

Critical Infrastructure Reliability Standards for Electric Utilities Issue Brief

SUMMARY

The North American Electric Reliability Corporation ([NERC](#)) is the organization mandated by the [U.S. Energy Policy Act of 2005](#) and charged by the U.S. Federal Energy Regulatory Commission ([FERC](#)) to draft and enforce reliability standards intended to protect cyber assets of the U.S. bulk- electricity system, generally defined as energy generation exceeding 1,500 MW in a single location or energy transmission operating at 100 kV or greater. Nearly all energy distribution networks, which typically operate at voltages below 40 kV, along with smart meters and residential service, are outside the scope of NERC and are regulated at the state and local levels.

NERC accomplishes its mission through a set of Critical Infrastructure Protection ([CIP](#)) reliability standards that are approved by FERC. Once approved, utilities must be compliant by an established date. NERC has authority to assess fines against non-compliant utilities in amounts up to \$1,000,000 per violation and per day, retroactive to the effective date of the standard.

UTC POSITION

As the global association representing the telecommunications and critical infrastructure needs of the energy and water utility sectors, the Utilities Technology Council (UTC) is well positioned to assist its members who develop and implement NERC CIP standards. UTC experts understand how the standards impact the Information and Communications Networks (ICT) owned, operated, and deployed by utilities in order to reliably deliver energy and water services. UTC also provides educational opportunities on grid security and compliance best practices.

BACKGROUND

NERC was a voluntary organization established in

1968; under the 2005 Energy Policy Act, utility participation in NERC became mandatory.

NERC drafts new or revised CIP reliability standards through standards-drafting teams consisting of industry stakeholders, asset owner/operators, and other industry subject matter experts. Once a standard is completed, NERC members vote, and if it is approved, NERC sends the draft standard to FERC for adoption. FERC can either adopt the standard, return it to NERC for further work, or seek additional comment from stakeholders before acting. FERC can also order NERC to draft a standard, which it has done twice.

NERC delegates its authority to monitor and enforce compliance to seven [Regional Entities](#) that audit asset owner/operators:

- Florida Reliability Coordinating Council (FRCC)
- Midwest Reliability Organization (MRO)
- Northeast Power Coordinating Council (NPCC)
- ReliabilityFirst (RF)
- SERC Reliability Corporation (SERC)
- Texas Reliability Entity (Texas RE)
- Western Electricity Coordinating Council (WECC)

NPCC, MRO, and WECC include Canadian provinces because of the international nature of the interconnected grid (parts of Mexico are also interconnected to the North American grid. NERC CIP standards address definition of cyber assets, electronic perimeters, personnel, information change management, security system management, information protection, incident

response, recovery planning and physical security.

SITUATIONAL AWARENESS

For the most part, NERC CIP Reliability Standards have driven a level of cybersecurity spending that utilities might not otherwise have undertaken. Therefore, reliability standards have had a positive impact, bringing attention and funding to protection of critical infrastructures. However, some industry stakeholders have conflated compliance with security and the two are not equivalent. Compliance is adherence to a one-size-fits-all list of requirements.

Security derives from an asset-based risk assessment that is unique to each utility. The uniqueness of each utility's risk profile means that no utility can achieve security solely through compliance with regulations. UTC believes that existing NERC CIP requirements have helped bring a much-needed spotlight on utility security. There is, however, a point at which regulation ends and security begins.

When regulation can improve utility security across the board, UTC will support it. If we believe that proposed new regulation will impose additional workload without improving security, UTC will offer commentary—often in unison with other trade associations—on whether this regulation will improve utility security. UTC's NERC CIP involvement focuses on areas of the Information and Communications Technology (ICT) assets for our member electric utilities.

UTC stays ahead of decision-making through involvement with FERC and NERC to:

- Influence standards development in the best interest of securing our members' ICT assets; and,
- Give our members as much advance notice as possible of new NERC CIP standards that could affect the deployment and operation of their ICT.

UTC provides its members a private forum to discuss the impact of current or proposed standards upon their ICT assets. UTC assists its member utilities with NERC CIP compliance through frequent webinars and other educational activities.

ABOUT UTC

UTC is a global trade association dedicated to serving critical infrastructure providers. Through advocacy, education and collaboration, UTC creates a favorable business, regulatory and technological environment for companies that own, manage or provide critical telecommunications systems in support of their core business.

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