

Written Testimony of Kal Ayoub  
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Federal Energy Regulatory Commission  
before the  
Committee on Energy and Natural Resources  
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Introduction

Chairman McCormick, Ranking Member Gallego, and Members of the Subcommittee, thank you for the opportunity to testify today. My name is Kal Ayoub, and I am the Director of the Office of Electric Reliability (OER) of the Federal Energy Regulatory Commission (FERC or the Commission). OER is responsible for taking a lead role in carrying out the Commission's responsibilities in protecting, improving, and overseeing the reliability and security of the nation's Bulk-Power System through effective regulatory oversight as established in the Energy Policy Act of 2005.

I am here today as a Commission staff witness and my remarks do not necessarily represent the views of the Commission or any individual Commissioner. My testimony summarizes the Commission's oversight of the reliability of the Bulk-Power System and recent Commission activity implementing that authority.

FERC's Reliability Authority

In the Energy Policy Act of 2005, Congress amended the Federal Power Act to add section 215 pertaining to Bulk-Power System reliability. Through this provision, Congress tasked the Commission with responsibility to oversee mandatory, enforceable reliability standards for the Nation's Bulk-Power System. This authority pertains to the interconnected electric power system (the "grid") in the United States, and excludes Alaska, Hawaii, and local distribution systems. The Bulk-Power System also includes the electric energy needed to maintain transmission system reliability.

Section 215 of the Federal Power Act requires the Commission to certify an Electric Reliability Organization (ERO) that is responsible for proposing, for Commission review and approval, reliability standards to help protect and improve the reliability of the Nation's Bulk-Power System. The Commission certified as the ERO the North American Electric Reliability Corporation (NERC). The reliability standards apply to the users, owners and operators of the Bulk-Power System and become mandatory in the United States only after Commission approval. NERC and its six Regional Entities enforce the reliability standards and may impose penalties for noncompliance, after notice and opportunity for hearing, subject to review and

approval by the Commission. The Commission may also enforce reliability standards independently of NERC.

The Commission may approve proposed reliability standards or modifications to the standards if it finds them to be “just, reasonable, not unduly discriminatory or preferential, and in the public interest.” If the Commission disapproves of a proposed standard or modification, section 215 requires the Commission to remand it to the ERO for further consideration. The Commission does not have the authority to modify or author a reliability standard. Rather, on its own motion or upon complaint, the Commission may direct the ERO to develop and submit for Commission approval a new or modified reliability standard on a specific matter to address a reliability gap.

### Reliability Landscape

Today, reliability is being shaped by several major factors.

First, rapid load growth, particularly from large, concentrated loads such as data centers and advanced manufacturing, is occurring at a speed and scale that challenge traditional planning processes. Simply put, data centers can be built much faster than needed generation and transmission can be added to serve them.

Second, the resource fleet is becoming more diverse, and, while all types of resources contribute to reliability, they do so in different ways. This means reliability now depends on accurately modeling how each resource type performs and ensuring they meet clear, consistent performance expectations to support reliability, both when the grid is operating normally and when conditions are challenging due to outages or unexpectedly high demand.

Third, extreme weather events are now common. These events test the resilience of the grid, highlighting the importance of preparedness, coordination, and infrastructure performance under stressed conditions.

Overlaying all of this is the ever-present and constantly evolving threat landscape related to cybersecurity and physical security. Protecting the grid from malicious actors, whether through cyber intrusions, physical attacks on critical facilities, or exploitation of vulnerabilities in supply chains, remains fundamental to maintaining reliability.

### FERC Activity Pertaining to Bulk-Power System Reliability

The Commission has taken extensive actions over the years to ensure reliability.

Since establishing the Critical Infrastructure Protection reliability standards in 2008, the Commission has expanded requirements to safeguard against cyber and physical threats, including new rules on supply chain risk management, internal network security monitoring, and incident response. To prepare for increasingly severe weather events, the Commission approved new extreme weather reliability standards, directed further modifications to improve extreme cold weather preparedness and operations, and required transmission providers to assess vulnerabilities. The Commission also directed NERC to develop reliability standards that address reliability risks associated with the rapid growth of inverter-based resources, which include modern wind turbines, solar photovoltaic, and battery energy storage resources. As a result, NERC has submitted and the Commission has approved a series of new and modified reliability standards that address inverter-based resources.

Currently, the Commission is closely following emerging large load activity, including ongoing NERC activity to (1) identify and register large loads for compliance with reliability standards and (2) develop new reliability standards that address the reliability risks associated with large loads. Once completed, NERC will submit the large load-related reliability standards for Commission review and approval.

### Conclusion

Chairman Swett regularly emphasizes that the Commission's core responsibility is to ensure reliable and secure energy at just and reasonable rates for consumers. She routinely underscores that regulatory certainty is foundational to achieving that goal, providing the clarity needed for timely investment in infrastructure and enabling the system to keep pace with rapidly growing demand. A key part of that clarity is making sure large loads can connect with the grid quickly and predictably, with processes that move at the pace these projects arrive while still maintaining reliability.

The legislation under consideration reflects many of these challenges, particularly with respect to infrastructure development, system planning, and maintaining reliability in the face of evolving demand and resource conditions. From a technical perspective, policies that support accurate risk assessments, clear planning processes, timely infrastructure development, and effective coordination across stakeholders are essential to maintaining reliability.

In closing, the reliability framework established by Congress has provided a strong foundation for maintaining the reliability and security of the Bulk-Power System. The Commission remains committed to working with Congress, NERC, and industry to ensure that the grid remains reliable, resilient, and secure.

Thank you, and I look forward to your questions.