

Announcement

Increased EV-Charging Demand and Changing Load Profile Underscore Need for Cross-Sector Collaboration

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ATLANTA – The advent and adoption of electric vehicles (EVs) is ushering in a transformative era in transportation, posing unique challenges to the grid and necessitating a cross-sector-coordinated approach to ensuring bulk power system reliability, resilience, and security. Historically, the transportation sector has largely remained independent of the electricity sector, but this is changing quickly as EV charging depends on the safe, reliable, resilient, secure, and affordable delivery of electricity. Additionally, this increase in demand has the potential to significantly change the load profile of the North American bulk power system.

NERC’s [Potential Bulk Power System Impact of Electric Vehicle Chargers](#) white paper informs EV stakeholders and policymakers about the need for greater cross-sector collaboration. It also includes findings and recommendations from a NERC study that sought to determine how EV chargers interact with the grid to identify and promote grid-friendly behaviors about EVs and their charging systems.

With significant load growth projected in this area through 2050—as also highlighted in the [2023 RISC Report](#)—properly managing this transition to avoid potential adverse impacts on reliability is critical. Historic load compositions consisted of mostly mechanical motors for the end-use consumption of electricity; whereas, EVs have different end uses based on customer preference and new technology capabilities. NERC is charged with producing accurate bulk power system assessments to ensure reliable delivery of power; therefore, the electrical response of EVs, among other loads, must be understood. The white paper’s key findings and recommendations underscore that there are still existing knowledge gaps about EVs and their charging systems.

“As the rapid electrification of the fleet continues, increased cross-sector awareness, collaboration, innovation and information sharing will be essential to closing these knowledge gaps, meeting future demand and ensuring grid reliability, resilience and security,” said Soo Jin Kim, NERC’s vice president of Engineering and Standards.

As part of its role as the Electricity Reliability Organization, NERC studies information from a variety of sources to evaluate potential risks to the grid. These assessments and studies provide industry and stakeholders with engineering analyses, key findings and guidance on potential risks to promote and maintain a reliable and secure bulk power system.

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