All Shook Up Full-Scale Exercise

After-Action Report / Improvement Plan

March 12-13, 2024

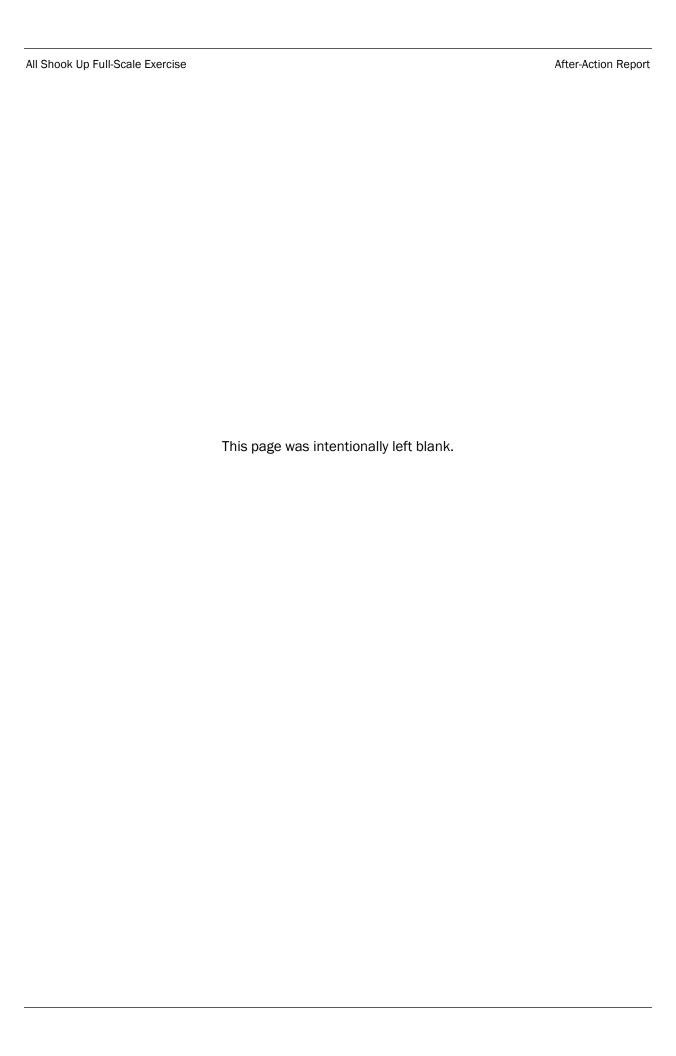


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Exercise Overview

Table 1: Exercise Overview

Exercise Name	All Shook Up Full-Scale Exercise
Exercise Dates	March 12-13, 2024
Scope	The two-day full-scale exercise (FSE) took place at the South Carolina State Emergency Operations Center (SEOC). Other jurisdictions conducted exercises in conjunction with the state in which players responded to coordinated exercise scenarios at their play location.
Focus Area(s)	Response and Recovery
Core Capabilities	 Planning Operational Coordination Operational Communications Logistics and Supply Chain Management Public Information and Warning Infrastructure Systems
Objectives	 Objective 1: Activate the SEOC at Operating Condition (OPCON) 1 including all Emergency Support Staff. Objective 2: Validate Appendix 3, South Carolina Earthquake Plan to the South Carolina Emergency Operations Plan in response to a magnitude 7.1 earthquake in the Charleston area.
Threat or Hazard	Earthquake
Scenario	At 2:18 a.m. on Tuesday, March 12, a 7.1 earthquake occurred near North Charleston, South Carolina resulting in significant damage to the tri-county area of Charleston, Berkeley, and Dorchester counties (population is approximately 750,000 in addition to a significant tourist population). Shaking is felt as far away as New York City, New York to the north, St. Louis, Missouri to the west and Key West, Florida to the south.
Sponsors	South Carolina Emergency Management Division (SCEMD)
Participating Organizations	See Appendix C: Participating Agencies

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Executive Summary

On March 12-13, 2024, SCEMD, with support from FEMA NED, held the All Shook Up Full-Scale Exercise (FSE). This exercise simulated a statewide response to an earthquake impacting the state of South Carolina. This was achieved using scenario and information injects, activating, deploying, and employing appropriate command structures, building situational awareness, and coordinating effectively between Emergency Support Functions (ESFs) in the SEOC and county Emergency Operations Centers (EOCs).

Over the two-day period, evaluators collected information on the player's actions and evaluated strengths and areas for improvement. The critical conclusions after this exercise include, but are not limited to:

Strengths

During the exercise, various key organizations were present, online, or available through alternate means of communication. Players were able to leverage primary and backup communications networks with available participants and were able to use the exercise as a relationship builder. Staff from various ESFs demonstrated a strong understanding of the plans and procedures in place for SEOC activation and to maintain SEOC response efforts. Players were also able to train new staff on those procedures to ensure there are multiple personnel that would be able to fulfill the positions during an activation.

Areas for Improvement

During the exercise, many participants experienced some form of information technology (IT) issues ranging from lack of login in functions to missed activation alerts. Furthermore, the exercise shed light on gaps in the ESFs preparedness for a no-notice event, specifically an earthquake. SEOC staff should continue to review hazard specific plans for no-notice events and conduct regular training on these protocols to help bridge the gaps identified.

Strengths and Areas for Improvement

Objective 1

Activate the SEOC at OPCON 1 including all Emergency Support Staff.

Related core capabilities: Planning; Operational Coordination; and Operational Communications.

This section describes the strengths and areas for improvement for each capability aligned to this objective.

STRENGTHS

The following area was identified as a strength:

Strength 1

South Carolina SEOC leadership demonstrated a strong ability to deliver an opening brief to the staff introducing them to the situation and outlining objectives.

Analysis: During the initial stages of the SEOC activation, the Operations Chief demonstrated effective leadership and communication skills by delivering a clear and concise briefing to SEOC staff. This briefing served as a crucial foundation for establishing a shared understanding of the situation, priorities, and objectives among all participating agencies and personnel. The briefing included specific priorities and objectives set forth by the SEOC Director, providing a clear direction for response efforts, enabling alignment across all sections and stakeholders.

By effectively communicating the SEOC Director's priorities and objectives, the Operations Chief ensured that all staff members were working toward a common goal and understood the overarching strategy for managing the incident. This alignment is crucial for coordinated and efficient response operations, as it prevents duplication of efforts, minimizes confusion, and maximizes the utilization of available resources.

Strength 2

South Carolina SEOC successfully established a battle rhythm.

Analysis: Once the SEOC was activated, the staff quickly established a battle rhythm for briefings for the operational period as well as due times for when each section should provide their section chiefs with brief out information. The schedule of meetings included briefings internal to the SEOC staff as well as meetings with local EOCs and state leadership. The briefing schedule allowed for timely updates and adequate time for sections to conduct assessments, coordinate resources, and provide direction and support. The meetings stressed the importance of clear and concise communication in an effort to reduce the time spent in said meetings.

Strength 3

South Carolina SEOC staff demonstrated the use of section specific plans and checklists.

Analysis: Many desks had ESF specific checklists readily available to support activation priorities. The staff were observed referencing these checklists and utilizing them to ensure their actions were aligned to the plans for their position. The exercise featured many players who were new to their positions yet were effective because they were able to review the checklists in addition to asking their supervisor questions. The SEOC and each ESFs should continue to train new staff in these positions to ensure that each ESF has several people who could fulfill each role in case the primary or even secondary staff are unavailable or unable to be at the SEOC during an event.

While the checklist and job aids were effective, it was noted that some of the checklists were not up to date with current plans.

Strength 4

SEOC staff included appropriate agencies needed for a response.

Analysis: The inclusion of the large number of players from different agencies in the SEOC allowed for a successful collaboration between responders. Furthermore, it allowed for staff to interact with other ESFs that they normally do not work with until a disaster. Throughout the exercise, multiple ESFs were seen coordinating on resource requests on Palmetto as well as in person. Players also made strong use of the FEMA IMAT team to develop federal resource requests and provide insight on the federal procedures. Since many of the players were new, the exercise provided an opportunity to familiarize themselves with each other's capabilities and protocols while developing relationships that should continue to be developed during non-emergency situations.

AREAS FOR IMPROVEMENT

The following areas were identified as areas for improvement:

Area for Improvement 1

There were several technical issues during the SEOC activation.

Analysis: During conduct, some of the participants had difficulties accessing their position specific emails and/or Palmetto accounts. Many of these were new individuals who were either unfamiliar with how to log in or did not have accounts already created. Once logged in, it was noted that SEOC staff did not have full access to Microsoft Office programs. Many staff members did not have Microsoft Office products on their computers and even those in leadership were unable to adequately edit documents in PowerPoint and Word with the programs they did have access to. Players did a good job implementing workarounds, but this was time consuming and did not allow for process standardization.

Another technical issue identified was some individuals not receiving the test notification for the SEOC activation. In a real would situation this could have resulted in understaffing and significant delays with response. Lastly, there were difficulties with setting up the SEOC display at the start of the exercise and keeping all the important details visible throughout the exercise.

Each of these issues were able to be resolved thanks to the attentive information technology (IT) staff that were present at the SEOC. The IT staff were present for the entire exercise and were quickly able to set up accounts and answer use questions.

Recommendations:

- Ensure all computers in the SEOC have the upgraded Microsoft Office programs and permissions to allow for a smooth workflow.
- Train and familiarize SERT with the IT systems including how to access and operate them.

Area for Improvement 2

All required individuals were not notified in the initial Cod Red Alert.

Analysis: The lack of notification of some individuals can potentially create delays in some responses.

Recommendations:

- Work with each ESF to ensure the activation rosters include all needed parties for both no-notice and advanced notice incidents.
- Continue to exercise SEOC activations.

Area for Improvement 3

Briefings lacked a consistent structure.

Analysis: Briefings throughout the exercise changed in structure and level of information provided. SEOC leadership experimented with the structure and types of information briefed throughout the two days of conduct. Their goal was to keep briefings short and highly focused to reduce the amount of time the SEOC was paused. While it is vital that information be shared during these briefings, this must be balanced with SEOC downtime. Important information and resource requests can be missed because SEOC staff is focused on the briefing and not on their station.

A possible solution for the pause in response to briefing would be for just a single representative from each section to be present for the brief and they would then relay any pertinent information back to their section, rather than a full pause of the entire SEOC. Also, developing a standardized briefing template would help with consistency and succinctness during the briefs. Additionally, it is

suggested that each section have the brief out reports due closer to the actual meeting. During the exercise, brief outs were due 30 minutes prior to the meeting, which allows a lot of time for situations to evolve before they are reported.

Recommendations:

- Review plans to standardize the level and type of information shared during briefings.
- Review plans to ensure they pause SEOC operations for the shortest amount of time possible.

Area for Improvement 4

SEOC staff did not know where ESFs were seated.

Analysis: When starting conduct on each day, many SEOC staff members, especially those who are not used to being in the building, were unclear where their ESF was located and where they should sit. Within the SEOC there was no signage at the desks to designate the tables for a specific ESF. There was also a lack of clear signage denoting where leadership was seated. This caused confusion during the initial activation as people sat in the wrong spots. While seating was quickly sorted out, the lack of signage continued to cause confusion throughout conduct when staff would try to find another ESF to have a face-to-face conversation. This often required them to ask people at multiple desks where they could find the agency representative they needed to speak with. Clear and visible signage denoting ESF and leadership positions would quickly alleviate the confusion and allow conversations between staff to occur quickly and without disrupting others.

Recommendations:

- Create signage denoting where each ESF is located in the SEOC.
- Create signage denoting where SEOC leadership is seated.
- Include a seating chart in job aids.
- SERT attend SEOC orientation training and familiarizations with SEOC operations

Objective 2

Validate Appendix 3, South Carolina Earthquake Plan to the South Carolina Emergency Operations Plan in response to a magnitude 7.1 earthquake in the Charleston area.

Related core capabilities: Operational Coordination, Operational Communications, Logistics and Supply Chain Management, Public Information and Warning, Infrastructure Systems

This section describes strength and areas for improvement for each capability aligned to this objective.

STRENGTHS

The following area was identified as a strength:

Strength 1

SEOC staff ESFs were able to maintain and share information through their reporting processes.

Analysis: Players demonstrated strong abilities to produce informative reports to leadership detailing their progress and current actions at various points of the response. The process of compiling reports from the ESFs using the new email reporting form allowed the Operations Chief to gather comprehensive and consistent situational information for their brief out meetings. The email reporting form's inclusion of resource status and needs assessment provided a structured way to collect this critical information from each of the ESFs. Sharing these compiled reports with county partners and soliciting their status updates during daily calls facilitated effective information sharing and coordination across jurisdictions. Furthermore, the SEOC successfully generated an Incident Action Plan (IAP) and were seen revising the IAP as new information and developments emerged allowed for adaptive planning while maintaining situational awareness.

Strength 2

The SEOC was successful in establishing and maintaining resilient communication.

Analysis: Throughout the exercise, the SEOC consistently utilized multiple communication methods to ensure resilient and uninterrupted communication with counties and other stakeholders, despite simulated disruptions to primary communication channels. This success is due to the prior establishment of primary and secondary communication pathways, the training of personnel on these pathways, and active monitoring of communication channels and promptly implementing alternate or contingency methods when disruptions occurred. This high level of communication allowed the SEOC to maintain situational awareness and coordinate response efforts with counties and other stakeholders, even when primary communication channels were impacted. This resilience in communication capabilities is crucial for effective incident management and decision-making, as it prevents information gaps and ensures a continuous flow of critical updates.

Strength 3

The SEOC made effective use of Palmetto.

Analysis: The SEOC consistently leveraged Palmetto to document and disseminate critical information, such as situation reports, resource requests, and operational updates. The system's design and customization to meet the SEOC's specific requirements ensured it aligned with established processes and procedures. The Palmetto system was well-understood and widely adopted by SEOC members, indicating effective training and familiarization with the system. Those who were new to the SEOC were given just-in-time training and were able to quickly adapt to and

navigate around the system. The SEOC staff should continue to invest in training and familiarization in the use of the Palmetto system as well as regularly reviewing and updating the systems capabilities.

AREAS FOR IMPROVEMENT

The following areas were identified as areas for improvement:

Area for Improvement 1

Specific Earthquake plans for ESFs were either not developed or not seen referenced during the response.

Analysis: Many ESF's existing plans and procedures have been developed primarily based on their experience and expertise in responding to hurricanes, a hazard that typically provides some lead time for preparation and staging of resources. However, the earthquake scenario presented during this exercise highlighted significant differences in the risk profile and response requirements compared to hurricanes. Some of the ESF's mentioned that they did not have an earthquake plan in place and the SEOC's earthquake plan was not seen being directly utilized during the incident.

The exercise prompted ESFs to recognize the limitations of their existing plans, checklists, and gokits, which are primarily tailored for hurricane response operations. For instance, law enforcement officials recognized that their typical practice of arranging accommodations for deployed units in hotels would be problematic during an earthquake due to the potential for multi-story buildings to become unstable or unsafe. As a result, they acknowledged the need to consider alternative accommodation options, such as churches or schools, which may be more resilient to seismic activity. Unlike hurricanes, which typically provide advanced warning for staging and deploying equipment, the no-notice aspect of earthquakes makes it difficult to mobilize resources proactively. Furthermore, the possibility of aftershocks occurring across the state necessitates a more dispersed and agile deployment of resources, contrasting with the concentrated response efforts typically required for hurricanes. Participants acknowledged that the differences between these hazard types would require a review and revision of their emergency plans and procedures to effectively address the unique challenges posed by earthquakes, such as infrastructure damage assessments, search and rescue operations, and communication resilience.

Recommendations:

Develop ESF specific annexes or appendices within the existing All-Hazards Emergency
 Operations Plan to provide detailed guidance on earthquake response, including resource
 staging, communication resilience, damage assessments, and coordination with specialized
 teams (e.g., urban search and rescue).

- Collaborate with subject matter experts, such as seismologists and structural engineers, to
 ensure that response plans align with the latest scientific understanding of earthquake risks and
 potential impacts.
- Incorporate earthquake-specific scenarios and injects into future training and exercise programs
 to test and validate the revised plans and procedures, and to familiarize personnel with the
 unique challenges posed by earthquakes.

Area for Improvement 2

Participants had issues sending requests to the proper locations.

Analysis: During the start of the exercise, there were several instances in which players were either unsure of what ESF to send a request to or how to properly send the request to them. Due to this confusion, some ESFs, such as ESF-3 and ESF-16, were not seeing any of the resource requests that had been sent to them at the start of the exercise. These issues were able to be mitigated by both the IT staff that was present throughout the exercise as well as the SEOC staff moving around the room to discuss the requests and other information in-person.

Similarly, some resource requests were sent to the wrong ESF due to a confusion on what responsibilities or resources the ESFs had. For example, ESF-17 received a mission assignment to help with a private sector poultry issue. The task in question was routed to ESF-17 because of its connectivity to animals. The request should have been routed to ESF-24 because the location was a private sector business. Similarly, ESF-19 was not receiving requests due to an unfamiliarity with what resources and capabilities the South Carolina National Guard is able to provide. By training all SEOC staff members on what each ESF is capable of would ensure that requests can be tasked quickly, and all available resources are utilized.

Recommendations:

- Continue training for SEOC staff on sending resource requests in Palmetto.
- Provide a list of capabilities, roles, and resources of each ESF for reference in the SEOC.

Area for Improvement 3

Online multiagency coordination experienced issues and limitations.

Analysis: Players were able to effectively coordinate with one another while working together in person; however, there were issues with online coordination. Players were observed using both the email connected to their stations within the EOC as well as the computers that they brought from their agency/organization. As a result, conversations would start in one location before starting up again as a separate chain, complicating the tracking, documenting, and continuity of discussions.

This may result in important information being overlooked entirely and potentially impact response operations.

Recommendations:

 Develop and communicate clear guidelines for how interdepartmental discussions should be conducted, emphasizing the use of the official position (ESF) email as well as personal agency email in all traffic in order to minimize miscommunication. All Shook Up Full-Scale Exercise After-Action Report

Appendix A: Improvement Plan

This Improvement Plan (IP) is explicitly developed for South Carolina All Shook Up FSE on March 12-13, 2024.

Table 2: Improvement Plan

Related Objective	Area for Improvement	Recommendation	Responsible Organization(s)	Target Completion Date
1	There were several technical issues during the SEOC activation.	 Ensure all computers in the SEOC have the upgraded Microsoft Office programs and permissions to allow for a smooth workflow. 	SCEMD IT Section	Completed
		 Train and familiarize SERT with the IT systems including how to access and operate them. 	SERT/Section Leads	Continuous
		Continue to utilize the IT staff at exercises as well as real world events.	SCEMD IT Section	Continuous
1	All required individuals were not notified in the initial Cod Red Alert.	 Work with each ESF to ensure the activation rosters include all needed parties for both nonotice and advanced notice incidents. Continue to exercise SEOC activations. 	SWPSCEMDExerciseCoordinator	14 AUG 2024Continuous
1	Briefings lacked a consistent structure.	 Review plans to standardize the level and type of information shared during briefings. Review plans to ensure they pause SEOC operations for the shortest amount of time possible. 	SCEMD OperationsSCEMD Operations	14 AUG 202414 AUG 2024

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Related Objective	Area for Improvement	Recommendation	Responsible Organization(s)	Target Completion Date
1	SEOC staff did not know where ESFs were seated.	Create signage denoting where each ESF is located in the SEOC.	SCEMDOperationsSupport	• 14 AUG 2024
		Create signage denoting where SEOC leadership is seated.	SCEMDOperationsSupport	■ 14 AUG 2024
		Include a seating chart in job aids.	SCEMD Operations	• 14 AUG 2024
		 SERT attend SEOC orientation training and familiarizations with SEOC operations 	SCEMD Operations, ESF Leads	Continuous
2	Specific Earthquake plans for ESFs were either not developed or not seen referenced during the response.	 Conduct training for SERT on finding and utilizing hazard-specific annexes during response operations. 	SCEMDOperations	■ 30 APR 2025
		 Collaborate with subject matter experts, such as seismologists and structural engineers, to ensure response plans align with the latest scientific understanding of earthquake risks and potential impacts. 	SCEMD EQ Program Manager	■ 30 APR 2025
		Incorporate earthquake-specific scenarios and injects into future training and exercise programs to test and validate the revised plans and procedures, and to familiarize personnel with the unique challenges posed by earthquakes.	SCEMD Exercise Coordinator	■ 30 APR 2025

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Related Objective	Area for Improvement	Recommendation	Responsible Organization(s)	Target Completion Date
2	Participants had issues sending requests to the proper locations.	 Continue training for SEOC staff on sending resource requests. 	SCEMD Operations Support	Continuous
		Provide a list of capabilities, roles, and resources of each ESF for reference in the SEOC.	■ ESF Leads	■ 14 AUG 2024
	Online multiagency coordination experienced issues and limitations.	Develop and communicate clear guidelines for how interdepartmental discussions should be conducted, emphasizing the use of the official position (ESF) email as well as personal agency email in all traffic in order to minimize miscommunication.	SCEMD Operations	■ 14 AUG 2024

Appendix B: Participant Feedback

36 All Shook Up participants responded to the Participant Feedback Form, sharing mostly positive feedback. 75% of respondents noted that they felt their organization is more prepared after participating in this exercise. Critical feedback is presented below.

Participant Responses:

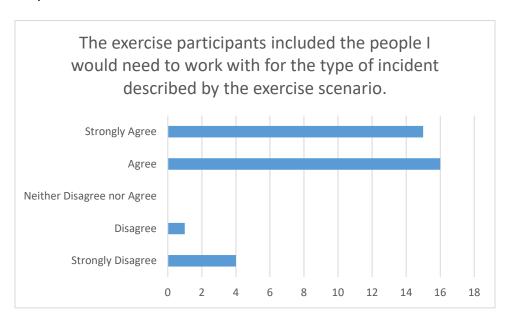


Figure 1: The exercise participants included the people I would need to work with for the type of incident described by the exercise scenario.

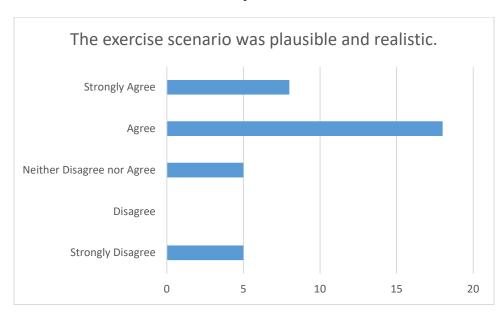


Figure 2: The exercise scenario was plausible and realistic.

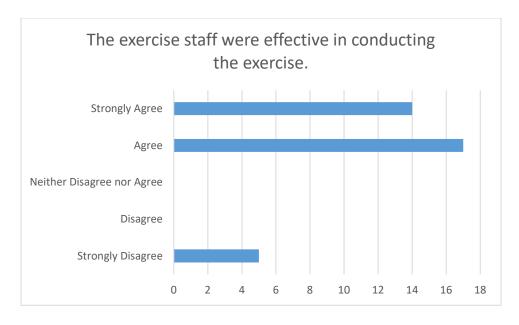


Figure 3: The exercise staff were effective in conducting the exercise.

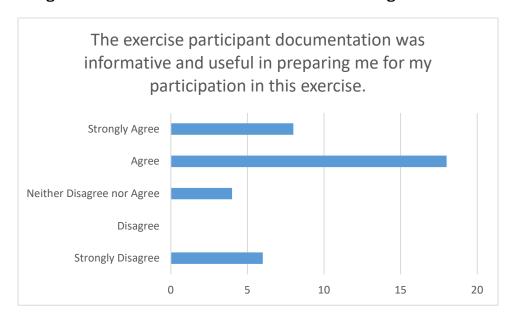


Figure 4: The exercise participant documentation was informative and useful in preparing me for my participation in this exercise.

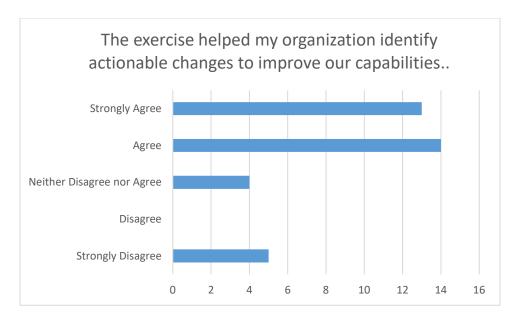


Figure 5: The exercise helped my organization identify actionable changes to improve our capabilities.

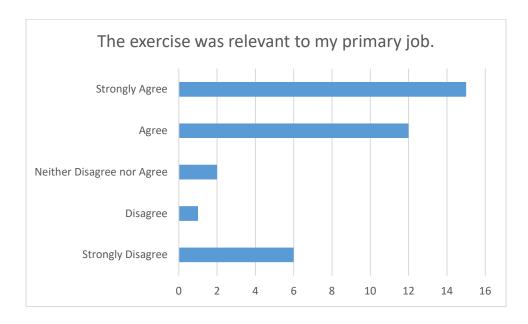


Figure 6: The exercise was relevant to my primary job.



Participant Insights

- "Operational rhythm was different for an Earthquake than a Hurricane. This FSE helped me rearrange priorities from what types of disasters that I was used to."
- "There are clear processes for communication. Even having never done this before, I was able to understand almost exactly. And for the questions I did have, I knew who to ask."
- "The environment seemed more cohesive and less stressful."
- "Sit unit did not receive many injects, so we didn't get as much practice as we would have liked."
- "Possible signage in the SEOC to help identify where some individuals sit to work trying to assist new personnel of where people are located."
- "Internally we were able to identify communication improvements between the ESF and primary support agency. Mainly email groups that do not communicate from the agency SharePoint outside the organization. The groups are not recognized as email addresses."
- "The positive training atmosphere and opportunities was great."
- "Great getting to know all the people we would be working with and building those relationships."

Appendix C: Participating Agencies

Table 3: Participating Agencies

Participating Organizations
Local
Beaufort County SO/Town of Hilton Head
Calhoun County EMD
Charleston County EMD
Colleton County EMD
Georgetown County EMD
Horry County EMD
Kershaw County EMD
Lexington County EMD
Pickens County EMD
Richland County EMD
State
Clemson University Livestock Poultry Health
South Carolina Department of Health and Environmental Control
South Carolina Department of Transportation
South Carolina Department of Administration
South Carolina Department of Aging
South Carolina Department of Agriculture
South Carolina Department of Commerce
South Carolina Department of Disabilities and Special Needs
South Carolina Department of Education
South Carolina Department of Employment and Workforce
South Carolina Department of Health and Human Services

Participating Organizations

South Carolina Department of Insurance

South Carolina Department of Labor, Licensing, and Regulation

South Carolina Department of Mental Health

South Carolina Department of Natural Resources

South Carolina Department of Social Services

South Carolina Emergency Management Division

South Carolina Forestry Commission

South Carolina National Guard

South Carolina Office of Resilience

South Carolina Office of Regulatory Staff

South Carolina Parks, Recreation, and Tourism

South Carolina Rural Water Authority

South Carolina State Law Enforcement Division

Private

Able SC

American Red Cross

Salvation Army

South Carolina Baptist Disaster Relief

Federal

Federal Emergency Management Agency (FEMA) Region 4 FEMA Integration Team

FEMA National Exercise Division (NED)

MCAS Beaufort

Appendix D: Acronyms

Table 4: Acronyms

Acronym	Term
AAR	After-Action Report
EOC	Emergency Operations Center
ESF	Emergency Support Function
FEMA	Federal Emergency Management Agency
FSE	Full-Scale Exercise
IAP	Incident Action Plan
IP	Improvement Plan
IT	Information Technology
NED	National Exercise Division
OPCON	Operating Condition
POC	Point of Contact
SCEMD	South Carolina Emergency Management Division
SEOC	State Emergency Operations Center