



Geographic Response Strategy Exercise Series – Braintree/Weymouth

After-Action Report/Improvement Plan

October 7, 2021

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	2021 Braintree/Weymouth GRS Exercise
Exercise Dates	October 7, 2021
Scope	This is a full-scale exercise, planned for approximately six hours in Braintree, MA and upon the waters of the Fore River. Exercise play is limited to the Fore River in the vicinity of the Metropolitan Yacht Club and adjacent shoreline.
Focus Area(s)	Prevention, Protection, Response
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, harbor masters, 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 the Fore River. The Braintree and Weymouth Fire Departments and Harbor Masters will utilize the Fore River GRS (BH-10) to protect sensitive resources in the Fore River and the surrounding area.
Sponsor	Massachusetts Department of Environmental Protection (MassDEP)
Participating Organizations	<p>Participating organizations will include:</p> <ul style="list-style-type: none"> • Braintree Fire Department (BFD) • Braintree Harbor Master (BHM) • Braintree Emergency Management Agency (BEMA) • Weymouth Fire Department (WFD) • Weymouth Police Department/Harbor Master (WPD) • Weymouth Emergency Management Agency (WEMA) • Massachusetts Emergency Management Agency (MEMA) • MassDEP • U.S. Coast Guard Sector Boston (USCG) • Moran Environmental Recovery (MER) • Nuka Research <p>Note: See Appendix B for participant count</p>
Point of Contact	<p>Julie Hutcheson, Marine 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</p>

First Responders practice Heaving Line throwing



Interior of MEMA Mobile Emergency Operations Center (MEOC)



Photos courtesy of Nuka Research & Planning Group

The Incident Commander provides an operational brief to all participants



Shore Team (East) supports and assists with on-water boom deployment



Photos courtesy of Nuka Research & Planning Group



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
<p>Environmental Response/ Health and Safety</p>	<p>Overview of Response Equipment</p>	<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"> • Participants were attentive during the classroom session, asking questions and providing feedback and were fully engaged and participatory in the hands-on equipment training.
	<p>Basic Booming Operations</p>	<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"> • The Braintree (West) shore team, comprised of only two personnel, safely and deftly established a shoreside anchor point and secured the western end of the boom array after it was towed from the eastern side. • Under the direction of both LT Finneran (WFD) and LT Nigrelli (BFD), the Fore River (East) shore team considered several fixed anchor points as well as establishing a double rebar anchor point, settling on use of two existing slabs of granite adjacent to the boat ramp. • The Fore River (East) shore team did a very diligent job of breaking down the boom, rinsing it, packing large boom on the bottom, and smaller boom on top. They broke it down to wash, and then reconnected them to put into the trailer to help expedite a deployment in the future. • Under the direction of the IC, who was onboard the WPD PAUL MILONE, and despite challenging currents, all vessel crews worked well together in towing, positioning and anchoring 1,000 ft of boom to form a chevron exclusion array. The M/V RICHARD M GLYNN (WPD) took the apex under tow and completed, with some difficulty, the configuration and deployment. • During boom deployment and positioning, vessel strike teams solved problems as they arose including safely navigating around and clearing the boom over and around an existing channel marker. Vessel strike teams also took advantage of an existing floating dock near mid channel to anchor the boom apex.

Core Capability	Organizational Capability Target	Associated Critical Tasks	Exercise Observations
	<p>Implement Tactics in GRS</p>	<ul style="list-style-type: none"> • Deploy Exclusion boom (EX) chevron array 	<ul style="list-style-type: none"> • Classroom and hands-on training ran longer than expected. As a result, the exclusion boom array could not be deployed as depicted in Figure1 (flood tide strategy). Instead, the chevron was reversed to take advantage of the ebb tide and deployed as if the spill threat was from the south. • Minor challenges implementing exclusion boom apex. The WPD vessel that took the boom apex in tow and ultimately completed the configuration struggled against the current while trying to position 1,000 ft of boom. Considering the availability of vessels with higher horsepower, another vessel should likely have been selected to carry out this task.
<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 were made as necessary • Participants demonstrate command and control of exercise 	<ul style="list-style-type: none"> • The Incident Commander (IC) Captain Blake, proactively developed a deployment plan and coordinating with six vessel strike teams, three shoreside support teams, and the Comms officer in the MEMA Mobile Emergency Operations Center (MEOC). Captain Blake also decided to direct the deployment from a vessel rather than remain on shore, and remained in close communication with all other vessel and shoreside strike teams as well as the Comms Officer (J. Mulveyhill) in the MEOC. • IC independently recognized the need to alter the deployment plan based on the tide window • LT Finneran deftly managed support activity at the Idlewell Blvd boat ramp (Fore River East) site, acting essentially as the Ops Chief and coordinating and communicating with the IC as well as vessel and shoreside strike team leaders.

Core Capability	Organizational Capability Target	Associated Critical Tasks	Exercise Observations
<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"> • During Ops brief IC initially identified both UTAC 42A and VHF channel 23A as comms channels. Only UTAC 42A was used. • All participants demonstrated competency utilizing commonly used UHF frequency (UTAC 42A). All participants radios pre-programmed with this frequency • One incident of particular note involved LT Finneran whose quick thinking and timely communication averted a potential problem during boom deployment. At one point as the boom was being towed from the boat ramp at too fast a rate, LT Finneran quickly cleared shore team members away from boom and directed the towing vessel come to all stop. His quick thinking and immediate comms averted any potential injury or damage to equipment.

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 Plan (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: East and West shore teams quickly and efficiently prepared both the boom and anchors for deployment and established effective anchor points using fixed objects. The Braintree (West) shore team accomplished their objectives with only two personnel.

Strength 2: Six vessels worked closely together to tow, configure, and anchor 1,000 ft of boom from the Braintree oil spill response trailer

Areas for Improvement

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

Area for Improvement 1: EX-02a tactic couldn't be tested as per the existing GRS

Reference: MassDEP GRS Exercise Planning Protocol

Analysis: Classroom and hands-on training ran longer than expected. As a result, the exclusion boom array could not be deployed as depicted in Figure 1 (flood tide strategy).

Area for Improvement 2: Towing and anchoring in high current

Reference: MassDEP GRS Exercise Training Curriculum

Analysis: As in many past exercises, some vessel encountered difficulty in vessel maneuvering and boom towing due to high current. The WPD vessel that took the boom apex in tow and ultimately completed the configuration struggled against the current while trying to position 1,000 ft of boom. Considering the availability of vessels with higher horsepower, another vessel should likely have been selected to carry out this task.

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: The Incident Commander (IC) Captain Blake, proactively (and without the need for assistance or input from MassDEP, MER, or Nuka Research) developed a deployment plan and coordinating with six vessel strike teams, three shoreside support teams, and the Comms officer in the MEOC. Captain Blake also decided to direct the deployment from a vessel rather than remain on shore, and remained in close communication with all other vessel and shoreside strike teams as well as the Comms Officer (J. Mulveyhill) in the MEMA Mobile Emergency Operations Center (MEOC). Additionally, he independently recognized the need to alter the deployment plan based on the tide window. Additional factors that contributed to Captain Blake's noteworthy performance is his past experience as a participant in these MassDEP exercises and the nature of those particular exercises. Captain Blake has participated in several past exercises involving Braintree, Quincy, and Weymouth. In every case, those exercises involved the deployment of 1,000 ft or more of boom, with all of them posing significant challenges to participating responders.

Strength 2: Both the Fore River East and Braintree West shoreside strike teams performed exceptionally. Shore team leaders including LT Finneran (WFD) and LT Nigrelli deftly managed support activity at the Idlewell Blvd boat ramp (Fore River East) site. LT Finneran communicated with the IC as well as vessel and shoreside strike team leaders, coordinating shoreside and on-water activity. LT Nigrelli served as the strike team leader for boom support operations at the boat ramp, overseeing boom offloading and prep, shoreside anchoring, and demobilization and repacking.

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, police and harbor master 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: All participants demonstrated competency utilizing commonly used UHF frequency (UTAC 42A). Communications were deftly handled between six vessels, tow shoreside support teams and the MEOC and potentially dangerous situations that occurred during the deployment were mitigated quickly due to quick thinking and timely communication on the parts of the IC and strike teams leaders.

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

WPD vessel PAUL L. MILONE begins towing 1,000 ft of boom with support from the eastern shore strike team



Photos courtesy of Nuka Research & Planning Group

Shore Team West and a BFD small boat work together to establish a shoreside anchor point



Photos courtesy of Nuka Research & Planning Group

Vessels from Braintree Fire Department and Harbormaster, and Weymouth Police Department Marine Unit work together to deploy 1,000 ft of exclusion boom



Photos courtesy of Nuka Research & Planning Group

WPD and BFD vessels work together to configure and anchor the chevron boom array



Photos courtesy of Nuka Research & Planning Group

Appendix A: IMPROVEMENT PLAN

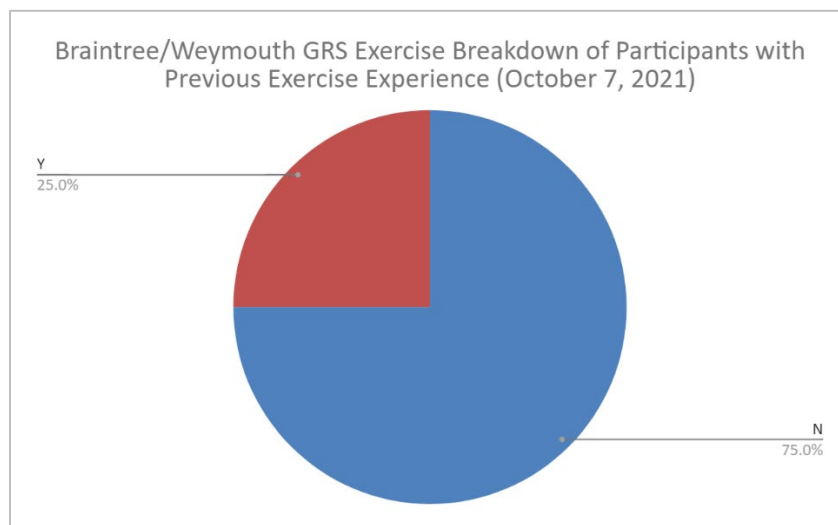
This IP is developed specifically for MassDEP, MER, Nuka Research and Weymouth and Braintree, MA as a result of the MassDEP GRS Exercise conducted on October 7, 2021.

Capability	Issue/Area for Improvement	Corrective Action	Capability Element ¹	Primary Responsible Organization	Organization POC	Start Date	Completion Date
Capability 1: Environmental Response/Health & Safety	1. EX-02a tactic couldn't be tested as per the existing GRS	During exercise planning phase, select dates with tide windows that better align with training schedule	Planning	Nuka Research	M. Popovich	10/15/21	03/01/22
Capability 1: Environmental Response/Health & Safety	2. Towing and anchoring in high current	Enhance classroom and field instruction to emphasize the importance of selecting the appropriate towing method/vessel	Planning, Training	Nuka Research	M. Popovich	10/15/21	03/01/22
Capability 1: Environmental Response/Health & Safety	3. Modification to GRS	Move 1,000 ft EX-02a deployment location to area depicted on 2021 exercise tactics map.	Planning	Nuka Research	M. Popovich	10/26/21	03/01/22

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


APPENDIX B: PARTICIPANTS & RESOURCES

Participating Organizations	
Town of Braintree, MA	Participant Count
Braintree Fire Department	7
Braintree Police Department/Harbormaster	8
Braintree Emergency Management Agency	1
City of Weymouth, MA	
Weymouth Fire Department	5
Weymouth Police Department/Harbormaster	6
Weymouth Emergency Management Agency	3
TOWN PARTICIPANTS	30
Federal	
United States Coast Guard Sector Boston	4
State	
Massachusetts Department of Environmental Protection (MassDEP)	2
Massachusetts Emergency Management Agency	2
Nuka Research and Planning Group, LLC (contractor for MassDEP)	4
Moran Environmental Recovery (contractor for MassDEP)	3
TOTAL	45



Agency	Resource	Kind	Exercise Function
Braintree Fire Department	FIRE RESCUE 1 - Munson-34' Packman Landing Craft	Vessel	Safety/Boom Deployment Support
Braintree Fire Department	Caribe RHIB - 10 ft	Vessel	Boom Deployment/Support
Braintree Fire Department	Oil Spill Response Trailer	Equipment	Boom Deployment
Braintree Fire Department	Braintree Fire Department Engine 3 (pump truck)	Equipment	Boom Deployment/Support
Braintree Harbormaster	Ranger 19 ft - 250HP	Vessel	Safety
Weymouth Fire Department	Oil Spill Response Trailer	Equipment	Boom Demonstration
Weymouth PD	M/V PAUL L MILONE - Safe Boat- 38'/1050HP	Vessel	Boom Deployment/Support
Weymouth PD	M/V SEATAC - Safe Boat-29'/600 HP	Vessel	Boom Deployment/Support
Weymouth PD	M/V RICHARD M GLYNN - Center Console-21'/225 HP	Vessel	Boom Deployment/Support
MEMA	Mobile Emergency Operations Center (MEOC)	Vehicle	Command & Control

APPENDIX C: PARTICIPANT FEEDBACK



MassDEP
Geographic Response Plan (GRP)
Exercise and Testing Program

Participant Feedback Form

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


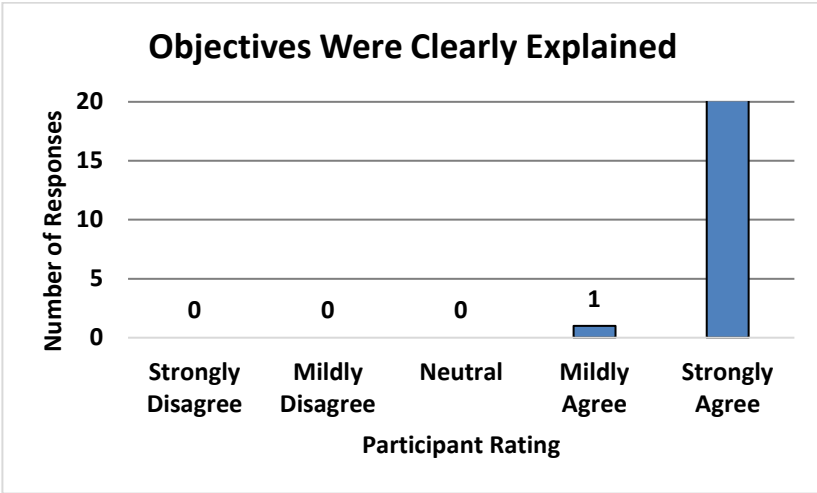
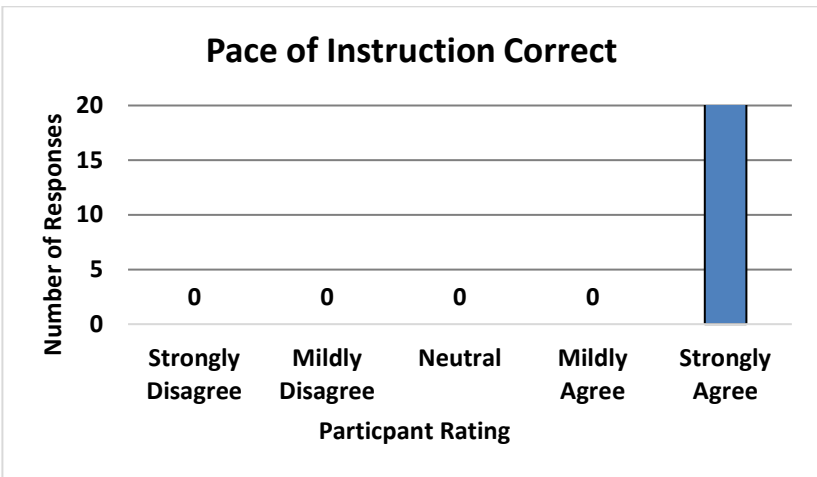


Figure 2. Participant Feedback Form

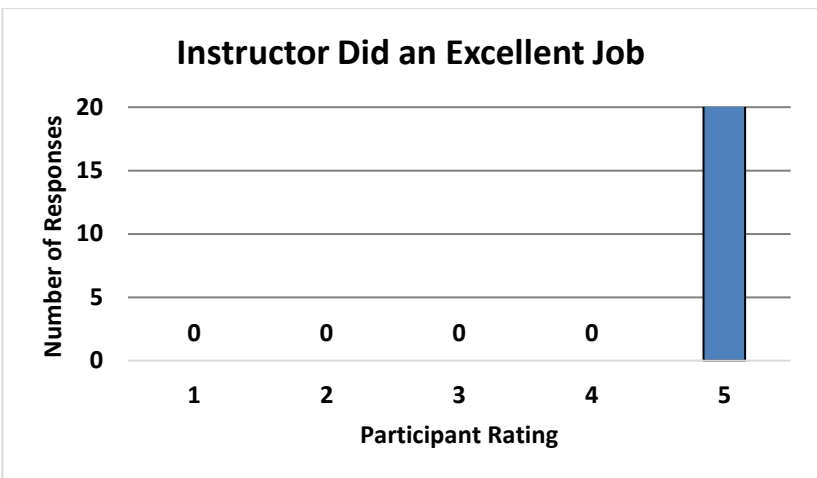
Participant Feedback Summary



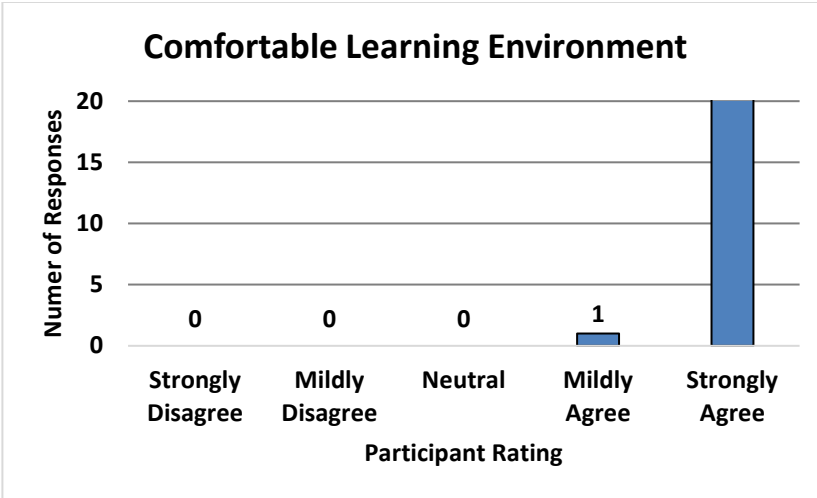
Comments: "very well done"



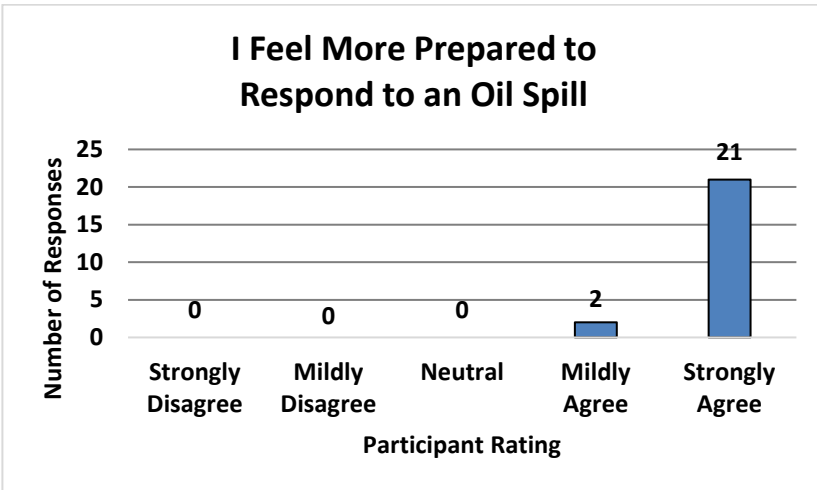
Comments: "realistic time of actual deployment," "enjoyed hands on"



Comments: "very patient and knowledgeable"



Comments: "great venue"



Comments: "I had never done anything like that before", "excellent training"

The best thing about this training was..."seeing the boom deployed for the first time and having agencies working well together," "actual deployment," "hands on," "practical," "hands on training," "hands on," "on water boom deployment," "boats," "hands on training," "practical evolution," "hands-on training," "Powerpoint," "boat handling," "sweating," "Hands on training," "Hands on," "Getting on the boat and deploying the boom," "Multi agency cooperation and coordination," "Actually handling the equipment," "Hands on"

This training could be improved by..."more boat," "nothing," "more hands on," "maybe break it down into 2 days," "more frequency," "none it was excellent"