

**Statement of David Ortiz, Ph.D.**  
**Deputy Assistant Secretary**  
**Office of Electricity Delivery and Energy Reliability**  
**U.S. Department of Energy**  
**June 4, 2015**

**FERC Docket: AD15-7-000**

Thank you Chairman Bay and Commissioners for an invitation to participate in today's technical conference concerning the reliability of the U.S. Bulk Electric System. The U.S. Department of Energy appreciates the opportunity to comment on the Electric Reliability Organization (ERO). My name is David Ortiz and I am a Deputy Assistant Secretary in the Office of Electricity Delivery and Energy Reliability (Office of Electricity). My role is to manage the Energy Infrastructure Modeling and Analysis division of the Office of Electricity, which coordinates research programs at the National Laboratories, universities, and industry consortia to improve energy system decision-making through system measurement, modeling, and risk analysis.

As part of the third panel we have been asked to address four questions related to performance of the ERO as well as discuss current on-going initiatives at the ERO. These questions provided on the supplemental agenda address a wide range of current issues at the ERO, including a focus on NERC's Compliance Monitoring and Enforcement Program, event analysis, the Electricity Subsector Coordinating Council (ESCC) and Electricity Sector Information Sharing and Analysis Center (ES-ISAC), and how the ERO is incorporating recent research results into its standards development process.

First and foremost, the Department of Energy strongly supports the activities of the Electricity Sector Coordinating Council (ESCC) and the Electricity Sector Information Sharing and Analysis Center (ES-ISAC) in coordinating industry responses to enhance the security of the electric grid and to respond to events. The ESCC has played a vital role in bringing together high-ranking industry executives, government agencies, and industry trade associations to address high-profile issues regarding the U.S. electric system. The ES-ISAC has grown as an organization over the past seven years, and it still needs to mature further to meet the constantly evolving threat environment in which the bulk electric system is operated and planned. From a Federal perspective, DOE, FERC, and the Department of Homeland Security need to continue to work together to ensure both the ESCC and ES-ISAC are having a measureable impact on the reliability, and the management of risks to reliability, of the grid.

My second area of focus is on electricity event analysis process and the useful data it provides not only to industry members in the development of NERC Reliability Standards, but also to highlight the importance of event analysis data to our expanding electricity systems research community. Since 2001, researchers at our National Laboratories and Universities have encountered increasing roadblocks in acquiring access to data vital to advancing how the electricity grid is both planned and operated on the daily basis.

Since NERC was certified as the ERO in 2006, there has been an increasing lack of transparency regarding what events have happened on the system and what standard sets of data are collected during these event analysis processes. While NERC has developed and iterated upon an event analysis process, the data and the results of the event analyses are shielded from public disclosure. While some protection of data is necessary, the complete unavailability of these data hampers research and analysis that seeks to prevent or mitigate events, and the public interest. From my review of the NERC Rules of Procedure, there is not a comprehensive, repeatable process in place to ensure outcomes of the event analysis process are included in the development or updates of current NERC Reliability Standards. The lack of data availability prevents independent validation of NERC's conclusions.

The OE-417 Electric Emergency Incident and Disturbance Report, collected by the Office of Electricity, is the only public reference of events that have occurred on the bulk electric system. NERC also collects electric event reports through its EOP-004 Disturbance Report, but NERC has not published a summary report of the data collected via this survey instrument since 2009, determining that these data are confidential under NERC Rules of Procedure, Section 1500.

Having two incident reports creates additional burden on the industry and confounds transparent decision making. Because it is publicly available, the results of the OE-417 survey are available to state and Federal policy makers, system planners, law enforcement, other government agencies, and the public. It is often the basis of technical and policy decisions that could have wide-ranging consequences for the planning and operation of the North American bulk electric system. But the OE-417 history is incomplete. In 2012, researchers at Lawrence Berkeley National Laboratory performed a historical analysis of the event data reported on the OE-417 and the EOP-004 survey and identified discontinuities both among incidents reported and the reported impact on end-users of the system.<sup>1</sup>

Proper event analysis requires accurate data, consistent methods, and transparency. It is imperative that the Department work in partnership with the Commission, the ERO, and the Energy Information Administration (EIA) to ensure that data collections for events and general system planning are statistically relevant, timely, complete, and ensure minimal reporting burden on industry participants. This is an opportunity to leverage EIA's data collection, management, and stewardship authority.

I recognize, however, that a significant factor in the lack of data sharing is a concern that information provided to the Federal government is not necessarily protected from broad public disclosure in the event of a Freedom of Information Act (FOIA) request. To that end, a specific FOIA exemption for the energy system vulnerabilities—but not the broad outlines of system events—would help address the need to both share information to help improve the system while also protecting the existing system.

---

<sup>1</sup> Fisher, Emily, Joseph H. Eto, and Kristina Hamachi LaCommare. "Understanding Bulk Power Reliability: The Importance of Good Data and A Critical Review of Existing Sources" In IEEE 45th Hawaii International Conference on Systems Science (HICSS), 1. Maui, HI: LBNL, 2012, online at [http://emp.lbl.gov/sites/all/files/lbnl-5125e\\_0.pdf](http://emp.lbl.gov/sites/all/files/lbnl-5125e_0.pdf) (as of May 27, 2015).

The last topic I would like to discuss is the Office of Electricity's work on high-impact, low-frequency events as well as physical and cyber events. In 2010, the Department of Energy, along with NERC, published the report *High-Impact, Low-Frequency Event Risk to the North American Bulk Power System*, which reviewed four specific threats to the electricity system: solar storms (geomagnetic disturbances), electromagnetic pulse events, pandemic events, and coordinated attacks to the bulk electric system.

Since 2010, the Commission has issued rulemaking dockets approving NERC Reliability Standards related to critical infrastructure protection, physical security, and geomagnetic disturbances. These Reliability Standards represent today's most comprehensive thinking on these topics. However, this rulemaking activity should not represent NERC or the Commission's final work on these topics as research has continued to refine and advance the science and engineering on these topics.

Within my division at the Office of Electricity, ongoing research seeks to better characterize our scientific understanding of geomagnetic disturbances and electromagnetic pulse events and their impact on electricity systems. Where possible, this work will be published in peer-reviewed technical journals; however, this is not possible for all the research conducted on these topics to be published as some of the outcomes require classification.

In the area of physical security, the Office of Electricity's Infrastructure Security and Energy Restoration division works closely with the Commission, the ERO, the utility industry, and others to develop and share best practices for securing key sites. Research and development sponsored by the Office of Electricity is identifying ways in which the bulk electric system can be operated to mitigate the effect of large-scale disturbances, thus minimizing the potential reliability impact from physical attacks. As this research and development matures and finds application, there is the potential for the grid to become less vulnerable.

Therefore, in areas in which the science and engineering continue to advance, it is important for the ERO and the Commission to remain open to changes to standards so that they reflect the available science and industry best practice.

I once again thank the Chairman Bay and the Commission for the opportunity to participate in today's technical conference and I am open to your questions.