



Massachusetts Department of
Environmental Protection

MassDEP Geographic Response Strategy – 2021 COMM* First Responder Exercise/Osterville, MA

After Action Report

April 13, 2021

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; users are encouraged to add additional sections as needed to support their own organizational needs.

COVID-19 Compliance - This exercise was conducted during the COVID 19 pandemic and all Commonwealth of Massachusetts Executive Orders and associated social distancing, face covering, and indoor and outdoor gathering requirements were strictly adhered to.

***Centerville-Osterville-Marstons Mills (COMM)**

EXERCISE OVERVIEW

Exercise Name	2021 COMM First Responder Exercise
Exercise Date	April 13, 2021
Scope	This exercise was a Full-Scale Exercise, planned for approximately six hours in Osterville, MA and upon the waters of West Bay. Exercise play was limited to West Bay in the vicinity of the Wainno Yacht Club and the adjacent shoreline.
Mission Area(s)	Response
Core Capabilities	Environmental Response/Health and Safety, Operational Coordination, Operational Communications.
Objectives	<p>Objective 1: Demonstrate the ability to deploy oil spill equipment from one or more MassDEP pre-positioned oil spill response trailers utilizing common Geographic Response Strategy (GRS) tactics.</p> <p>Objective 2: Demonstrate the ability to assemble a spill response organization utilizing Incident Command System (ICS) principles through execution of an Incident Briefing (ICS 201) and implementation of on-site incident management and tactical operations.</p> <p>Objective 3: Demonstrate the ability to effectively communicate between multiple local, state, and federal agencies including fire departments, police departments, harbormasters, and other state and federal first responders using VHF and UHF communications.</p>
Threat or Hazard	Discharge of oil into a navigable waterway
Scenario	An oil spill has occurred that threatens West Bay. The COMM Fire Department, and the Barnstable Harbormaster and Dept. of Natural Resource staffs will utilize standard Massachusetts GRS booming tactics to protect sensitive resources in West Bay and the surrounding area.
Sponsor	Massachusetts Department of Environmental Protection (MassDEP).

Participating Organizations

Participating organizations will include:

- COMM Fire Department (COMMFD)
- Barnstable Harbormaster (BHM)
- Barnstable Dept. of Natural Resources (DNR).
- MassDEP
- U.S. Coast Guard Sector Southeastern New England (USCG)
- Moran Environmental Recovery (MER)
- Nuka Research and Planning Group, LLC (Nuka Research)

Note: See Appendix B for participant count

Point of Contact

Julie Hutcheson, Oil Spill Program Coordinator
Massachusetts Department of Environmental Protection
Oil Spill Prevention and Response Program
1 Winter St.
Boston, MA 02108
(617) 366-7424
julie.hutcheson@mass.gov

Local first responders are briefed on the contents of the Oil Spill Prevention & Response Trailer



Firefighters from the COMM Fire Department prepare anchors for boom deployment



Photos courtesy of Nuka Research & Planning Group



Figure 1. Exercise Tactics Map

ANALYSIS OF CORE CAPABILITIES

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 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. Table 2 includes compiled data from the Exercise Evaluation Guide (EEG) including the organizational capability targets, associated critical tasks, and observations as observed during the exercise and determined by the evaluation team.

Objective	Core Capability	Performed without Challenges (P)	Performed with Some Challenges (S)	Performed with Major Challenges (M)	Unable to be Performed (U)
Demonstrate the ability to deploy oil spill equipment from one or more MassDEP pre-positioned oil spill response trailers utilizing common Geographic Response Strategy (GRS) tactics.	Environmental Response/ Health and Safety		S		
Demonstrate the ability to assemble a spill response organization utilizing Incident Command System (ICS) principles through execution of an Incident Briefing (ICS 201) and implementation of on-site incident management and tactical operations.	Operational Coordination	P			
Demonstrate the ability to effectively communicate between multiple local, state, and federal agencies including fire, police and harbor master departments using VHF and UHF communications	Operational Communications	P			
<p>Ratings Definitions:</p> <ul style="list-style-type: none"> Performed without Challenges (P): 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 (S): 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 (M): 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 additional 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 (U): The targets and critical tasks associated with the core capability were not performed in a manner that achieved the objective(s). 					

Table 1. Summary of Core Capability Performance

Core Capability	Organizational Capability Target	Associated Critical Tasks	Observation Notes
Environmental Response/ Health and Safety	Overview of Response Equipment	<ul style="list-style-type: none"> • Access Mass DEP Trailer • Identify boom and sorbents • Connect boom together • Connect towing bridle to boom • Connect components of anchor system together 	<ul style="list-style-type: none"> • Performed Without Challenges (P) • All equipment was readily available in both trailers. • Participation during hands-on training at multiple stations was excellent.
	Basic Booming Operations	<ul style="list-style-type: none"> • Transport and tow boom. • Anchoring and Connecting boom to shore • Safe vessel and crew operations. (Refer to ICS-208) 	<ul style="list-style-type: none"> • Performed with Some Challenges (S) • Anchoring requirements were determined once on-scene and after evaluating the diversion strategy configuration to be deployed. Anchor systems were configured and set-up quickly and efficiently. Upon deployment of the boom section anchored to shore, it was noted that the shoreward end of the boom leg anchored to shore using a double rebar anchor point was in the water leaving an open water gap between the end connector and the water's edge. Adjustments to on-water anchoring were quickly made during the deployment. Boom towing and anchoring were conducted safely. • Responders working on or near the water should check for proper wear and fit of Personal Flotation Devices (PFDs). PFDs should be of the proper size with all straps fastened and tightened for a secure fit.
	Implement Tactics in GRS	<ul style="list-style-type: none"> • Deploy appropriate Boom Tactic 	<ul style="list-style-type: none"> • Performed with Some Challenges (S) • Prior to deployment, exercise planners decided to deploy the 400 ft Diversion strategy from the shoreline adjacent to the WYC boat ramp rather than the beach area east of the yacht club docks as depicted in Figure 1. This was accomplished with 1 – 150 ft length of 12-inch and 18-inch boom and 1- 200-foot length of 18-inch boom. <i>Note: Upon removing the boom from the trailer for deployment, participants discovered that one 50-foot section of 12-inch boom was missing from the trailer.</i> Deployment of boom was made challenging by high winds. Boom legs became bowed and overlapped, limiting the diversion tactic effectiveness. Proper adjustments were made to successfully implement the cascade diversion tactic. • Deployment of a 400 ft cascade diversion boom array was successfully deployed. During the hot wash, boat crews who deployed the seaward boom leg, which required marine anchors on both ends, indicated that there was some confusion as to which vessel should deploy their anchor first. This was resolved relatively quickly via vessel-to-vessel communication.

Core Capability	Organizational Capability Target	Associated Critical Tasks	Observation Notes
Operational Coordination	Create and Execute an Assignment List (ICS 201)	<ul style="list-style-type: none"> • Fill out ICS 201 • Assignments in ICS 201 are followed and on-scene adjustments were made as necessary. • Participants demonstrate command and control of exercise 	<ul style="list-style-type: none"> • Performed Without Challenges (P) • The IC clearly outlined an intended operations plan and personnel assignments were made for shoreside and vessel teams.
Operational Communications	Effectively Communicate Using VHF equipment	<ul style="list-style-type: none"> • Create Communications Plan • Communicate with other participants using organic VHF equipment 	<ul style="list-style-type: none"> • Performed without Challenges (P) • The established communications plan was followed and communications, using VHF Channel 66 as well as voice communications when appropriate were, for the most part, clear, concise, and timely throughout the exercise. During the hot wash, the Barnstable Harbormaster noted the importance of maintaining voice communication with members of their own boat crew, especially when actively deploying boom and anchors. Participants noted that often times they are operating vessels alone during their normal day-to-day operations and need to be cognizant of those times when they are conducting operations with additional crew members on board. No hardware or infrastructure issues were encountered.

Table 2. Summary of Organizational Capability Targets and Associated Critical Tasks

The following sections provide an overview of the performance related to each exercise objective and associated core capability, highlighting strengths and areas for improvement.

Objective 1: Demonstrate the ability to deploy oil spill equipment from one or more MassDEP pre-positioned oil spill response trailers utilizing common Geographic Response Plan (GRS) tactics

The strengths and areas for improvement for each core capability aligned to this objective are described in this section.

Core Capability 1: Environmental Response/Health and Safety

Strengths

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

Strength 1: Participation and coordination by the COMM Fire Department and Barnstable Harbormaster staff was excellent and both worked well together.

Strength 2: Participation during hands-on training at multiple stations was excellent.

Strength 3: Deployment of a 400 ft cascade diversion boom array was safely and effectively performed. Vessel crews and shore teams worked extremely well together to make adjustments in difficult weather conditions.

Areas for Improvement

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

Area for Improvement 1: Shoreside Anchoring

Reference: MassDEP GRS Exercise Training Curriculum

Analysis: As indicated in Table 2 above, it was noted that the shoreward end of the boom leg anchored to shore using a double rebar anchor point was in the water leaving an open water gap between the end connector and the water's edge, and that the distance between the point where the shore anchor line was tied off to the boom bridle and the actual anchor point was significant. In an actual spill, where oil would be diverted to the shoreline for recovery, this would have allowed oil to escape at the shoreline. Instructors noted that this could have been rectified either by pulling the slack out of the boom anchor line and tying it off near the bridle connection and/or moving the anchor point farther up the beach above the high tide mark. These types of deployment issues can also be minimized by increasing the frequency of first responder training and/or encouraging each town to conduct their own stand-alone training and drills to improve and maintain proficiency.

Area for Improvement 2: Marine Anchoring

Reference: MassDEP GRS Exercise Training Curriculum

Analysis: During the hot wash, boat crews who deployed the seaward boom leg, which required marine anchors on both ends, indicated that there was some confusion as to which vessel should deploy their anchor first. This was resolved relatively quickly via vessel-to-vessel communication. Basic anchoring and boom towing techniques are discussed during each classroom session and this occurrence stresses the importance of providing more detailed instruction in this area. These types of deployment issues can also be minimized by increasing the frequency of first responder training and/or encouraging each town to conduct their own stand-alone training and drills to improve and maintain proficiency.

Area for Improvement 3: Missing Boom from trailer inventory

Reference: MassDEP Trailer Tracking System

Analysis: Upon removing the boom from the trailer for deployment, participants discovered that one 50-foot section of 12-inch boom was missing from the trailer. This inventory discrepancy will be addressed by MassDEP and their contractors.

Objective 2: Demonstrate the ability to assemble a spill response organization utilizing Incident Command System (ICS) principles through development and execution of an Incident Briefing (ICS 201) and implementation of on-site incident management and tactical operations.

The strengths and areas for improvement for each core capability aligned to this objective are described in this section.

Core Capability 2: Operational Coordination

Strengths

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

Strength 1: Overall operational coordination between exercise players was effective and well communicated.

Areas for Improvement

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

Area for Improvement 1: N/A

Reference: N/A

Analysis: N/A

Objective 3: Demonstrate the ability to effectively communicate between multiple local, state, and federal agencies including fire

departments, police departments, harbor masters, and other state and federal first responders using VHF communications

The strengths and areas for improvement for each core capability aligned to this objective are described in this section.

Core Capability 3: Operational Communications

Strengths

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

Strength 1: The established communications plan was followed and communications, using VHF radio as well as voice communications when appropriate, were clear, concise, and timely throughout the exercise. No hardware or infrastructure issues were encountered.

Areas for Improvement

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

Area for Improvement 1: Boat crew voice communications

Reference: Exercise Plan and ICS-201

Analysis: During the hot wash, the Barnstable Harbor Master noted the importance of maintaining voice communication with members of their own boat crew, especially when actively deploying boom and anchors. Participants noted that often times they are operating vessels alone during their normal day-to-day operations and need to be cognizant of those times when they are conducting operations with additional crew members on board. This communications element will be emphasized within each Exercise Plan/ICS-201.

Participants of the shore team prepare an anchor point for deploying diversion boom



A member of the shore team tosses a heaving line to the vessel crew to begin towing the boom



Vessel crews work to make adjustments to boom in high winds



Diversion boom is hauled back to shore after successfully being deployed



Photos courtesy of Nuka Research & Planning Group

APPENDIX A: IMPROVEMENT PLAN

This IP has been developed specifically for the town of Centerville-Osterville-Marstons Mills and Barnstable, MA following the MassDEP First Responder Exercise conducted on April 13, 2021.

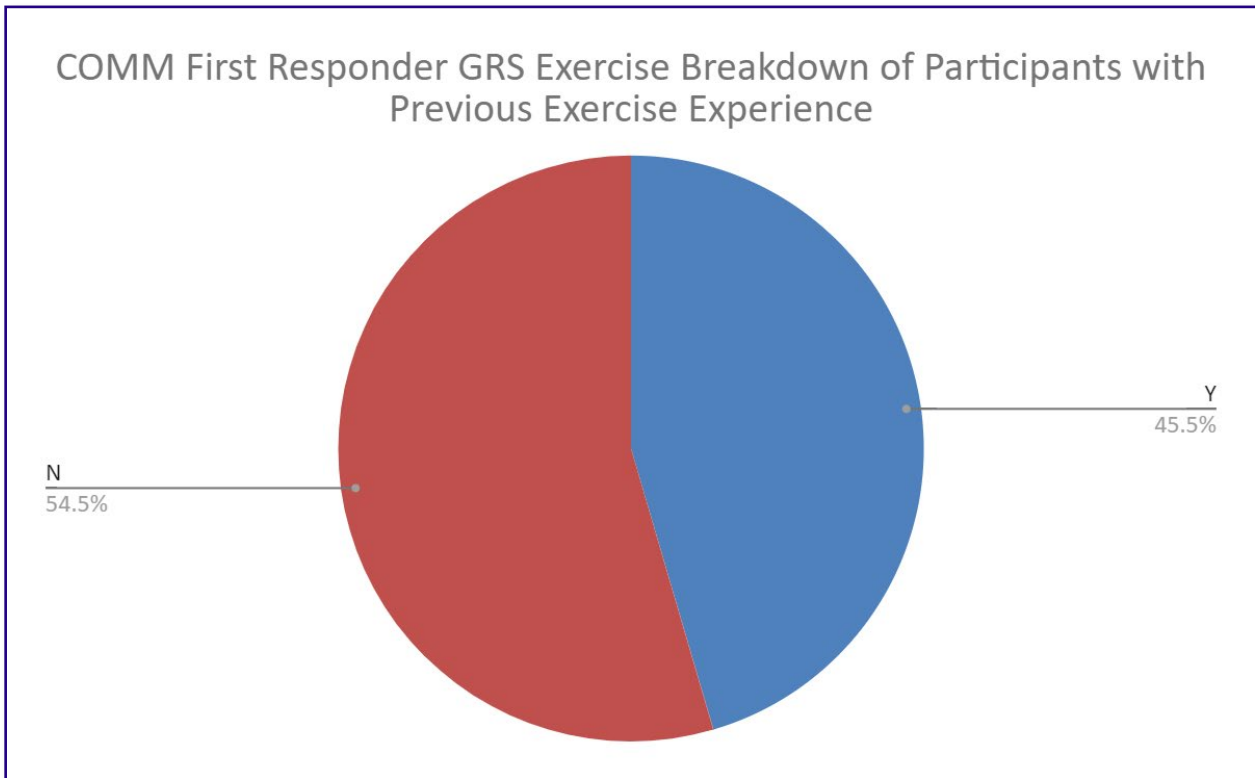
Core Capability	Issue/Area for Improvement	Corrective Action	Capability Element ¹	Primary Responsible Organization	Organization POC	Start Date	Completion Date
Core Capability 1: Environmental Response/Health and Safety	Shoreside Anchoring*	During future exercises, instructors will demonstrate and correct these issues when observed	Exercise, Training	Nuka Research	M. Popovich	05/11/2021	12/31/2021
	Marine Anchoring*	During future exercises, instructors will provide more detailed instruction in this area	Exercise, Training	Nuka Research	M. Popovich	05/11/2021	12/31/21
	Missing Boom from trailer inventory	Replace missing boom section	Equipment	MassDEP	J. Hutcheson	06/01/2021	12/31/21
Core Capability 2: Operational Coordination	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Core Capability 3: Operational Communications	Regular voice communication between boat crew members	Highlight proper/timely voice comms during planning meetings, training and operations brief immediately prior to each exercise	Planning, Training	Nuka Research	M. Popovich	05/11/2021	12/31/2021

¹ Capability Elements are: Planning, Organization, Equipment, Training, or Exercise.

*NOTE: These types of deployment issues can also be minimized by increasing the frequency of first responder training and/or encouraging each town to conduct their own stand-alone training and drills to improve and maintain proficiency. MassDEP may consider these options as this exercise, testing, and training program evolves.

APPENDIX B: EXERCISE PARTICIPANTS

Participating Organizations	
Centerville-Osterville, Marstons Mills, MA	Participant Count
COMM Fire Department	17
Town of Barnstable	
Barnstable Harbormaster	1
Dept.of Natural Resources	2
TOWN PARTICIPANTS	20
Federal	
United States Coast Guard Sector Southeastern New England	2
State	
Massachusetts Department of Environmental Protection (MassDEP)	1
Nuka Research and Planning Group, LLC (contractor for MassDEP)	5
Moran Environmental Recovery (contractor for MassDEP)	1
TOTAL	29



APPENDIX C: EXERCISE EVALUATION FORM



MassDEP Geographic Response Plan (GRP) Exercise and Testing Program

Participant Feedback Form

1 Strongly disagree	2 Mildly disagree	3 Neutral	4 Mildly agree	5 Strongly agree
-------------------------------	-----------------------------	---------------------	--------------------------	----------------------------

Please use the above rating scale to answer the questions for each of the following topics.

The objectives were clearly explained and the exercise met those objectives.	1 2 3 4 5
Comments:	
The material appropriately challenged me and the pace of instruction was correct.	1 2 3 4 5
Comments:	
The instructor(s) did an excellent job.	1 2 3 4 5
Comments:	
I found the classroom to be a comfortable learning environment.	1 2 3 4 5
Comments:	
I feel more prepared to respond to an oil spill than I did before this exercise.	1 2 3 4 5
Comments:	
The best thing about this training was _____.	
This training could have been improved by _____.	

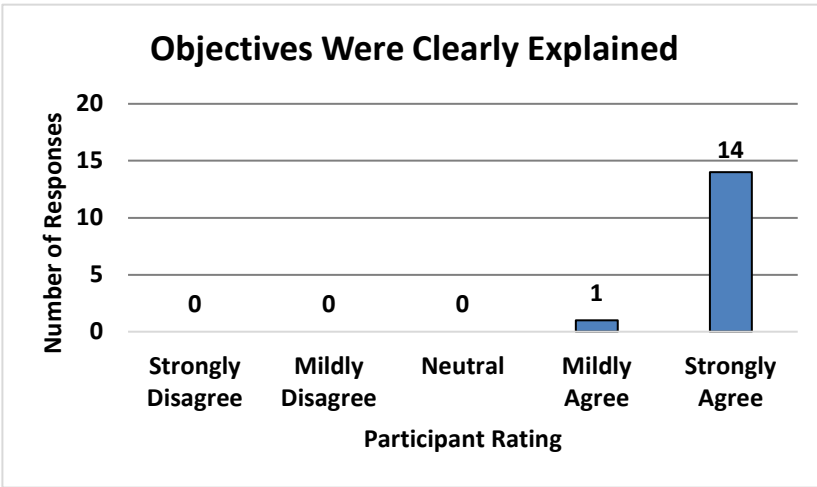
Please use the back of the sheet if you need more room for comments.

(Rev 2016)

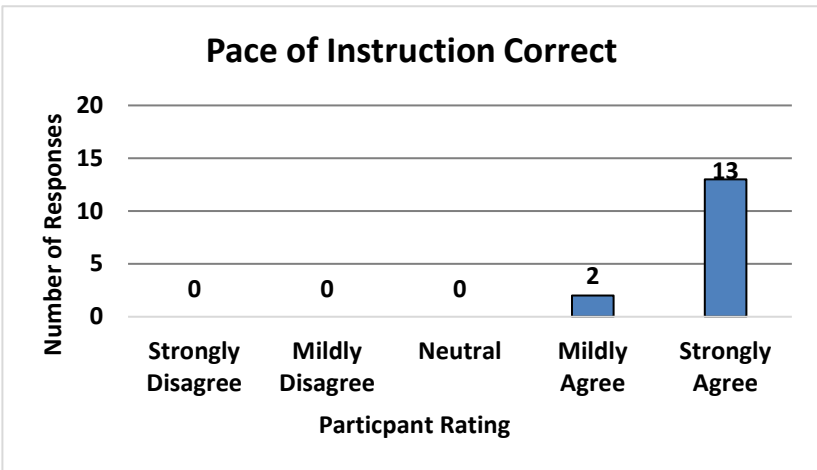


STUDENT FEEDBACK SUMMARY

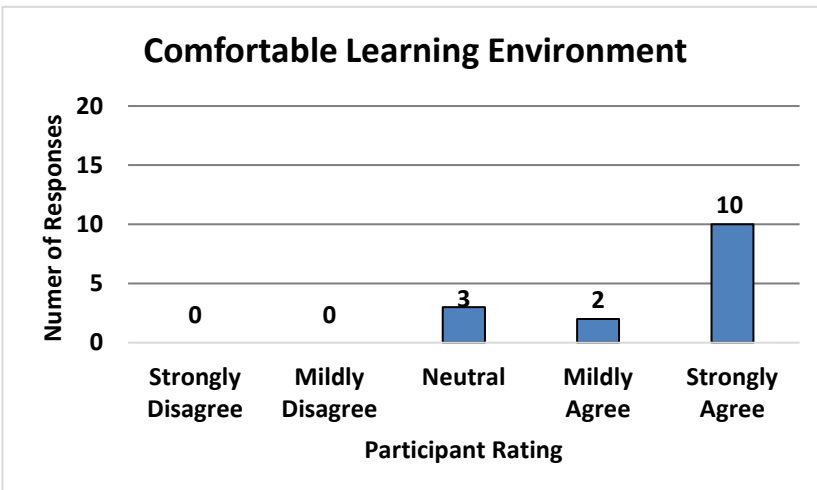
Comments: "Great course".

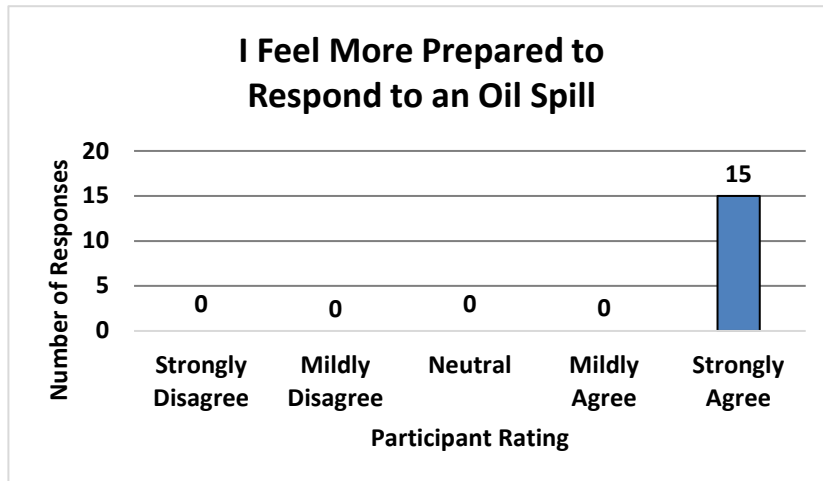


Comments: None

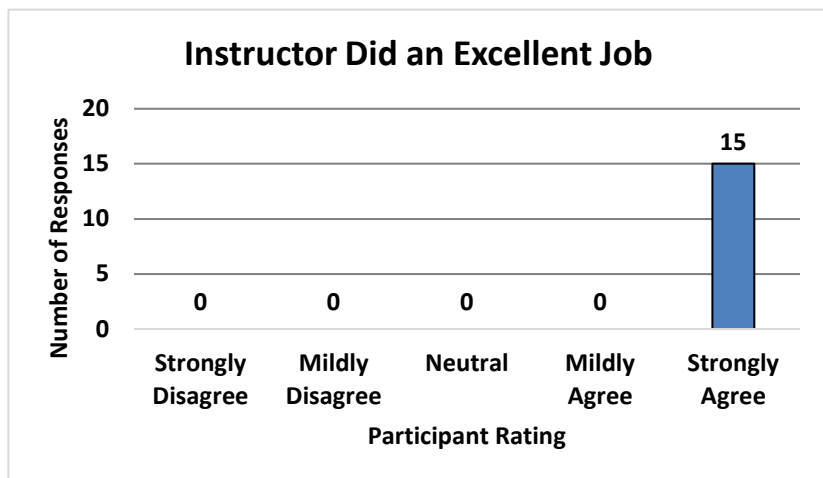


Comments: "Cold", "For what was available for a building it was cool in temp but great", "Good location".





Comments: "Absolutely!", "I really enjoyed the class".



Comments: "Very professional", "Concise yet thorough, very helpful to a novice like me".

The best thing about this training was... "Hands on activities", "Using the equipment", "Hands on", "Hands on portion", "Working with different agencies", "Practicing", "Instructors", "Hands on education", "The challenge of the w/x", "Learning what we have in the trailer, how to use and deploy it", "Instructors were very knowledgeable", "Practical exercise", "Learned a lot", "I really enjoyed the class", "Hands on training".

This training could be improved by... "Working every station in the demos", "More time", "Warmer weather", "Incident Command side", "a more area specific scenario", "doing this more often", "Better weather conditions".