

Message  
from the Director

Next year the Department of Energy will celebrate an important milestone—the 25th anniversary of the Department’s first energy emergency field deployments to provide disaster support to an impacted State or U.S. Territory.

As the Department’s energy response has evolved over time, so too, has the office charged with leading DOE’s energy emergency response program, the Office of Electricity Delivery and Energy Reliability (OE). While earlier energy-related emergencies were handled by DOE’s Office of Energy Emergencies, which was created in 1981, it wasn’t until Hurricane Hugo and the San Francisco Loma Prieta earthquake in 1989 that the Department deployed responders and technical personnel to the field for the first time to aid overwhelmed State and local responders. These early field deployments predate the existing Emergency Support Function 12 (ESF-12) energy response structure (established in 1992) by almost four years, and the current OE organization by nearly 15 years.



DOE Responders after the 1989 Loma Prieta earthquake. Photo courtesy of Craig Zingman

The organizations that would ultimately form OE started in August 2003 when two distinct offices were created within the Department of Energy. The Office of Energy Assurance (EA) was established to coordinate Federal energy sector response activities during energy disruptions and to develop infrastructure hardening strategies, while the Office of Electric Transmission and Distribution (TD) was created to ensure a reliable, robust and modern U.S. electricity grid. The two offices subsequently merged in 2005 to form the Office of Electricity Delivery and Energy Reliability and it is through this merger that the former Office of Energy Assurance became the current Infrastructure Security and Energy Reliability (ISER) division within OE.

In the last ten years alone, OE (or its predecessor), has supported over 60 operational events. Some of our past efforts include the Northeast Blackout (2003); Hurricanes Isabel (2003), Charley, Frances, Ivan, and Jeanne (2004), Katrina, Rita, and Wilma (2005), Ike and Gustav (2008), Irene (2011) and Sandy (2012); California Wildfires and Greensburg, Kansas tornado (2007); the American Samoa Earthquake and Tsunami (2009); Mid-Atlantic and Mid-West Derecho (2012); and numerous National Special Security Events (some of which have been featured in past issues of the Quarterly). Our support has ranged from providing analytical expertise from headquarters to deploying subject matter experts to the field to facilitate coordination, conduct assessments, or provide technical assistance.

As a systems engineer, I recognize that energy systems are a set of very complex systems consisting of a series of feedback loops. Some of these feedbacks (e.g., global market, new regulations, climate change) bring varying levels of uncertainty, further adding to the complexity of the system. But things can become even more complicated when trying to predict the behavior of energy systems as a result of a catastrophic event. Technology, analytics, information sharing, knowledge creation and management, real-time monitoring capabilities, and the ability to build strong partnerships with academia, industry, states, and Federal partners, as well as the creation of strong national policies, are all key components to national preparedness.

Today, using an all-hazards approach, we focus on the entire spectrum of national preparedness—prevention, protection, mitigation, response and recovery. The ability to identify technical solutions to mitigate against potential events such as solar storms, or bring new technology to help energy owners and operators better understand cyber threats, is as important as response and recovery after an event. Next year, as we celebrate this 25-year milestone and reflect upon past successes and challenges, we remain committed to the important work yet to be done to achieve our goal of a better prepared nation.

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## “Clear Path” to Improve Energy Resilience

On September 12, 2013, the Office of Electricity Delivery and Energy Reliability (OE) conducted the Clear Path Tabletop Exercise, bringing together multiple Federal agencies and industry organizations for the purpose of exercising both DOE’s Emergency Response Organization (ERO) and the recently established Energy Restoration Team (ERT). The ERT, composed of liaisons from DOE, Federal partners, and energy industry and trade associations, is designed to work with the ERO, the Department’s energy emergency response mechanism, to supplement DOE response efforts on an as-needed basis as emergency events dictate. This new component to the ERO allows for more focused and efficient operations and ensures expertise and resources are maximized to the greatest extent possible. Clear Path was designed to validate the ERT organizational structure by reviewing the relationships among the various members and evaluating the newly revised emergency concept of operations plans. Additionally, the exercise was intended to identify communication gaps, delineate operational roles and expectations, and streamline interactions with other response entities.

In his opening remarks at the event, Secretary Moniz emphasized that the interdependencies between energy and other critical infrastructure sectors make resilience in the Energy Sector an important priority. The Secretary also noted that given the complexity of our Nation’s infrastructure, reducing vulnerability would require applying an integrated systems approach.

The exercise scenario, which was developed by Argonne National Laboratory (ANL), consisted of a fictitious storm, Hurricane Ingrid, striking southern Florida, before heading into the Gulf of Mexico and turning, impacting the Florida panhandle, Georgia, Alabama, and Mississippi. The fictitious scenario depicted by Ingrid not only caused electrical outages affecting 2.8 million customers, but also produced severe flooding, the temporary closure of ports, and extensive damage to two petroleum refineries. Throughout the exercise, participants shared information requirements and communication flows, described the coordination activities that would occur, and procedures that would be implemented. In the final stage of the exercise, participants also identified several key challenges they routinely encounter during response efforts. Among the challenges cited were inaccurate and duplicative information, the quality and availability of the information required to evaluate impacts, and facilitating coordination between and among government entities and industry.

Several efforts that DOE’s ERO will undertake to help address the challenges identified during the exercise include:

- ◆ Updating the mission analysis (standard operating procedures, Federal interagency operational plans, concept of operations plans);
- ◆ Including industry and the ERT on emergency alerts and notifications and severe weather reports;
- ◆ Outlining the communication process and flow for both Stafford and non Stafford Act events; and
- ◆ Identifying minimum thresholds for including industry and the ERT in DOE emergency response efforts.

In concluding the exercise, Deputy Secretary Poneman expressed great appreciation for the Department’s role in energy emergency response as well as a broader realization of the ERT’s valuable contributions to DOE response efforts through enhanced information sharing and situational awareness.



Participants engage during the Clear Path Tabletop Exercise at Department of Energy Headquarters