Interconnection frequency trend moved from “declining” to “stable.”
- **Cyber and physical security risk increases.** While there were no reported cyber or physical security incidents that resulted in a loss of load in 2016, cyber and physical security threats are increasing and becoming more serious over time.
- **Transmission outages caused by human error shows slight increase.** While no increase in outage severity was discovered, human error remains a major contributor to transmission outage severity.
- **BPS resiliency to severe weather continues to improve.** For the second consecutive year, there were no days that the daily severity risk index was part of the top-10 most severe list of days between 2008 and 2015, despite days with extreme weather conditions across North America.

NERC’s *State of Reliability 2017* also highlights key recommendations, including enhancing measurement of frequency response and voltage to quantify effects of changing resource mix, including vendors and manufacturer in analyses where possible, and redefining reportable cyber and physical security incidents to be more granular.

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The North American Electric Reliability Corporation (NERC) is a not-for-profit international regulatory authority whose mission is to ensure the reliability of the bulk power system in North America. NERC develops and enforces Reliability Standards; annually assesses seasonal and long-term reliability; monitors the bulk power system through system awareness; and educates, trains, and certifies industry personnel. NERC’s area of responsibility spans the continental United States, Canada, and the northern portion of Baja California, Mexico. NERC is the electric reliability organization for North America, subject to oversight by the Federal Energy Regulatory Commission and governmental authorities in Canada. NERC’s jurisdiction includes users, owners, and operators of the bulk power system, which serves more than 334 million people.