

2023 NOAA SECART All-Hazards Exercise

After-Action Report/Improvement Plan

July 31, 2023

The After-Action Report/Improvement Plan (AAR/IP) aligns exercise objectives with preparedness doctrine to include the National Preparedness Goal and related frameworks and guidance. Exercise information required for preparedness reporting and trend analysis is included.

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EXERCISE OVERVIEW

Exercise Name	2023 NOAA SECART All-Hazards Exercise
Exercise Date	April 27, 2023
Scope	This exercise is a tabletop exercise, planned over a 1-day period. Exercise play is limited to invited Charleston agencies with a stake/role in disaster and earthquake response and recovery in the area.
Mission Area	Response & Recovery
Core Capabilities	Information & Intelligence; Operational Assistance; Situational Assessment
Objectives	<ol style="list-style-type: none"> 1. Demonstrate and explain the capabilities of each represented agency to increase region-wide collaboration during a hazardous situation. 2. Discuss the capability to provide decision-makers with decision-relevant information regarding the nature and extent of the hazard. 3. Evaluate current plans, policies, and procedures in place to address the region’s impacts and restore/revitalize the region to pre-disaster status, while minimizing future health and safety threats and strengthening community resilience.
Threat or Hazard	Earthquake
Scenario	A 7.1 magnitude earthquake occurs during the summer months two miles southeast of Summerville, SC. Strong shaking was generally felt within 40 miles of the epicenter, with extensive damage reported along the coast.
Participating Organizations	<p>City: City of Charleston Emergency Management Division</p> <p>Federal: Federal Emergency Management Agency (FEMA), National Oceanic and Atmospheric Administration (NOAA), United States Army Corps of Engineers (USACE), United States Coast Guard (USCG)</p> <p>State: SC Department of Transportation, SC Emergency Management Division, SC Forestry Commission – Incident Management Team</p>
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ANALYSIS OF CORE CAPABILITIES & OBJECTIVES

Aligning exercise objectives and core capabilities provides a consistent taxonomy for evaluation that transcends individual exercises to support preparedness reporting and trend analysis. Table 1 (on page 3) includes the exercise objectives, aligned core capabilities, and performance ratings for each core capability as observed during the exercise and determined by the evaluation team.

Core Capability	Objective	Performed without Challenges (P)	Performed with Some Challenges (S)	Performed with Major Challenges (M)	Unable to be Performed (U)
Situational Assessment	Demonstrate and explain the capabilities of each represented agency to increase region-wide collaboration during a hazardous situation.		✓		
Information & Intelligence	Discuss the capability to provide decision-makers with decision-relevant information regarding the nature and extent of the hazard.		✓		
Operational Assistance	Evaluate current plans, policies, and procedures in place to address the region's impacts and restore/revitalize the region to pre-disaster status, while minimizing future health and safety threats and strengthening community resilience.		✓		

Table 1. Summary of Core Capability Performance

Ratings Definitions:

- **Performed without Challenges:** The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws.
- **Performed with Some Challenges:** The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws. However, opportunities to enhance effectiveness and/or efficiency were identified.
- **Performed with Major Challenges:** The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s), but some or all of the following were observed: demonstrated performance had a negative impact on the performance of other activities; contributed to health and/or safety risks for the public or for emergency workers; and/or was not conducted in accordance with applicable plans, policies, procedures, regulations, and laws.
- **Unable to be Performed:** The targets and critical tasks associated with the core capability were not performed in a manner that achieved the objective(s).

Note: The following information provides an overview of the performance related to each objective of this exercise.

Objective 1: Demonstrate and explain the capabilities of each represented agency to increase region-wide collaboration during a hazardous situation.

The strengths and areas for improvement for each objective are described in this section.

Strengths

The partial capability level can be attributed to the following strengths:

Strength 1: Throughout the two-day workshop and exercise, many Charleston area agencies that play a role in disaster management were in attendance to build relationships as well as learn.

Strength 2: The expertise and level of representation increased the participant's knowledge of each office and their specific roles, capabilities, and assets during disaster situations.

Strength 3: Each represented office demonstrated and explained the ways in which they work to alleviate barriers and coordinate across and between regional agencies to ensure a comprehensive response to the disaster.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement 1: Although many Charleston area agencies were in attendance throughout the workshop and exercise, it was noted that some key agencies were not able to attend, which created information gaps.

Area for Improvement 2: Within the Charleston area, agency roles, capabilities, and assets were clearly explained. However, there were situations brought up that pointed to uncertainty of resource availability and potentially the need for resource deconfliction. It was noted that having higher level decision-makers present during the exercise could lead to pre-disaster conversations to ensure a comprehensive response.

Area for Improvement 3: After the response phase is over and recovery is underway, most mutual aid agreements (designed to help alleviate resource barriers) would have been deactivated. Even with post-disaster federal assistance, it may be beneficial for recovery-focused mutual aid to be available.

Objective 2: Discuss the capability to provide decision-makers with decision-relevant information regarding the nature and extent of the hazard.

The strengths and areas for improvement for each objective are described in this section.

Strengths

The partial capability level can be attributed to the following strengths:

Strength 1: Within the Charleston area, many disaster-focused organizations and agencies have redundant communication methods in place to ensure decision-relevant information can be shared to decision-makers.

Strength 2: Response agencies often work and communicate in silos unintentionally isolating their operations from partner agencies. Exercise participants expressed commitment to collaborate and share information with partners for a unified response.

Strength 3: Throughout the Charleston area, there are contingency plans in place that address preparedness, response, and recovery efforts for various disasters, such as the landfall of a major hurricane. An example of this would be the USCG plans to clear debris and reopen ports after hurricane landfall.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement 1: After an earthquake (or any disaster of this magnitude), communication methods will be severely degraded and even with multiple redundancy options, area agencies may not be able to easily share disaster information with decision-makers.

Area for Improvement 2: The natural character and landscape of the Charleston area is made up of a number of barrier islands. A disaster of this magnitude would leave some communities secluded and disconnected. With limited communication to those communities, decision-makers would have inadequate information.

Area for Improvement 3: Based on the exercise discussion, it is unclear how agile agencies would be to adapting those existing plans in an effort to respond to a different type of disaster out of living memory.

Objective 3: Evaluate current plans, policies, and procedures in place to address the region's impacts and restore/revitalize the region to pre-disaster status, while minimizing future health and safety threats and strengthening community resilience.

The strengths and areas for improvement for each objective are described in this section.

Strengths

The partial capability level can be attributed to the following strengths:

Strength 1: In the Charleston area, many response and recovery plans exist to guide responders including the [2022 Lowcountry Area Contingency Plan](#), the Emergency Operations Plan, the [Charleston Regional Hazard Mitigation Plan](#), as well as the [South Carolina Marine Debris Emergency Response Guide: Comprehensive Guidance Document](#).

Strength 2: Throughout the workshop and exercise, various agencies explained and demonstrated situational awareness tools that are used throughout the area to ensure decision-makers are provided the best and most up-to-date disaster information.

Areas for Improvement

The following areas require improvement to achieve the full capability level:

Area for Improvement 1: The exercise highlighted the need for additional cross-agency plans, specifically to address communications and other disaster-related coordination efforts.

Area for Improvement 2: Although there are various methods available in the Charleston area for situational information, the ability for decision-makers to access this information will more than likely be diminished as a result of the disaster magnitude. Additional measures should be considered to mitigate this potential information exchange barrier.

APPENDIX A: IMPROVEMENT PLAN

This Improvement Plan (IP) has been developed specifically for those who participated in the 2023 NOAA SECART All-Hazards Exercise conducted April 27, 2023. These documented recommendations are based on the participant’s discussions that occurred during the exercise.

Objective	Issue/Area for Improvement	Corrective Action	Primary Responsible Organization	Organization POC	Start Date	Completion Date
Demonstrate and explain the capabilities of each represented agency to increase region-wide collaboration during a hazardous situation.	1. Although many Charleston area agencies were in attendance throughout the workshop and exercise, it was noted that some key agencies were not able to attend, which created information gaps.	a. Based on this scenario (as well as others common to the region), outline which agencies were not able to attend, but would play a role in response or recovery efforts.				
		b. Setup specific meetings with these agencies to update/brief on this exercise as well as related efforts in the region.				
		c. Continue to encourage and ensure agency availability for the next workshop, meeting, exercise, etc.				

	<p>2. However, there were situations brought up that pointed to uncertainty of resource availability and potentially the need for resource deconfliction. It was noted that having higher level decision-makers present during the exercise could lead to pre-disaster conversations to ensure a comprehensive response.</p>	<p>a. Identify those key, higher level decision-makers who were not able to attend, but who need to be brought into the conversation.</p>				
		<p>b. Pre-identify potential resources that may need deconfliction during a disaster response and/or recovery.</p>				
		<p>c. Pull key decision-makers together to discuss ways to deconflict these resources prior to the next disaster.</p>				
		<p>d. Between regional partners, identify potential “shared resources” (e.g., shelters, reunification sites, points of distribution, logistics management facilities, etc.) that could benefit all jurisdictions during a large-scale event.</p>				
	<p>3. After the response phase is over and recovery is underway, most mutual aid agreements (designed to help alleviate resource barriers) would have been deactivated. Even with post-disaster federal assistance, it may be beneficial for recovery-focused mutual aid to be available.</p>	<p>a. Evaluate area recovery funding options.</p>				
		<p>b. Explore additional recovery-focused funding sources.</p>				
		<p>c. Brainstorm innovative ways to supplement recovery funds post-disaster.</p>				

Objective	Issue/Area for Improvement	Corrective Action	Primary Responsible Organization	Organization POC	Start Date	Completion Date
<p>Discuss the capability to provide decision-makers with decision-relevant information regarding the nature and extent of the hazard.</p>	<p>1. After an earthquake (or any disaster of this magnitude), communication methods will be severely degraded and even with multiple redundancy options, area agencies may not be able to easily share disaster information with decision-makers.</p>	<p>a. Evaluate (through polls, discussions, etc.) which ways decision-makers prefer to receive disaster-related information – especially in a degraded environment.</p>				
		<p>b. Explore potential new and/or improved communications technology that would allow for the transmission of critical disaster information in a degraded environment.</p>				
		<p>c. Based on this evaluation, work with community agencies for long-term, cross-agency planning to acquire new (or upgraded) communications equipment and methods on a similar timeline.</p>				

	<p>2. The natural character and landscape of the Charleston area is made up of a number of barrier islands. A disaster of this magnitude would leave some communities secluded and disconnected. With limited communication to those communities, decision-makers would have inadequate information.</p>	<p>a. Identify communication channels to communities on barrier islands.</p>				
		<p>b. Identify alternative methods of communicating with barrier islands that supports two-way flow of information (such as amateur radio).</p>				
	<p>3. Based on the exercise discussion, it is unclear how agile agencies would be to adapting those existing plans in an effort to respond to a different type of disaster out of living memory.</p>	<p>a. Research current Charleston area plans and determine which ones have applicable components that could be modified and implemented in an earthquake situation.</p>				
		<p>b. Compiled a team of appropriate agency representatives to take on the project of adapting the identified area plan components for earthquake preparedness, response, and recovery efforts.</p>				

Objective	Issue/Area for Improvement	Corrective Action	Primary Responsible Organization	Organization POC	Start Date	Completion Date
Evaluate current plans, policies, and procedures in place to address the region's impacts and restore/revitalize the region to pre-disaster status, while minimizing future health and safety threats and strengthening community resilience.	1. The exercise highlighted the need for additional cross-agency plans, specifically to address communications and other disaster-related coordination efforts.	a. Assess the current cross-agency plans, policies, and procedures and identify any areas for improvement or gaps that need to be addressed to make response and recovery efforts smoother.				
		b. Potentially poll (or similar) community preparedness, response, and recovery agencies to help identify other areas where new or improved plans, policies, and/or procedures could enhance regional efforts.				
		c. Based on the identified gaps, compile a team of key representatives to brainstorm and build additional area plans.				
		d. Work toward developing inter-jurisdictional action plans that allow for better coordination for response to and recovery from seismic events.				
	2. Although there are various methods available in the Charleston area for situational information, the ability for decision-makers to access this information will more than likely be diminished as a result	a. Evaluate current cross-agency policies, plans, and procedures to determine level of area communications in place.				
		b. Determine and document (if not already done) cross-agency communications needs based on different types of disasters.				

	of the disaster magnitude. Additional measures should be considered to mitigate this potential information exchange barrier.	c. Explore additional communication and coordination methods available to fill the identified gaps during the assessment process.				
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APPENDIX B: EXERCISE PARTICIPANTS

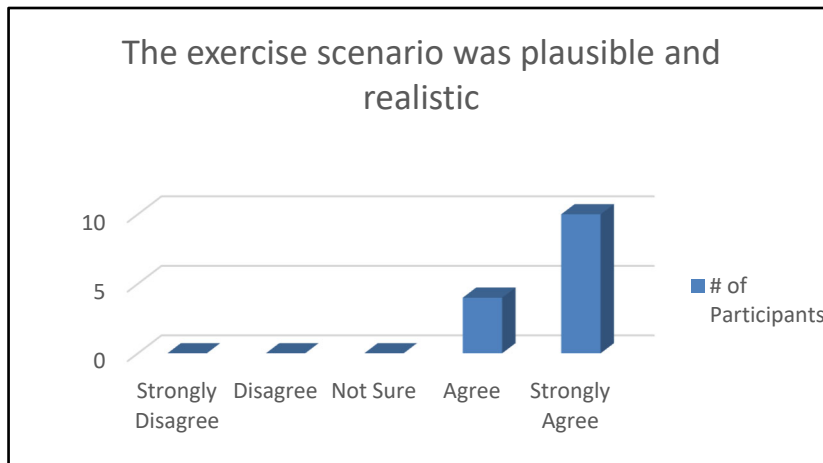
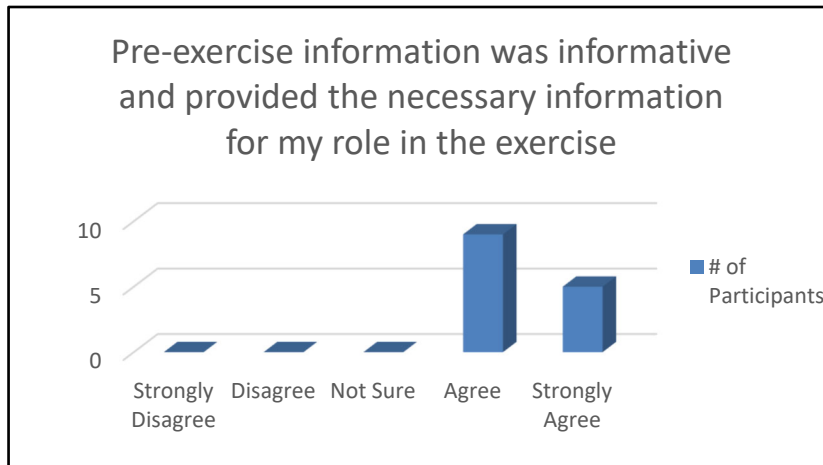
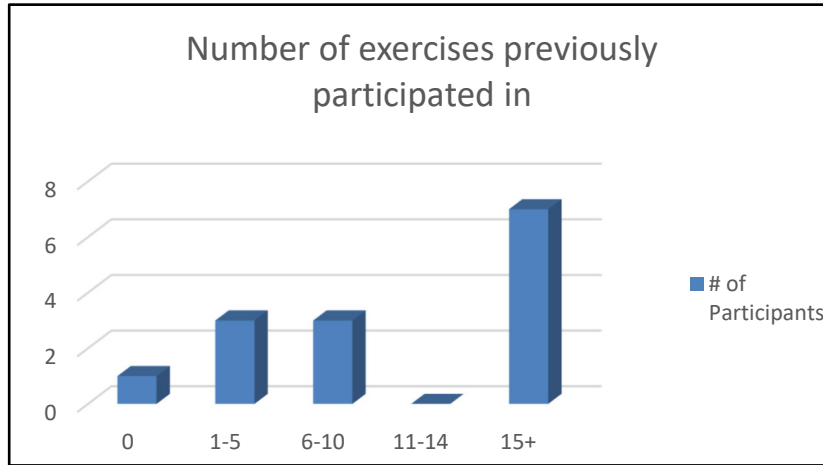
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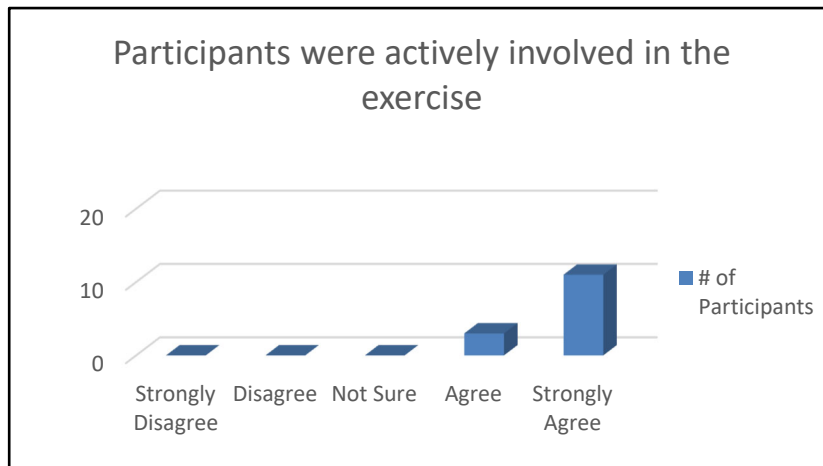
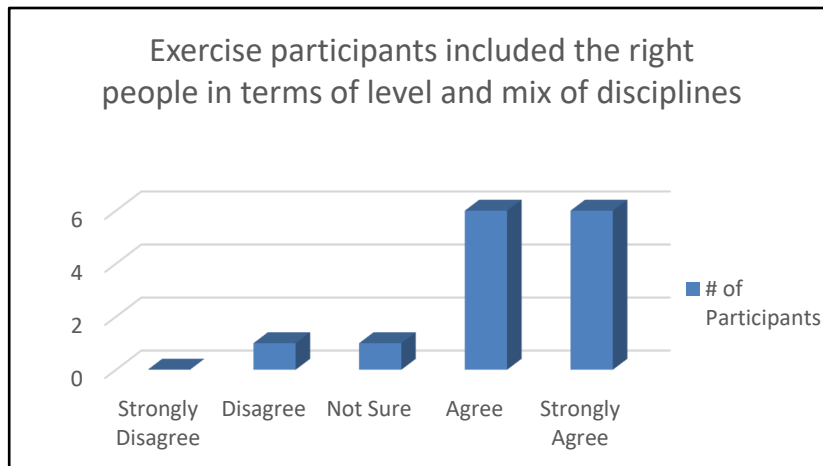
**Denotes Exercise Design Team members.*

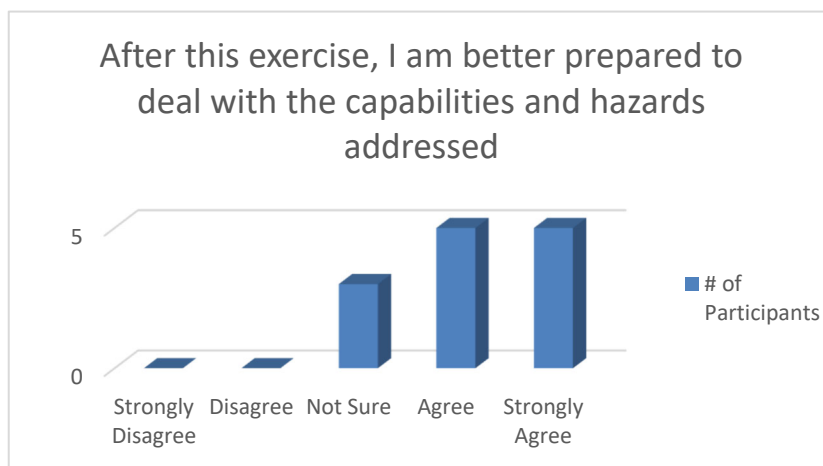
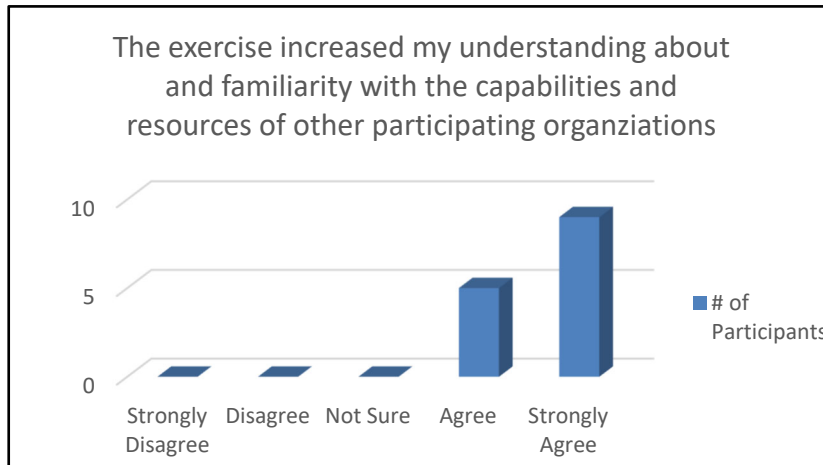
APPENDIX C: ACRONYMS

Acronym	Term
AAR	After Action Report
DPP	Disaster Preparedness Program
EMD	Emergency Management Division
GIS	Geographic Information System
IP	Improvement Plan
NESDIS	National Environmental Satellite, Data, and Information Service
NOAA	National Oceanic and Atmospheric Administration
NWS	National Weather Service
SME	Subject Matter Expert
OR&R	Office of Response and Restoration
SARSAT	Search and Rescue Satellite Aided Tracking
SC	South Carolina
SCDHEC	South Carolina Department of Health and Environmental Control
SCEMD	South Carolina Emergency Management Division
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard

APPENDIX D: PARTICIPANT FEEDBACK







Note: The following views, thoughts, and opinions expressed in the text below belongs solely to the author, and not necessarily to the organization, committee, or other exercise participants.

I observed the following strengths during this exercise:

- Willingness to share information and intelligence.
- Knowledge of established plans and procedures.
- Willingness of the participants to actually participate.
- Great facilitation by the Exercise Team.
- Good open and honest dialogue/discussion
- Excellent collection of professional backgrounds.
- Productive conversations and openness.
- Diversity.
- Great questions and ideas.
- Strong communication between agencies and great idea sharing
- Nicely designed exercise, very informative!
- Willingness for participants to engage
- Good participation from the participants.
- Open and honest dialogue with good conversation.
- Groups were small enough for meaningful discussion with the ability for everyone to have a say and present their points of view based on their expertise and experience.
- Good mix of personnel in attendance
- Partner coordination and open discussion across agencies, participants were very informed on earthquake hazards
- Knowledge of participants who work in emergency management subjects from state academia and other feds was at a high level
- Adaptability
- Participants came from a nice cross section of federal/state/local agencies.
- Also, the participants were engaged in the exercise and knowledgeable.

I observed the following areas for improvement during this exercise:

- Dealing with aftershocks.
- Establishing a baseline and a solution to quickly reevaluate the situation following each after shock.
- More specific information on damages and effects should have been available.
- More participants from a more diverse group? Some agencies may have been busy but there were a few left out.
- Other agency participants would be a great asset in this exercise. Examples would be DHEC, DNR, Corps of Engineers.
- More involvement from stakeholders who were invited but did not attend
- Not all the players that could have provided valuable information were present. The group kind of followed their own thoughts rather than answering the proposed questions. I still think the information that came out of the exercise was valuable, despite this.
- Can't really complain, well organized
- It would have been valuable to have more agencies present and agencies from outside of South Carolina.
- Need joint training and coordination for overall info mgt and cop support and sharing. Need other key stakeholder participation.
- Participants need to stay for all of the workshop. Many gaps and uncertainties were discussed. Need to summarize them. Would be useful to include a run through of modeling, assessment and info mgt tools to develop a functional operational plan for an incident such as this. Participants were largely unaware of each other's capabilities, responsibilities and tools.
- Location selection
- Perhaps it could be useful to have some of the presenters talk about expectations and impacts due to the specific exercise event? The presenters were good and the information they discussed was broader about all the responsibilities and activities they take part in. Even just a brief discussion from each about what they would do in the event of an earthquake would be good. However, I suppose we got into that during the actual exercise.

What specific training opportunities helped you (or could have helped you) prepare for this exercise? Please provide specific course names if possible.

- Years of IMT classes and incident response
- TEEX Infrastructure Protection
- FEMA Recovery IS courses
- Just working on several incidents across the US helped me understand what goes into a response of this magnitude.
- Not training, but having some details in advance about each of the groups participating would have been helpful as someone joining from an outside office.
- Training read aheads
- Knowing and understanding ICS structure.
- Attending State level exercises
- Training on the Earthquake Plan

Which exercise materials were most useful? Please identify any additional materials or resources that would have been useful

- Sitman
- The facilitators were very useful in driving the conversation when answering the questions that were presented. They did a great job.
- Presentations and networking with local resources.
- Playbook was helpful in general.
- Read ahead materials
- Situation manual, copy of local plans
- The background info about the exercise was nice and useful.

Please provide any recommendations on how this exercise or future exercises could be improved or enhanced.

- Build out the scenario to include more area-specific information.
- Great job planning team!
- Include more people from all agencies that would be involved in the response. Their ideas and experiences would help in an exercise such as this where many agencies will be involved in the response and recovery.
- Figure out a tactful way to incentivize participation from invited participants
- Difficult to cover "everything" with this magnitude of event (we knew this going in). Might suggest for a smaller group of participants like this, to further hone in the scenario and topics of conversation.
- Maybe a better projector, difficult to read the screen at times.
- Further reach to partner agencies