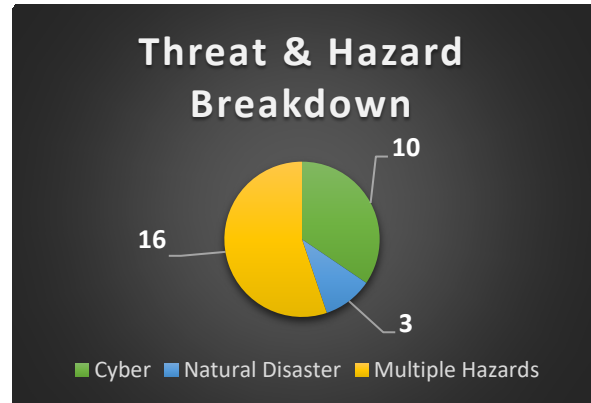
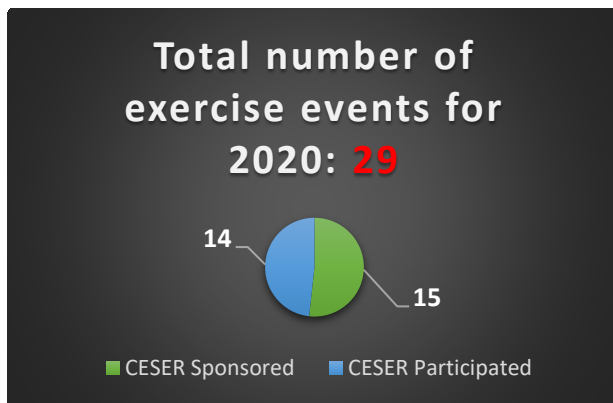


U.S. DOE CESER Energy Sector Exercises 2020 End of Year Report



CESER Sponsored Exercises:

CLEAR PATH VIII: Conducted virtually with over 200 participants over 3 days. The discussion-based exercise focused on response and recovery following a catastrophic Wasatch Front earthquake in the State of Utah. Topics with increased attention included restoration crew permitting; identification, prioritization, and deconfliction of key restoration specialties; and employee recovery-focused concerns. The Exercise also included a separate public affairs and messaging module. In addition to discussing key mis-/dis-information issues, social media best practices, the exercise included a simulated *Unity of Message* coordination call.



LIBERTY ECLIPSE 2020: Conducted over three-separate events, the exercise included over 200 participants. All three events focused on a catastrophic cyber-attack on multiple critical infrastructure sectors, to include both electricity and natural gas subsectors. All events were conducted virtually: the Intra DOE Workshop focused on internal cyber operations, validating the Department's Cyber Incident Response Annex and discussed Grid Security Emergency procedures; the Federal Interagency Coordination Call served as a focused discussion on the Federal coordination elements during the response; and the Federal and Industry Tabletop Exercise served as the culminating event. This final event included industry partners, and explored information and intelligence sharing, response coordination, prioritization and deconfliction, and situation awareness sharing.



RADICS EXERCISE 7: CESER supported the Defense Advanced Research Projects Agency's (DARPA) final exercise under the Rapid Attack Detection, Isolation and Characterization (RADICS) program by sponsoring industry engagement virtually. Industry participants were able to virtually connect into the Plum Island (New York) power grid and communicate with controllers physically onsite. Researchers, energy sector personnel, National Guard, and Federal responders spent five days detecting, isolating, and characterizing simulated malicious activity on a power grid testbed. CESER also sponsored a visitor day for industry to better acclimate themselves to the program's tools and systems.



CORRECTIVE ACTION PLAN WORKSHOP: Conducted a workshop focused on the previous 5-years of exercise improvements. Participants from the sector coordinating councils and industry trade associations discussed items that have since been corrected. Areas identified requiring further discussion were highlighted and responsible organizations were validated. This Workshop will continue annually as new improvement items are added continuously.



Federal and Industry Partner Sponsored Exercises:

CYBER INCIDENT RESPONSE COORDINATION: This virtual exercise was intended to help participants understand how the Community Lifeline mechanics can be used to support information gathering, information sharing and decision-making in different incident types and provide an opportunity for Administration officials to learn about and thoroughly examine the Community Lifelines construct.

NATIONAL LEVEL EXERCISE 2020: The exercised focused on cybersecurity and involved a complex, multidimensional attack, leading to compromises of the confidentiality, integrity, and availability of data across networks. The severity of these impacts and the complexity of the attacks lead to a crisis that threatens the national security of the United States, which drives implementation of continuity and business resilience plans. Although the capstone event of the National Level Exercise (NLE) was cancelled due to COVID-19, multiple planning meetings, workshops and seminars provided organizations the opportunity to explore the hazard. Liberty Eclipse 2020, once linked to the NLE, leveraged a significant portion of the scenario for its discussion-based events.

Conclusion

Exercises provide an outstanding opportunity to continue learning and improving and offer a critical opportunity to help strengthen whole community resilience. The exercises within 2020 have demonstrated the commitment of CESER to all stakeholders and the private sector's commitment to preparedness of the energy industry as well as the nation. The unprecedented scale of the global pandemic, COVID-19, presented challenges and drove the Federal government to adjust its approach to exercises. However, the government's commitment, importance, and relevance of achieving a secure, prepared, and resilient Nation did not change.

As a result of the COVID-19 pandemic, beginning in March 2020, every exercise was conducted virtually. At first, it was very new to many stakeholders to have meetings, planning meetings, coordination calls, and discussions done virtually, but planners quickly adjusted to what would be the new norm for exercise planning and conduct. It was noted that regularly scheduled calls and in-progress reviews kept more planning team members engaged during the planning cycle. It was also easy for relevant State partners to stay updated during the planning as the exercise team implemented a detailed methodical planning process from the beginning. One issue the exercise team did see was that planners did not provide participant names early on which caused a bit of delay for their participants to register for exercise conduct. We suspect that planners did not realize that registering for a virtual exercise had more steps than registering for in-person conduct, which many times can be done the day of the exercise. In the future, the team will be more forward leaning in obtaining exercise participant names and contact information sooner in the process.

The CESER exercise team had to revise Liberty Eclipse 2020 conduct due to COVID-19 and the cancellation of National Level Exercise (NLE) 2020. As a result, the exercise team conducted three exercises focusing on coordination between Federal, industry, and state on two key areas – cyber incident response and critical infrastructure prioritization. The exercises enabled intra-agency as well as intergovernmental and private sector discussions to provide open forums to share information regarding policies and procedures such as Grid Security Emergency (GSE), Power Outage Incident Annex, Presidential Policy Directive 41: *United States Cyber Incident Coordination*, *National Cyber Incident Response Plan*, and other authorities.

This year, the CESER exercise team used multiple platforms and collaborative tools to conduct meetings and exercises; WebEx and Adobe Connect worked well and allowed participants to either discuss their ideas or allow for them to write them out in a chat function. For Clear Path VIII conduct, we were able to increase the number of exercise participants on Adobe Connect from 100 to 200 participants. We were also able to separate participants into discussion groups as we would, had the exercises been in-person. In

each instance, the group discussions were open and honest, and participants candidly shared their strength, approaches, gaps, and vulnerabilities.

A new element for the exercise team this year was social media. The CESER exercise team utilized its social media platform more this year than in previous years. It also incorporated social media as an objective into several exercises this year. With social media being one of the most effective means of communication in today's society, it is important that both private and public-sector entities have a planned strategy and trained staff to provide emergency messaging, measure the effectiveness of their public messaging campaign, and track rumors and misinformation/disinformation during a catastrophic incident. Based on the discussions in the exercises, it is clear that social media needs to be further examined in future exercises as well.

As 2020 is coming to a close, there is an uncertainty when exercises will be conducted normally again, however, we know we can successfully conduct virtual exercises and gain the same discussions and knowledge of processes, plans, procedures, strengths, and areas for improvement as we do with in-person exercises. That is not to say, that it will be the case for all types of exercises as we can conduct discussion-based exercises successfully virtually, we have not tried full-scale exercises. When operation-based exercises are conducted in the future, and in-person exercise conduct cannot be avoided, we will have to work closely with the private sector, Federal, state, and local entities to incorporate COVID safety protocols, adjusting where needed. Finally, for 2021, the exercise team is discussing having multiple iterations for Clear Path exercises; possibly conducting yearly Liberty Eclipse exercises instead of biennial; conducting a GSE exercise series, and an internal EMP exercise. These exercises will incorporate objectives, trends, and lessons learned from the exercises conducted in 2020.

2021 Outlook

The DOE CESER Energy Sector Exercises Program will sponsor the conduct of two exercises in 2021, to include Clear Path IX and Liberty Eclipse 2021. The Program plans to conduct multiple small-scale exercises, leveraging the established Rogue Intrusion series, which focuses on internal evaluations of the Departmental plans, policies, and procedures. Considerations for topics include: Grid Security Emergency (GSE) authorities and procedures, Electromagnetic Pulse (EMP)/Geomagnetic Disturbance (GMD) plans and operations, Position, Navigation, and Timing (PNT) disruptions, and CESER continuity of operations plans and procedures. The Program plans to support the development, conduct, and Departmental participation in industry, state, and federal interagency exercises to include: the Wasatch Range Catastrophic Earthquake Response Plan series, Resilient Grid VIII, and GridEx VI. Significant planning for exercises with a 2022 scheduled conduct, will commence in 2021. These include the National Level Exercise 2022, Clear Path X and Liberty Eclipse 2022. To enhance future preparedness capabilities and opportunities, the Program will continue the investment in and development of, a 'sandbox' environment for industry and government partners to conduct live training and exercises safely on actual energy infrastructure equipment.