



U.S. DEPARTMENT OF
ENERGY | OFFICE OF
Cybersecurity, Energy Security,
and Emergency Response

Clear Path X Exercise Series After Action Report

April 5–June 9, 2022

CLEAR PATH 
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Exercise Series Overview

Exercise Name	Clear Path X
Exercise Dates	April-June 2022
Mission Areas	Response
Core Capabilities	<ul style="list-style-type: none"> • Logistics and Supply Chain Management • Public Information and Warning • Operational Communications • Operational Coordination
Threat or Hazard	Near simultaneous multi-regional hurricane landfall
Scenario	Two category 3 hurricanes impacting the Atlantic and Gulf Coasts of the Continental United States
Sponsor	U.S. Department of Energy, Office of Cybersecurity, Energy Security, and Emergency Response
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Clear Path X

Exercise Series After Action Report

Handling Instructions

The title of this document is *U.S. Department of Energy's Clear Path X Exercise Series After Action Report*. The information provided shall only be released at the direction of the Program Manager, Energy Sector Exercises, Office of Cybersecurity, Energy Security, and Emergency Response, U.S. Department of Energy.

The document is intended for public release as approved by the U.S. Department of Energy.

For more information on this exercise and proper handling procedures for the document, please consult the following point of contact:

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Clear Path X

Exercise Series After Action Report

Clear Path X Overview

Clear Path is the U.S. Department of Energy (DOE), Office of Cybersecurity, Energy Security, and Emergency Response's (CESER) annual all-hazards energy security and resilience exercise series. The Clear Path series brings together leading energy sector stakeholders to enhance policies and procedures, identify areas for collective improvement, and strengthen relationships and cooperation between industry and government energy sector partners.

The Clear Path series is the principal forum for enhancing the energy sector's ability to work together in response to catastrophic incidents. The series is a central pillar of DOE's efforts to constantly improve its ability to successfully meet its responsibilities as the Emergency Support Function (ESF) #12 Coordinator, the Sector-Specific Agency (SSA), and the Sector Risk Management Agency (SRMA) lead for the energy sector. The Clear Path series examines the energy sector's response and restoration roles, responsibilities, and plans and procedures following a catastrophic incident, stressing interdependencies between multiple critical infrastructure sectors.

The continued success of Clear Path is predicated on the support and involvement of federal, state, tribal, and local municipality government partners, cross-sector entities, and private sector organizations. To date, DOE has engaged over 1,400 energy sector and cross-infrastructure sector partners in previous Clear Path exercises. Recognizing the strong support and engagement from partner organizations, DOE strives to ensure that each new edition of Clear Path presents an increasingly realistic and challenging exercise experience for all participants.

The Clear Path Exercise Series encompasses a diverse array of exercise scenarios challenging response officials and allowing planners to build upon corrective actions and validate improvements made in response to lessons learned from both exercises and real-world incidents.

DOE CESER hosted the tenth iteration of the Clear Path series from April through June 2022. The scenario for Clear Path X focused on two category 3 hurricanes making near simultaneous landfall on the Continental United States, one on the Atlantic Coast and one on the Gulf Coast. With a potential of over 20 states impacted by this scenario, the Clear Path X Planning Team chose to focus on response actions in four focus states (North Carolina, South Carolina, Louisiana, and Texas) and at the federal level through the ESF #12 Energy Response Organization (ERO).

Clear Path X built on the success of Clear Path IX, which consisted of a series of smaller in scope, interactive, focused exercises instead of a single large exercise. This year's exercise activities included two drills and a three-day virtual functional exercise in order to look at multiple aspects of preparedness and response throughout the scenario lifecycle. As in 2021, nearly all exercises were conducted in a virtual environment to encourage broad participation and in recognition of ongoing COVID restrictions. The exception to this was the ERO during the functional exercise, who were deployed for the duration of the three-day exercise for in-person training and evaluation.

Clear Path X Exercise Series After Action Report

Clear Path X Exercises

EXERCISE	CONDUCT DATE	OBJECTIVES
Communications Drill	April 5–6, 2022	<ul style="list-style-type: none"> Utilize alternate communication systems to share incident information with industry and government partners during a multi-regional incident
Social Media Drill	April 14, 2022	<ul style="list-style-type: none"> Develop and distribute accurate and timely public information messaging through social media platforms in response to a catastrophic incident
Functional Exercise	June 7–9, 2022	<ul style="list-style-type: none"> Identify and request resources from the mutual aid networks to restore energy services during a multi-regional incident Coordinate logistics support to energy mutual aid networks during a multi-regional incident Utilize alternate communication systems to share incident information with industry and government partners during a multi-regional incident Establish messaging priorities and requirements for a multi-regional incident Establish a virtual Joint Information Center with industry and government partners to coordinate public messaging during a multi-regional incident Develop and distribute accurate and timely public information messaging through social media platforms in response to a catastrophic incident Exercise the DOE All Hazards Energy Response Strategy, to include the Energy Response Organization structure, while coordinating a multi-regional incident from both the primary and alternate operating facilities

Planning of the Clear Path X Exercise Series began in December 2021 and involved a diverse and well-balanced group of state and federal agencies as well as energy trade associations. This process ensured that the exercise objectives were representative of the needs of the DOE as well as the energy industry as a whole. In all, over 25 public and private sector organizations were involved in the planning process, conduct, or observation of the three exercises within the Clear Path X Exercise Series.

This After Action Report contains the summaries of each exercise that was conducted during the Clear Path X Exercise Series.



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Clear Path X Communications Drill

April 5-6, 2022

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Clear Path X Communications Drill

Summary | April 5–6, 2022

Overview. The goal of the Clear Path X Communications Drill was to conduct a self-paced exercise that provided the energy community and emergency management partners with the opportunity to test alternate communication systems as they would during an actual incident when primary communications methods are not available. Participants were asked to contact partner agencies using alternative or back-up communications systems that would normally be used during an emergency incident when landline and cellular voice communications are unavailable.

Communications Drill

Participation in the exercise was open to all emergency management stakeholders, both within and outside the energy sector community. Participants included federal, state, local and energy sector members. Participants used a variety of communications equipment:

- Satellite telephones (Low Earth Orbit and High Fixed)
- High Frequency (HF) and Ultra High Frequency (UHF) radio systems
- Government Emergency Telecommunications Service/Wireless Priority Service (GETS/WPS)
- In contrast to the Clear Path IX communications exercise, text messaging from cellular phones was permitted based on emergency communications best practices.

Strengths and Lessons Learned

Participants reported successfully using multiple contingency communications systems, with some organizations only providing 24 hours notice to team members in order to test actual response times and employee knowledge of systems. Players had excellent participation even with short notice. Key areas for improvement included:

- ✓ Updated emergency contact rosters for response employees and technical experts.
- ✓ Improved user troubleshooting documents for when technical experts are unavailable.
- ✓ Improving user proficiency through regular communications testing, training and compliance reporting.

EXERCISE OBJECTIVE

Utilize alternate communications systems to share incident information with industry and government partners during a multi-regional incident.

CORE CAPABILITY

OPERATIONAL COMMUNICATIONS

Ensure the capacity for timely communications in support of security, situational awareness, and operations by any and all means available, among and between affected communities in the impact area and all response forces.

CRITICAL TASK

Re-establish sufficient communications infrastructure within the affected areas to support ongoing life-sustaining activities, provide basic human needs, and transition to recovery.

Federal Emergency Support Function (ESF-12) members used alternate communications systems, leveraging platforms that successfully integrated primary and alternate communications methods.



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Clear Path X Social Media Drill

April 14, 2022

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Clear Path X Social Media Drill

Summary | April 14, 2022

Overview. The Clear Path X Social Media Drill was a three-and-a-half-hour drill aimed at improving energy sector preparedness in listening and responding to the public's concerns, questions, and information on social media during a multi-hazard, multi-regional national incident. It was an opportunity for participants to share ideas, strategies, and lessons learned in developing and relaying critical public information messaging.

Social Media Simulation Drill

The goals of the Clear Path X Social Media Drill were to:

- Improve energy sector preparedness in responding to a multi-hazard, multi-regional national incident.
- Expand the industry's experience beyond a discussion-based exercise.
- Gain more experience in a complex scenario.
- Progress the discussion on the use of social media and messaging.

This exercise was conducted using a social media simulation platform and virtual conferencing system. The social media simulation is a closed program that mimics and simulates two social media websites: Facebook and Twitter. This drill was an opportunity for all participants to practice timely message development and approval procedures during an actively evolving incident.

The drill began with an overview of the exercise purpose and objectives, exercise ground rules, artificialities, and the exercise communications plan. Following an initial simulated news broadcast video, participants reviewed and responded to simulated social media posts and email inquiries from the Simulation Cell. Participants were challenged to develop and distribute accurate and timely public information messages and warnings through the two simulated social media platforms based on questions and posts in the simulation and additional simulated news videos posted during the exercise. Exercise participants used virtual conference breakout rooms to discuss their social media and public affairs strategies and coordinate messaging with other trades, companies, and organizations. Participation in the exercise included representation from energy subsectors, such as local utilities and energy producers, trade associations, and state and federal energy offices. Upon conclusion of the social media simulation, participants engaged in a facilitated discussion on strategies, messaging priorities, lessons learned, and ideas for future communications plans.

EXERCISE OBJECTIVE

Develop and distribute accurate and timely public information messaging through social media platforms in response to a multi-regional incident.

CORE CAPABILITY

PUBLIC INFORMATION AND WARNING

Deliver coordinated, prompt, reliable, and actionable information to the whole community using clear, consistent, accessible, and culturally and linguistically appropriate methods to effectively relay information regarding any threat or hazard and, as appropriate, the actions being taken and the assistance being made available.

CRITICAL TASKS

- Implement social listening to gauge the public's perception of incident response and recovery efforts.
- Deliver credible and actionable messages to inform the public through social media platforms in response to a catastrophic incident.

Clear Path X Social Media Drill

Summary | April 14, 2022

Lessons Learned

This drill demonstrated how energy sector partners in the public and private sector can collaborate and amplify public information during an incident. It also showed the value of reviewing internal processes for social media message development, approval, and release in an emergency. Below are key lessons learned identified by participants:

- ✓ Messaging and documentation that is directed and/or released to the public needs to include additional languages aside from English, particularly if the question was posed in a non-English language. Local, state, and federal agencies should have access to multi-lingual tools that organizations can utilize when creating public messaging. Trades and companies may need to build the capability for real-time translation of messages into the most common languages spoken in their service territory.
- ✓ Several participants did not create their own messaging, but amplified or “shared” other organizations’ messages, particularly preparedness or safety messaging from federal and state emergency management agencies. This process is valuable in spreading preparedness messaging during an emergency and demonstrating a unity of message within the energy sector.
- ✓ Energy sector members, particularly companies, should have a process to create, review and post their own messaging when locality or customer-specific messaging is needed.
- ✓ Several participants showed social listening processes for flagging potential rumors and confirming veracity of information through cross-partner coordination prior to developing social media posts. Energy sector partners should have a process to identify and correct misinformation or rumors that may impact public safety or undermine public confidence in energy sector response capabilities.
- ✓ Ensure links included in social media posts work correctly and direct readers to the intended information, particularly if the links are part of pre-approved messages and may no longer be active. Including links with social media posts can provide context and explain complex information, but inactive links can undermine public confidence in the posting organization.

PARTICIPANT COMMENTS

- “The overall exercise was really beneficial. The platform worked well, the participants were all from the right organizations and it helped our team recognize both strengths in our messaging and some gaps that we’ll be able to prepare for ahead of the next storm.”
- “I would be interested in adding the element of actual reporters and how they would interact with the utilities.”
- “After we got the scenarios and got familiar with the platform, we began to operate as we would in a real-life situation.... hoping this increases our collaboration with [state] emergency management.”



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Clear Path X Functional Exercise

June 7–9, 2022

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Clear Path X Functional Exercise Summary | June 7–9, 2022

Overview. The Clear Path X Functional Exercise was the culminating event of the Clear Path X Exercise Series, incorporating training objectives from the prior two drills into a functional exercise in which both government and industry participants respond in real-time in order to practice mutual aid requests, public information, and Energy Response Organization (ERO) procedures during a multi-regional incident. The Exercise Control Cell provided actionable observations of both strengths and opportunities for improvement.

Capability	Objective
Logistics and Supply Chain Management	Identify and request resources from the mutual aid network to restore energy services during a multi-regional incident
	Coordinate logistics support to energy mutual aid networks during a multi-regional incident.
Operational Communications	Utilize alternate communications systems to share incident information with industry and government partners during a multi-regional incident
Public Information and Warning	Establish messaging priorities and requirements for a multi-regional incident
	Establish a virtual Joint Information Center with industry and government partners to coordinate public messaging during a multi-regional incident Develop and distribute accurate and timely public information messaging through social media platforms, in response to a multi-regional incident
Operational Coordination	Exercise the DOE All Hazards Energy Response Strategy, to include the Emergency Response Organization structure, while coordinating a multi-regional incident from both the primary and alternate operating facilities



Functional Exercise

The Clear Path X Functional Exercise was held over three days, with each day consisting of four hours of exercising, followed by a daily facilitated hotwash where participants discussed strengths, areas of improvement, and adjustments to be made during the following day. Exercise objectives are listed in the table above.

The exercise was unique in that it was a completely virtual exercise, with registered participants from various organizations across the country. Using a combination of virtual platforms and direct email and phone communication with both real world and simulated organizations, participants conducted coordination and response as they would during a real-world multi-regional catastrophic incident.

Each exercise day began with a simulated news broadcast to act as a daily “State of the World” briefing to explain what had occurred in the simulation since the prior day. While the exercise days were conducted sequentially, the scenario days included “time jumps” to allow participants to rehearse mutual aid and logistics coordination procedures during different phases of preparedness and response.

This exercise provided a forum for electricity and natural gas industry players to exercise their mutual aid processes, discuss logistics coordination needs for responding utility crews, craft public information messaging through the DOE CESER Joint Information Center (JIC) and social media simulator, and participate in Unity of Effort and Unity of Message calls.

Government players, represented by DOE CESER worked through Regional Coordinators to conduct situational assessments, coordinate support for sector needs, and provide guidance and assessments through

Clear Path X Functional Exercise

Summary | June 7–9, 2022

Unity of Message/Effort calls with industry and a simulated FEMA Video Teleconferences. DOE CESER also stood up a virtual JIC to develop and coordinate unified messaging between DOE and industry sector partners.

Lessons Learned

Mutual Aid and Logistics

Strengths:

- ✔ **Participants implemented their mutual aid processes.** Energy sector participants followed their processes to match responding resources to requests for assistance. This included proactively holding coordination calls during the pre-landfall period to coordinate requesting and responding companies, and continuing daily throughout the exercise. This enabled utilities to begin sharing situational assessments and conduct preliminary coordination to meet restoration needs.
- ✔ **Mutual Aid Request for Assistance (RFA) forms include resource typing for the teams and equipment required for restoration work.** Typing resources is a best practice and enables utilities “to plan for, request, and have confidence that the resources they receive, have the capabilities they requested (source: National Incident Management System, 2017, pg. 6).” This best practice helps with matching of needs with available resources from different companies from across the nation and should be sustained.
- ✔ **Energy sector trades collaborated with public and private stakeholders, including State EOCs through State Energy Officials and private companies, to identify solutions for lodging needs for responding utility crews.** Players proposed several options, including use of college dormitories and convention centers that would not be in use during the scenario timeframe.

Areas for Improvement:

- ✔ **Participants identified opportunities in RFA form design and information needs.** As constructed, the forms used both by requesting and responding companies are lengthy. While the level of detail in terms of resource typing is a strength, the current form does not quickly and clearly communicate the required information. In some areas, the requested information is inconsistent in terms of whether it is asking for individual Full Time Equivalents or teams of multiple members, leading to confusion on the type and quantity of support required.
- ✔ **The current forms are also only available as a Word document or non-fillable PDF document.** This increases the potential for data corruption due to the form being accidentally altered during input or the need to hand write and scan the form for submission. The recommendation is for stakeholders to review their current RFA form for consistency of information requests and ease of input, including considering creating a fillable PDF form. Another recommendation is to establish an electronic RFA submission system, which is already employed by some trade organizations. This would permit better visibility of both requested needs and available deployable resources, and faster matching than through manual form processes.
- ✔ **The procedures and responsibility to provide lodging for responding industry utility crews when the requesting company is unable to do so is unclear.** Current mutual aid processes indicate it is the requesting company’s responsibility to coordinate lodging. But there is no provision for how to support requesting companies that may not have the resources to provide lodging. While the ERO indicated that it was tracking lodging issues, their role and capability to help states and private companies solve lodging issues was never clear. This is complicated by legal restrictions regarding

Clear Path X Functional Exercise

Summary | June 7–9, 2022

private energy companies using federal staging areas, even during a national catastrophic incident. However, while this restriction may exist for investor-owned utilities, the ability for public municipal utilities to use staging areas has not been explored. The ERO identified a need to work with FEMA and other government entities to identify available support for lodging issues experienced by ESF #12 responders and industry. The recommendation is for DOE CESER to hold follow-up discussions with FEMA NRCC Logistics and ESF #14 regarding lodging support for responders, particularly from public power companies and rural cooperatives, and to schedule annual meetings prior to hurricane season each year to confirm support procedures.

Public Information, Joint Information Center and Social Media

Strengths:

- ✓ **The DOE CESER Public Affairs Team established internal messaging priorities and presented them to industry partners.** The DOE CESER team successfully received guidance from simulated National Incident Communications Conference Line (NICCL) calls and presented those priorities at Unity of Message/Unity of Effort calls with industry partners. These calls provided participants with an understanding of the DOE CESER public affairs plan and overall messaging concerns. Industry partners therefore had an understanding of DOE CESER Public Affairs priorities and concerns that they could use to model their own public affairs plans.
- ✓ **DOE CESER used the virtual ESF #12 Joint Information Center (JIC) to alert industry partners of a social media hack that was creating misinformation.** During the exercise, DOE CESER Public Affairs correctly identified a simulated malicious compromise of their (simulated) social media account. DOE CESER Public Affairs notified other energy sector JIC members of the compromise using the virtual JIC platform, and developed and released a clarifying post from a different social media account notifying the public of the original account's compromise. DOE CESER Public Affairs provided guidance to use the secondary account for future information and situation updates. The players provided transparency on the issue, the reason for the malicious posts, and a reliable alternate avenue of information for the public.
- ✓ **Players provided and shared information and guidance by social media outlets.** JIC players participating in the social media simulator successfully posted and shared accurate and timely information within their areas of expertise, or reposted information from reliable sources such as federal or local government accounts or other verified energy sector entities. Players responded to questions from the (simulated) public and provided general safety and mitigation information. Players developed and shared posts relevant to the evolving incident in order to address public concerns and establish themselves as a trusted source of information.

Areas for Improvement:

- ✓ **The Virtual JIC did not encompass and synchronize all relevant stakeholders.** While the virtual JIC platform did provide DOE CESER a mechanism to provide information to participating members, it did not become a forum where all industry members consistently shared information in order to increase public affairs situational awareness of evolving media concerns and misinformation, or to ensure coordinated messaging from all participants. As a result, the JIC and DOE CESER Public Affairs were not made aware of all media inquiries to trade associations and industry members, nor were all industry member responses to the media necessarily synchronized with JIC messaging priorities. The recommendation is to develop procedures, including a preferred membership list with contact information, and a training plan for the virtual DOE CESER JIC to ensure needed members are present and regularly exercise information sharing and message development.

Clear Path X Functional Exercise Summary | June 7–9, 2022

Operational Coordination

Strengths:

- ✓ **The ERO Team implemented a daily response battle rhythm, including conducting daily Unity of Effort and Unity of Message calls.** Both ERO teams successfully held daily coordination calls with the ERO sections and Regional Coordinators (field team) and obtained the information needed for the daily situation report. They also held separate calls for the Electricity and the Oil and Natural Gas Subsectors in order to share response priorities and visibility of issues within both the government and private sectors. As the exercise continued, the Unity of Effort/Message calls became more robust in terms of content and information shared between participants.
- ✓ **The ERO Team’s daily tabletop exercises provided valuable additional training during the Functional Exercise.** The daily tabletop discussions allowed on-site mentors and evaluators to continue training the ERO team on issues presented during the exercise, as well as explore areas outside of the exercise scope, such as recovery planning. This provided valuable training on procedures and should be continued as part of an overall ERO training plan.

Participant Comments

- “Well planned exercise from beginning to end. Involvement across all sectors, public and private, was outstanding. Knowledge base of most participants was appropriate. Injects were reasonable and timely.”
- “This was by far the best Clear Path that I have participated in.”
- “The materials provided during planning and ahead of the exercise were clear.”
- “It should be stressed to all players that joining the JIC is beneficial.”
- “Thank you to all those involved in the planning and execution of Clear Path X! We were happy to participate and would welcome the opportunity in the future to be part of the exercise design team to provide context on [our sector].”

