



MassDEP Geographic Response Strategy - 2022 Martha's Vineyard East First Responder Exercise – Edgartown, MA

After-Action Report/Improvement Plan

October 17, 2022

The After-Action Report/Improvement Plan (AAR/IP) aligns exercise objectives with preparedness doctrine 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.

EXERCISE OVERVIEW

Exercise Name	2022 Martha's Vineyard East First Responder Exercise
Exercise Dates	October 17, 2022
Scope	This is a full-scale exercise, planned for approximately 6 hours with classroom instruction held in the Edgartown Police Station, and the exercise held in Katama Bay, Vineyard Haven. First responder exercises include the same elements of a GRS exercise but focus broadly on deploying boom and testing common tactics instead of deploying a specific GRS tactic. Exercise play is limited to Katama Bay and the adjacent shorelines.
Mission Area(s)	Response
Capabilities	Planning, 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 development and 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, harbor masters, and other state and federal first responders using UHF and/or VHF communications.</p>
Threat/Hazard	Discharge of oil into a navigable waterway
Scenario	An oil spill has occurred in Katama Bay that threatens Katama Bay and the surrounding areas. The Edgartown, Oak Bluffs, and Tisbury Fire Departments and Harbor Masters will utilize various common Geographic Response Strategy (GRS) tactics to protect sensitive resources in Katama Bay and the surrounding area.
Sponsor	Massachusetts Department of Environmental Protection
Participating Organizations	See Appendix A: Exercise Participants
Point of Contact	<p>Julie Hutcheson, Program Coordinator Massachusetts Department of Environmental Protection Oil Spill Prevention and Response Program 100 Cambridge St. Boston, MA 02114 (617) 366-7424 julie.hutcheson@mass.gov</p>

Participants undergo classroom instruction prior to the field exercise



Participants practice connecting boom sections



Photos courtesy of Nuka Research

Participants practice tossing heaving line



Participants practice setting up shoreside anchor systems



Photos courtesy of Nuka Research

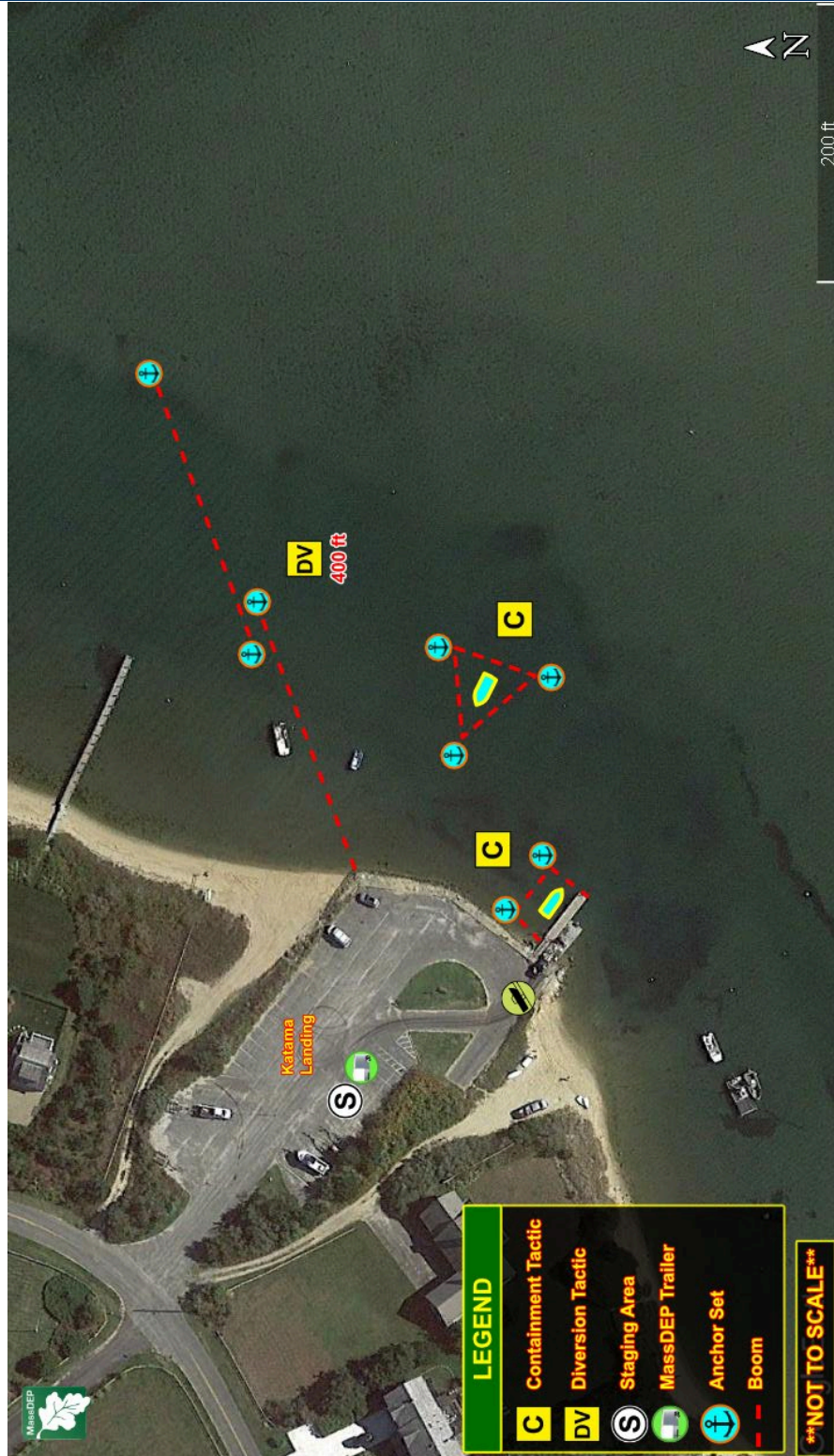


Figure 1. Exercise Tactics Map

ANALYSIS OF CAPABILITIES

Aligning exercise objectives and 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 capabilities, and performance ratings for each capability as observed during the exercise and determined by the evaluation team.

Objective	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 harbormaster departments using VHF and UHF communications	Operational Communications	P			
<p>Ratings Definitions:</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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).</p>					

Table 1. Summary of Core Capability Performance

Core Capability	Organizational Capability Target	Associated Critical Tasks	Exercise Observations
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"> • All trailers were accessible and contained the appropriate equipment • Participants were attentive and engaged during classroom and trailer overview sessions • Participants adequately connected boom sections, towing bridle to boom, and all components of anchor systems
	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"> • Vessel crews loaded marine anchor systems onto Edgartown Harbormaster (HM) vessel • Edgartown Shellfish (SF) vessel tied boom anchor line to bow cleat and reverse towed one end of 200 ft of boom to the approximate containment boom location around a nearby mooring southwest of the boat ramp • Shoreside strike team coordinated with Edgartown SF to pause towing operations while towing bridle was attached to opposite end of containment boom at the boat ramp • Shoreside strike team passed the opposite end of the containment boom to Oak Bluffs FD vessel from the dock to the north of the boat ramp, OB vessel crews then tied the anchor line around a stern cleat, towed the boom to the eastern side of the mooring, and dropped the initial marine anchor
	Implement Boom Tactics	<ul style="list-style-type: none"> • Deploy containment around a vessel at a mooring • Deploy diversion boom (DV) around Katama Beach 	<ul style="list-style-type: none"> • Participants altered the plan of deploying containment boom around a vessel near the shoreline due to the presence of underwater lines in the area, deciding to instead deploy containment boom around a mooring further from shore • Edgartown SF vessel towed initial end of containment boom further south, wrapping boom around the area surrounding the mooring and then dropped a marine anchor to complete the containment array • OB FD deployed two additional anchors around the containment boom array to further secure the containment boom tactic • OB FD vessel and Edgartown SF vessels worked together and received directives from the shoreside strike team to reposition several anchors on the eastern side of the array to create a more effective containment configuration

Core Capability	Organizational Capability Target	Associated Critical Tasks	Exercise Observations
			<ul style="list-style-type: none"> • Vessel strike teams demobilized the containment boom array and transitioned to a shoreline diversion configuration as planned. OB FD vessel pulled several anchors from the containment array, prepared one end of boom for tow, then transported that end of boom closer to shore, where line was transferred to the shoreside strike team who then connected the boom to the shoreside anchor system which had been previously set in place • Working concurrently with the OB FD vessel, the Edgartown SF vessel pulled the remaining anchors from the other end of the boom and towed that end of boom further east to complete a shoreside diversion array
<p>Operational Coordination</p>	<p>Create and Execute an Assignment List (ICS 201)</p>	<ul style="list-style-type: none"> • Fill out ICS 201 • Assignments in ICS 201 are followed, and on-scene adjustments made as necessary • Participants demonstrate command and control of exercise 	<ul style="list-style-type: none"> • After discussing local obstructions that could impact the safety and effectiveness of operations, participants concluded that the boom deployment strategy needed to be revised to work around these hazards; agreeing as a team to contain a nearby mooring instead of a nearby vessel • IC and SO worked well together, assigning all personnel to appropriate strike teams, overseeing the entire deployment, and adjusting the deployment plan based on on-scene conditions • Vessel crews and shoreside strike teams collaborated and communicated effectively to coordinate alterations to the boom deployment strategy
<p>Operational Communications</p>	<p>Effectively Communicate Using VHF equipment</p>	<ul style="list-style-type: none"> • Create Communications Plan • Communicate with other participants using organic VHF equipment 	<ul style="list-style-type: none"> • All participating organizations were able to effectively communicate via a common VHF channel • Participants displayed a willingness and a commitment to communicating with one another to ensure situational awareness was maintained by all parties

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 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 Strategy (GRS) tactics

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

Capability 1: Environmental Response/Health and Safety

Strengths

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

Strength 1: Participants were attentive during the classroom and hands-on training sessions, asking informed questions throughout and providing immediate feedback.

Strength 2: Participants adequately connected boom sections, towing bridle to boom, and all components of anchor systems.

Strength 3: Participants recognized potential safety issues prior to on-water deployment and worked well together to determine the appropriate alternative boom deployment strategies.

Areas for Improvement

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

Area for Improvement 1: Participants struggled to determine the appropriate distance to tow the boom to maintain the adequate amount of tension once marine anchors were dropped and the containment strategy was completed, leading to several adjustments to the positioning of marine anchors.

Reference: MA GRP Tactics Guide

Analysis: Participants shared in the exercise debrief that they should have continued to tow the initial leg of containment boom further east to create more tension prior to dropping the second marine anchor on the southern side of the bay. Because the boom had too much slack, the initial array did not resemble an adequate containment strategy. Instead, vessel crews needed to work together to reposition multiple anchors to create an adequate containment area around the mooring. This operation required the effort of multiple vessels and continuous coordination with the Command Staff. For future exercises, one participant suggested that crews take into consideration the length of boom they intend to tow prior to engaging in towing operations. This would enable vessel crews to more accurately estimate the appropriate distance needed to tow the boom to achieve an appropriate amount of tension.

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

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

Capability 2: Operational Coordination

Strengths

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

Strength 1: Command Staff adequately identified the roles and responsibilities of all on-scene personnel.

Strength 2: All vessel strike teams worked well together, independently coordinating on-water activity and actively providing instruction as needed to less experienced vessel operators.

Strength 3: Participants worked well together to coordinate resources and actions while transitioning from a containment boom array to a diversion boom array, completing this evolution efficiently and effectively.

Objective 3: Demonstrate the ability to effectively communicate between multiple local, state, and federal agencies including fire, police and harbormaster departments using VHF and UHF communications

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

Capability 3: Operational Communications

Strengths

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

Strength 1: Participants from all agencies were able to determine the appropriate radio frequency (Marine VHF 74) and utilized radios adequately to communicate deployment tactics and adjustments.

Strength 2: Vessel strike teams properly communicated each action with Command Staff and the shoreside strike team in real time, ensuring situational awareness was maintained across all participants throughout the duration of the exercise.

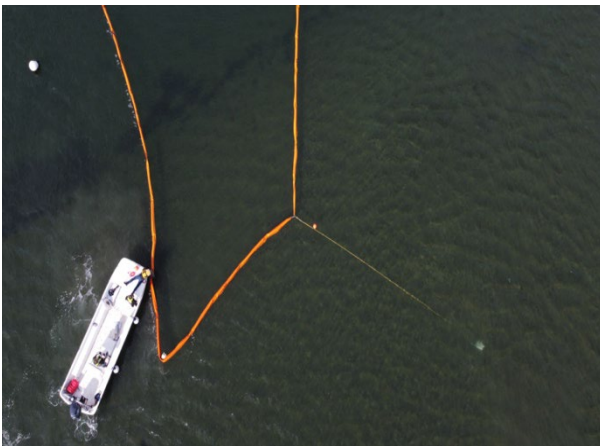
Exercise facilitators provide a safety and operational brief before passing operational control to the Incident Commander



Shore-side strike team prepares a shore side anchor point



Vessel crews reposition a marine anchor



Vessel crew works to deploy containment boom around a mooring



Photos courtesy of Nuka Research

APPENDIX A: IMPROVEMENT PLAN

The Improvement Plan lists each area for improvement observed during exercise conduct and identifies the measurable corrective actions that can be taken to strengthen each associated capability. The purpose of an Improvement Plan is to help shape each organization's preparedness priorities and support continuous improvement. As shown in the table below, each area for improvement is accompanied by a corrective action and the most relative capability element. The table also lists each corrective action's primary responsible organization and POC. The primary responsible organization and POC provide the oversight to ensure each corrective action is initiated by the start date and completed by the completion date listed in the table.

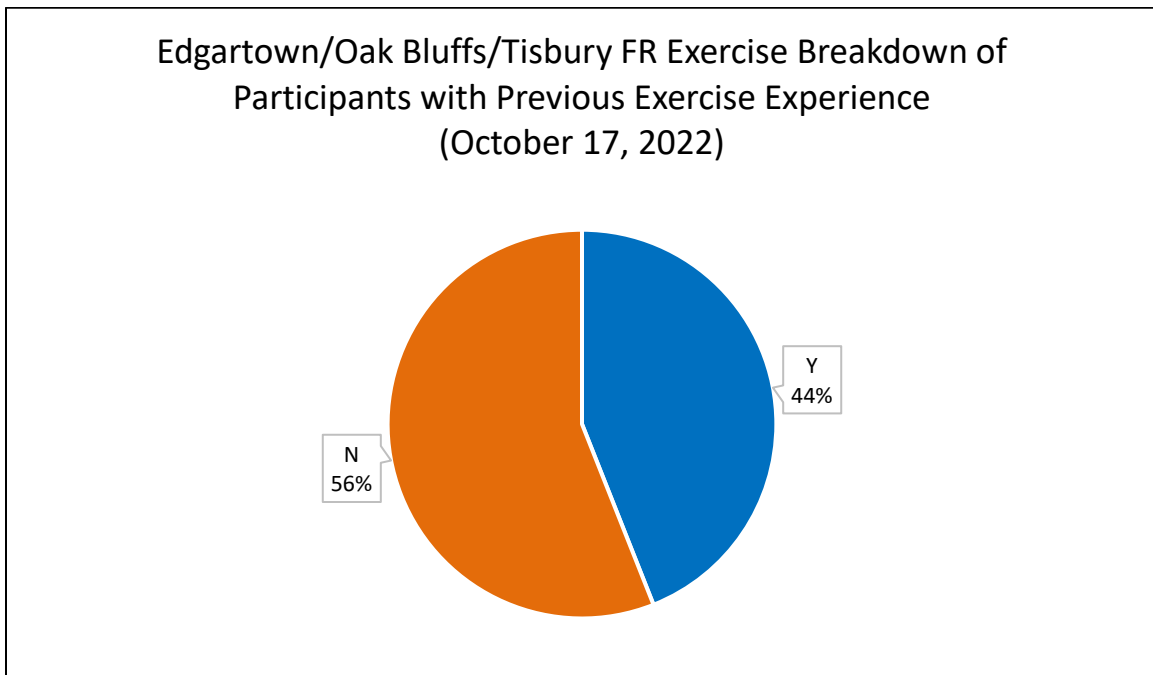
Capability	Issue/Area for Improvement	Corrective Action	Capability Element ¹	Primary Responsible Organization	Organization POC	Start Date	Completion Date
Capability 1: Environmental Response/Health and Safety	Participants struggled to determine the appropriate distance to tow boom to maintain the adequate amount of tension once marine anchors were dropped and the containment strategy was completed, leading to several adjustments to the positioning of marine anchors.	During future exercises, exercise facilitators provide suggestions to participants during the Safety and Operational Brief detailing the recommended distance to tow boom relative to the size of the operating area.	Planning	Nuka Research	M. Popovich	Spring 2023	Spring 2023

This IP is developed specifically for MassDEP, MER, Nuka Research and Oak Bluffs, Tisbury, and Edgartown as a result of the 2022 Oak Bluffs, Tisbury, and Edgartown FR Exercise conducted on October 17, 2022.

¹ Capability Elements are: Planning, Organization and Leadership, Personnel, Equipment and Systems, Training, or Exercise

APPENDIX B: PARTICIPANTS & RESOURCES

Participating Organizations	
Town of Edgartown, MA	Participant Count
Edgartown Fire Department	6
Edgartown Shellfish Department	2
Edgartown Harbormaster	1
Town of Oak Bluffs, MA	
Oak Bluffs Fire Department	3
Oak Bluffs Harbormaster	2
Oak Bluffs Shellfish Department	1
Town of Tisbury, MA	
Tisbury Harbormaster	2
State	
Massachusetts Department of Environmental Protection (MassDEP)	1
Moran Environmental Recovery (MER) *	1
Nuka Research and Planning Group, LLC (Nuka Research) *	3
TOTAL	22



List of Resources			
Agency	Resource	Kind	Exercise Function
Edgartown HM	Ribcraft/25'		Support/Safety
Edgartown SF	Parker/25'		Boom tow
Oak Bluffs FD	Carolina Skiff/23'		Anchors
Oak Bluffs	Oil spill response trailer		Boom deploy
Edgartown	Oil spill response trailer		Trailer familiarization

APPENDIX C: PARTICIPANT FEEDBACK

Participant feedback was solicited from the group using the combination of online and paper feedback forms. Participants were asked to rate each question using the scale listed below:

- 1 = Strongly Disagree
- 2 = Mildly Disagree
- 3 = Neutral
- 4 = Mildly Agree
- 5 = Strongly Agree

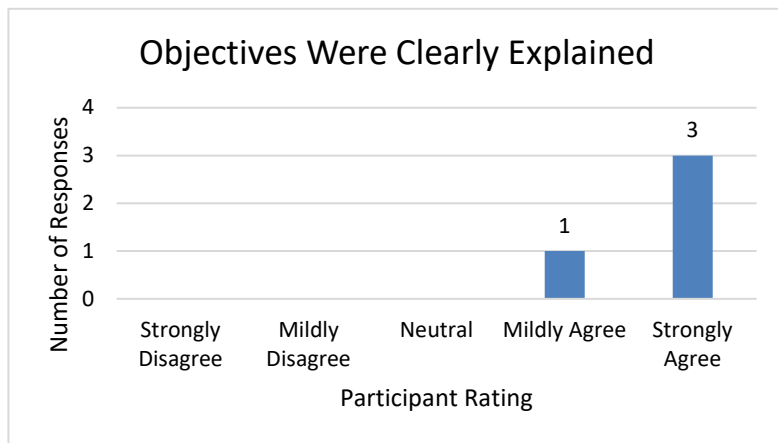
Participant feedback questions included the following:

- The objectives were clearly explained, and the exercise met those objectives
- The material appropriately challenged me, and the pace of instruction was correct
- The instructor(s) did an excellent job
- I found the classroom to be a comfortable learning environment
- I feel more prepared to respond to an oil spill than I did before this exercise

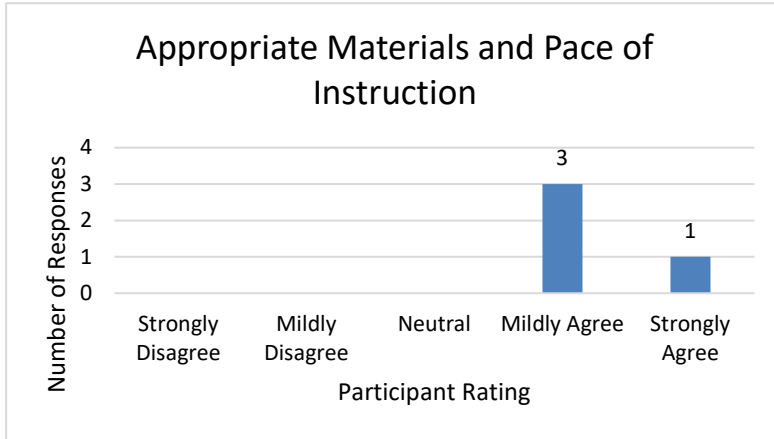
After each question above is ranked, participants are then asked to provide their open text responses to identify both the best thing about the training and any suggested improvements. A summary of this exercise's participant feedback is listed on the succeeding pages.

Participant Feedback Summary

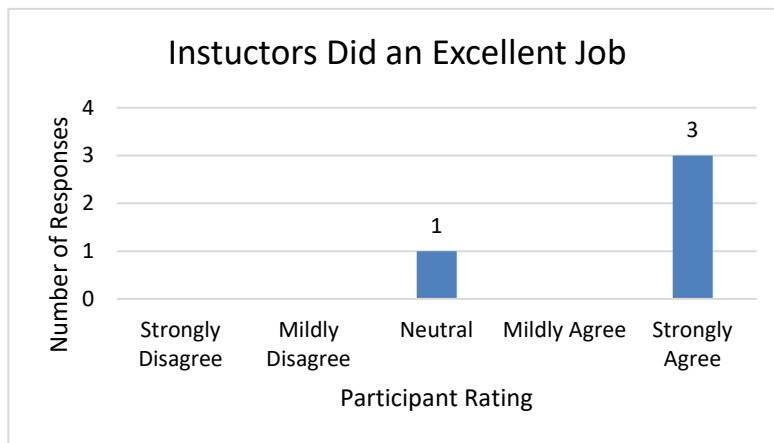
The following feedback was received from 4 of the 22 participants.



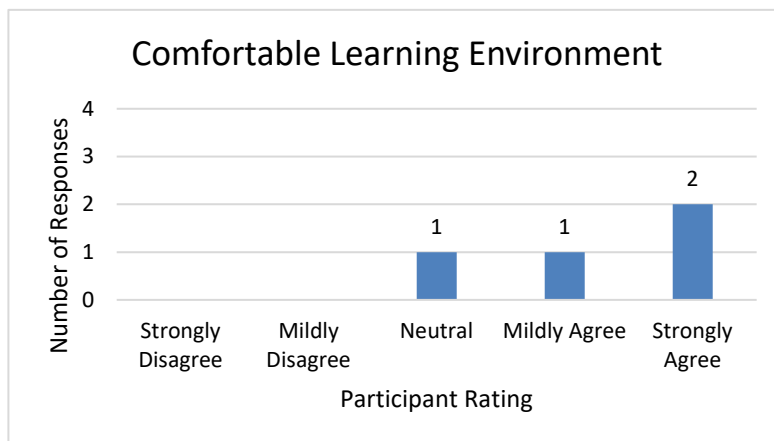
Comments: None



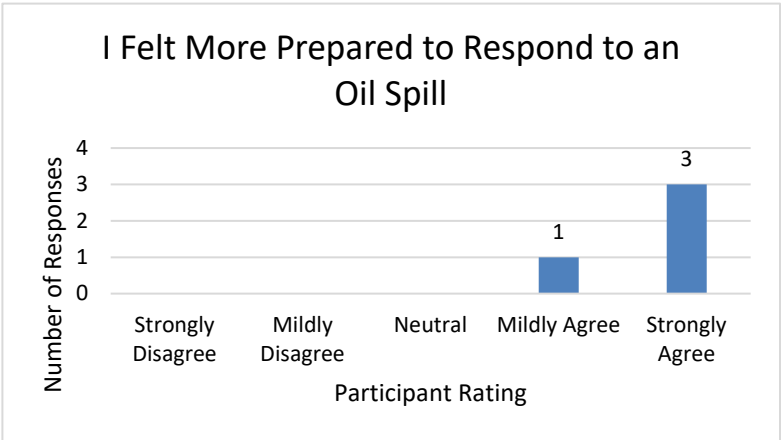
Comments: None



Comments: None



Comments: None



Comments: None

The best thing about this training was...	This training could be improved by...
Practical session	Better game plan for the practical session
Weather was good	
Hands on experience	