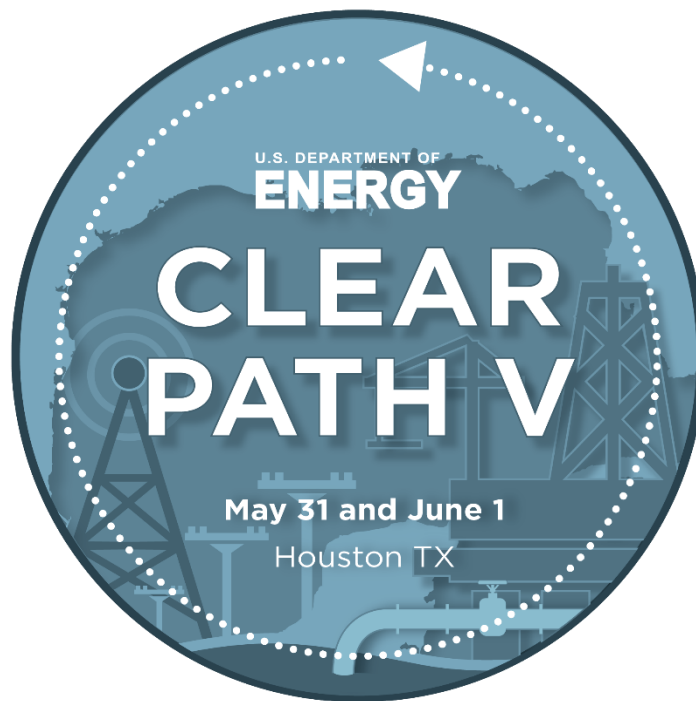


Executive Summary

Clear Path V Energy and Communications-Focused Disaster Response Exercise



HANDLING INSTRUCTIONS

1. The title of this document is *Clear Path V* Energy and Communications-Focused Disaster Response Exercise (*Clear Path V*) Executive Summary. The exercise overview, goals, and objectives in this manual reflect the information that was distributed to participants at *Clear Path V*.
2. This document is approved for public release.
3. For more information on this exercise, please consult the following points of contact:

Infrastructure Security and Energy Restoration
Office of Electricity Delivery and Energy Reliability
United States Department of Energy
Email: Exercises@hq.doe.gov

EXECUTIVE SUMMARY

Clear Path is the U.S. Department of Energy’s flagship exercise series designed to enhance the Department’s ability to successfully meet its responsibilities as the Emergency Support Function (ESF) 12 Coordinator and Sector Specific Agency (SSA) lead for Energy as required by Presidential Policy Directives (PPD)-8: National Preparedness and PPD-21: Critical Infrastructure Security and Resilience respectively.

Clear Path V occurred on May 31 and June 1, 2017 in Houston, Texas. This exercise reflected the continued progress that the Department has made in maturing the *Clear Path* series by focusing on cross-sector interdependencies, by integrating the communications sector into exercise planning and conduct. *Clear Path V* was developed and executed in close cooperation with the energy and communications sectors and all levels of government. The exercise brought together over 150 participants from Federal, state, and local government as well as the electricity subsector, oil and natural gas subsectors, and the communications sector to enhance collaboration and explore participants’ ability to prepare for and respond to a scenario involving a major hurricane.

The exercise scenario consisted of a major hurricane, Hurricane Azalea, impacting the Gulf of Mexico region. Hurricane Azalea made landfall in the Galveston, Texas area, causing high winds, storm surge, and coastal and inland flooding. The hurricane caused significant impacts offshore throughout the Gulf as well as onshore in western Louisiana and particularly in the Houston, Texas area. Impacts occur in the oil and natural gas infrastructures including oil and natural gas production, refineries, and pipelines. The effects of Hurricane Azalea effected the electric power infrastructure, with power outages creating consequential impacts on other critical sectors including communications. Houston was selected due to the density of energy infrastructure in the region and its importance as a critical infrastructure hub to the nation. The exercise challenged participants to demonstrate their knowledge of restoration prioritization processes in their sectors, interdependencies, sector supply chains, and emergency response plans and procedures.

Clear Path V was a discussion-based exercise allowing partners from government, and the energy and communications sectors to evaluate their ability to respond to severe disruptions centered on a major hurricane scenario. There were several strengths demonstrated by participants during the exercise which are listed in **Figure 1**.

Figure 1: Demonstrated Strengths

| Strengths |
|--|
| Participants actively engaged in discussion on integrated energy and communications sector with the relevant government organizations. |
| Participants demonstrated understanding of areas of mutual reliance and interdependencies between the energy and communications sectors and suggested opportunities for improved coordination. |
| Participants demonstrated their interest in building relationships with industry and government partners by collaborating in group discussions by sector and across sectors. |
| Participants noted the balance between industry and government discussion topics as evidence of progress since <i>Clear Path IV</i> . |
| Participants demonstrated the need for industry – government coordination in an incident through their active discussions and decisions in the Time Line Sequencing Activity. |

The exercise highlighted interdependencies between the industry sectors and identified where sectors can further coordination efforts to address similar issues. Observations made over the two days will strengthen all-hazards preparedness and response operations. Throughout the exercise, participants demonstrated knowledge of their individual roles and responsibilities and their ability to work with response partners from both government and industry to develop creative solutions to restore communications and energy infrastructure and services. The exercise also featured an exhibit area for DOE’s National Laboratories to demonstrate tools for visualizing and modeling infrastructure damage and supporting situational analysis.

Clear Path V identified multiple areas for improvement (see **Figure 2**). Addressing these areas for improvement will further strengthen the nation’s emergency preparedness through increasing the ability of the energy and communications sectors to provide services in emergency situations and rapidly restore infrastructure in the aftermath of catastrophic incidents.

Figure 2: Areas for Improvement

| Areas for Improvement |
|--|
| Restoration – Although restoration processes are well understood within each sector, the prioritization process of cross sector restoration efforts is neither well defined nor well understood. |
| Credentialing and Access – The method for communicating and coordinating access requirements from government agencies to industry needs to be simple to allow efficient movement of crews and resources. |
| Fuel – Availability of adequate fuel supplies for evacuation and restoration continues to be a concern for certain participants. |
| Unity of Messaging – It is critical for industry and government to unify messaging efforts to avoid confusion and to ensure that accurate information is communicated to the public. |
| Improve Knowledge of Industry Processes and Supply Chains – A better understanding of the complexities of each sector and processes used can help decision makers in government and industry more effectively understand restoration requirement and efficiently deploy limited resources. |
| Information Management – Information requests and increasingly large quantities of information represent a continued challenge. Government and industry partners should identify information requirements in a consistent fashion and harmonize and integrate technology solutions, such as DOE’s EAGLE-I platform, to ease reporting burdens and enhance situational awareness between interdependent sectors. |

Clear Path V underscored the significant progress which has been made across the energy sector, between both government and industry, in improving its emergency response capabilities and strengthening collaboration across the energy sector. The exercise also highlighted the importance of cross-sector partnerships between critical infrastructure sectors, namely the energy and communications sectors, for effective response and recovery. *Clear Path V* concluded on the first day of hurricane season and enabled participants to take back lessons learned and recommendations to their individual organizations for improving hurricane preparedness and response. The areas for improvement highlighted through exercise play represent an opportunity to further strengthen the ability of energy, government, and communications partners to plan for, and respond to, future energy emergencies and disasters.