



Geographic Response Strategy Exercise Series – Lynn/Nahant First Responder Exercise

After-Action Report/Improvement Plan

May 6, 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 Lynn/Nahant First Responder Exercise |
| Exercise Dates | May 6, 2022 |
| Scope | This is a full-scale exercise, planned for approximately 6 hours in Lynn Harbor. Exercise play is limited to Lynn Harbor in the vicinity of the Blossom St Extension Boat Ramp, Lynn Heritage State Park, and the adjacent shorelines. |
| 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 Lynn Harbor. The Lynn and Nahant Fire Departments and Harbor masters will utilize various common Geographic Response Strategy (GRS) tactics to protect sensitive resources in Lynn Harbor and the surrounding area. |
| Sponsor | Massachusetts Department of Environmental Protection (MassDEP) |
| Participating Organizations | <p>Participating organizations included:</p> <ul style="list-style-type: none"> • Lynn Fire Department • Lynn Emergency Management • Nahant Fire Department • Nahant Harbor master • Massachusetts Department of Environmental Protection (MassDEP) • U.S. Coast Guard Sector Boston • Moran Environmental Recovery • 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 participate in the classroom portion of the exercise

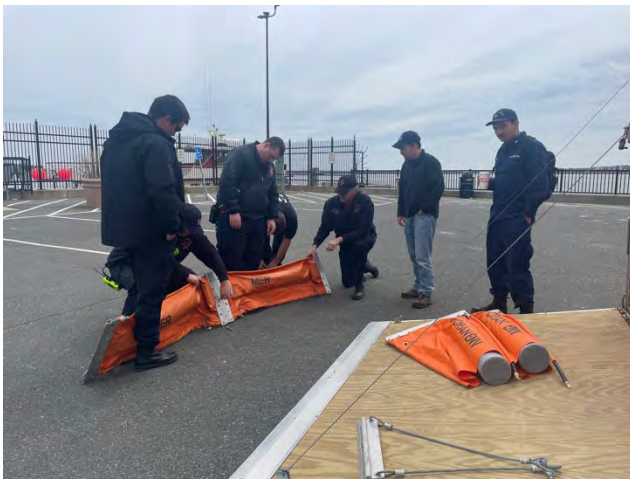


First Responders practice the shoreline anchoring technique

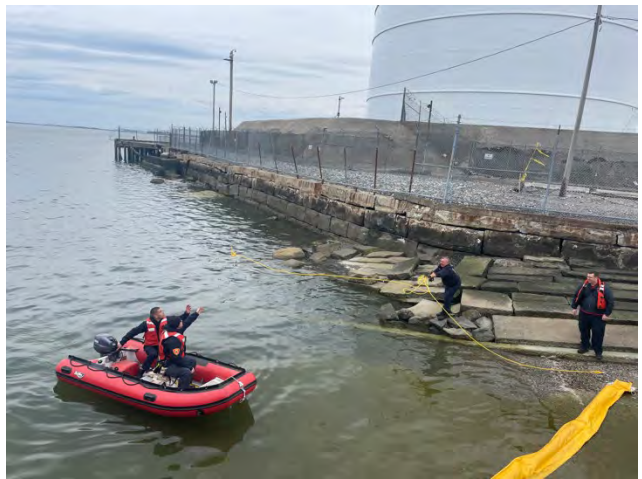


Photos courtesy of Nuka Research

First responders practice assembling the boom



Shore team uses heaving line to transfer boom to the on-water team for towing



Photos courtesy of Nuka Research

On-water team tows the boom to implement dockside containment boom strategy



Photos courtesy of Nuka Research

On-water teams work together to place containment boom around pier complex near underground storage tanks



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 | | S | | |
| 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 | | S | | |
| <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

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

Capability: Environmental Response/Health and Safety

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

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.

Objective 1.1: Overview of Response Equipment

Associated Critical Tasks

- Access Mass DEP Trailer
- Identify boom and sorbents
- Connect boom together
- Connect towing bridle to boom
- Connect components of marine and shoreside anchor systems together

Objective 1.2: Basic Booming Operations

Associated Critical Tasks

- Transfer boom and equipment between shore and vessel
- Transport and tow boom.
- Anchoring and Connecting boom to shore
- Safe vessel and crew operations.

Objective 1.3: Implement Tactics in GRS

Associated Critical Tasks

- Deploy Containment Boom Tactic around the Steamboat Marina pier complex (400 ft)

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 feedback.

Strength 2: All shoreside and vessel strike teams safely and effectively towed, configured, and anchored the 400 ft boom section. This evolution was marked by the need to tow the boom approximately one-half mile from the Blossom St. Boat Ramp, across the northeast corner of Lynn Harbor to the Seaport Marina pier complex. Most notably, the two Lynn FD 11ft inflatable boats were especially effective in navigating around and underneath the pier complex, making it possible to anchor the containment boom along the concrete bulkhead under the pier.

Areas for Improvement

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

Area for Improvement 1: Small vessels struggled to tow longer boom sections

Reference: N/A

Analysis: The two 11-ft inflatable boats operated by Lynn FD (with 10HP outboard motors) unsurprisingly had difficulty towing the 400 ft section. The small vessels were able to safely and successfully transfer the boom to the larger Nahant FD vessel who was able to effectively tow the boom. Many coastal Massachusetts Fire Department have only small Rigid-Hull Inflatable boats with low horsepower engines that cannot tow even short sections of boom. These vessels are however effective for close-shoreline and shallow water support during oil spill response operations.

Capability: Operational Coordination

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

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

Objective 2.1: Execute an Incident Brief (ICS 201)

Associated Critical Tasks

- Assignments in ICS 201 followed/on-scene adjustments made
- Participants demonstrate command and control of exercise

Strengths

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

Strength 1: During the exercise planning phase, senior members of the Lynn FD recognized that the two underground storage tanks¹ located at the Seaport Marina and immediately adjacent to Lynn Harbor are significant potential sources of pollution. They recommended that the boom deployment scenario be based on a discharge emanating from one of these tanks and impacting Lynn Harbor. Additionally, LFD personnel developed a deployment plan prior to the exercise which essentially called for co-incident commanders based on the distance between the boat ramp and Seaport Marina. A senior LFD firefighter oversaw operations at the Blossom St. Boat Ramp, while another senior LFD firefighter oversaw booming operations at Seaport Marina.

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

Areas for Improvement

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

Area for Improvement 1: Briefing, Assignments, and Coordination of on-water activity and personnel.

Reference: Exercise Plan, ICS 201

Analysis: Even though senior LFD personnel developed a deployment plan prior to the exercise, a thorough operations brief that included all participants wasn't conducted so many participants weren't clear on what the objectives were and what their respective roles or responsibilities were.

¹ There is one, 10,000-gallon gasoline underground storage tank and one 10,000-gallon diesel fuel underground storage tank immediately adjacent to the Seaport Marina pier complex.

Capability: Operational Communications

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

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

Objective 3.1: Effectively Communicate Using UHF/VHF Equipment

Associated Critical Tasks

- **Create Communications Plan**
- **Communicate with other participants using UHF or VHF equipment**

Strengths

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

Strength 1: A communication plan was developed, identifying the use of both Lynn Channel 2 (UHF) and VHF Channel 12. Exercise controllers noted that Lynn Channel 2 was the primary means of communication throughout the on-water deployment with VHF Channel 12 being used very little if at all.

Areas for Improvement

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

Area for Improvement 1: Command Staff to vessel strike team communication.

Reference: Exercise Plan, ICS 201

Analysis: The Incident Commander and shore and vessel strike team members at the boat ramp, along with the teams at the Seaport Marina seemed to rely primarily on voice commands during the on-water deployment. This worked well for each location but there were some misunderstandings of what activities were taking place at each location as there wasn't much communication between the Seaport Marina and boat ramp teams. This could have been overcome had a more thorough operations brief been conducted and had more frequent site-to-site communication taken place.

Appendix A: IMPROVEMENT PLAN

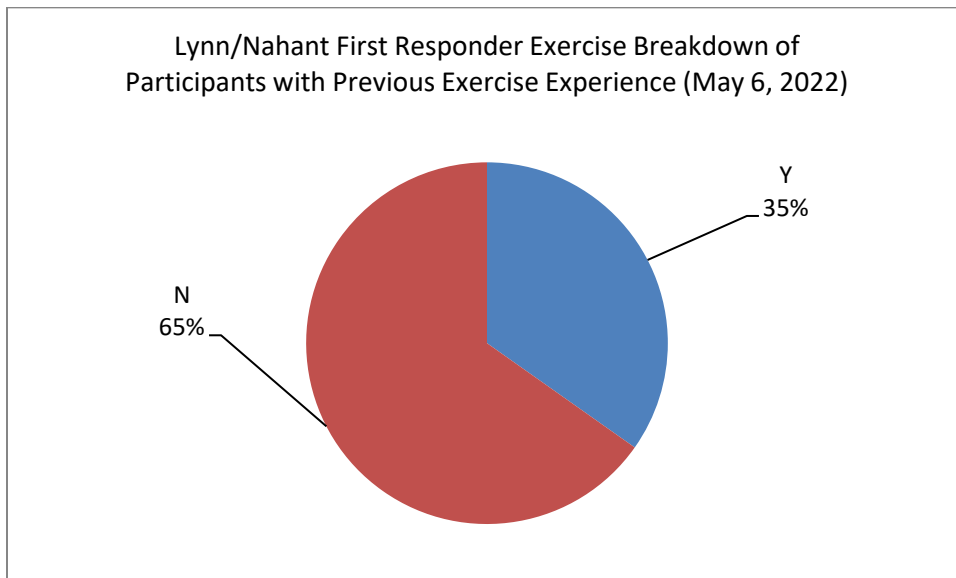
This IP is developed specifically for MassDEP, MER, Nuka Research and the City of Lynn and Town of Nahant, MA as a result of the MassDEP First Responder Exercise conducted on May 6, 2022.

| Capability | Issue/Area for Improvement | Corrective Action | Capability Element ² | Primary Responsible Organization | Organization POC | Start Date | Completion Date |
|--|--|--|---------------------------------|----------------------------------|------------------|------------|-----------------|
| Capability 2: Operational Coordination | 1. Briefing, Assignments, and Coordination of on-water activity and personnel. | Emphasize position assignments during each exercise's training and operational brief | Organization, Execution | Nuka Research | M. Popovich | 06/01/22 | 09/01/22 |
| Capability 3: Operational Communications | 2. Command Staff to vessel strike team communication | During each exercise's training and operational brief, emphasize adherence to the established comms plan and timely and adequate comms amongst all participating assets during on-water operations | Organization, Execution | Nuka Research | M. Popovich | 06/01/22 | 09/01/22 |

² Capability Elements are: Planning, Organization, Equipment, Training, or Exercise


APPENDIX B: PARTICIPANTS & RESOURCES

| Participating Organizations | |
|--|-------------------|
| | Participant Count |
| City of Lynn, MA | |
| Lynn Fire Department | 14 |
| Lynn Emergency Management | 1 |
| Town of Plymouth, MA | |
| Nahant Fire Department | 5 |
| Nahant Harbormaster | 2 |
| TOWN PARTICIPANTS | 22 |
| Federal | |
| United States Coast Guard Boston | 1 |
| State/Other | |
| Massachusetts Department of Environmental Protection (MassDEP) | 1 |
| Nuka Research and Planning Group, LLC (contractor for MassDEP) | 2 |
| Moran Environmental Recovery (contractor for MassDEP) | 2 |
| TOTAL | 28 |



| Agency | Resource | Kind | Exercise Function |
|-----------|----------------------------------|-----------|---|
| Lynn FD | MARINE 1 Parker 23 ft | Vessel | Boom Deployment/Support |
| Lynn FD | ENGINE 9 Achilles 12 ft | Vessel | Boom Deployment/Support |
| Lynn FD | ENGINE 10 Achilles 12 ft | Vessel | Boom Deployment/Support |
| Lynn FD | Oil Spill Response Trailer | Equipment | Equipment Deployment |
| Nahant FD | MARINE 31 Zodiac 15' | Vessel | Boom Deployment/Support |
| Nahant FD | Oil Spill Response Trailer | Equipment | Equipment Demo |
| Nahant HM | HARBORMASTER 3 Safeboat 27 ft | Vessel | Safety/Observation/Boom Deployment/Support |

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)


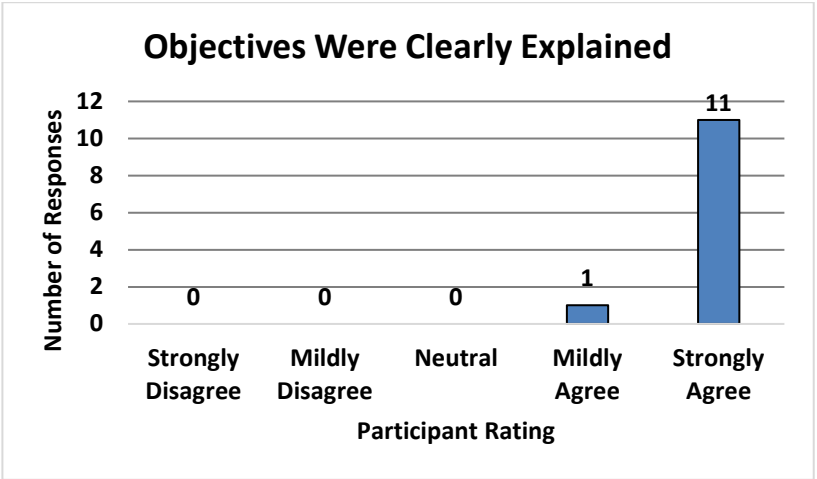


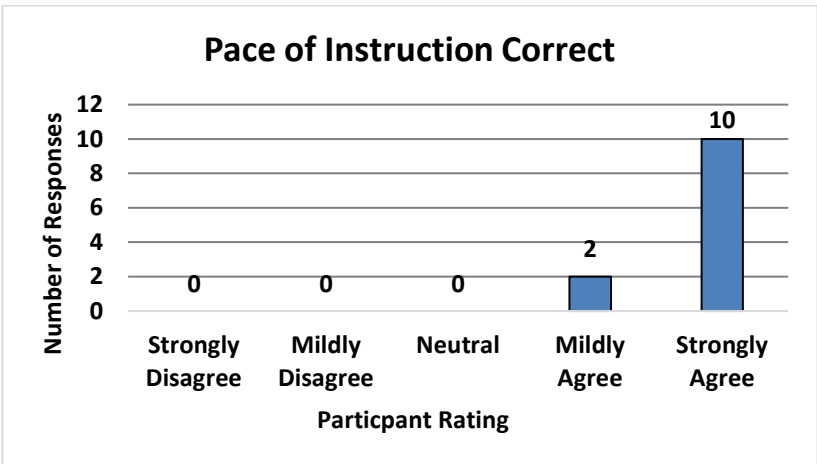
Figure 2. Participant Feedback Form

Participant Feedback Summary

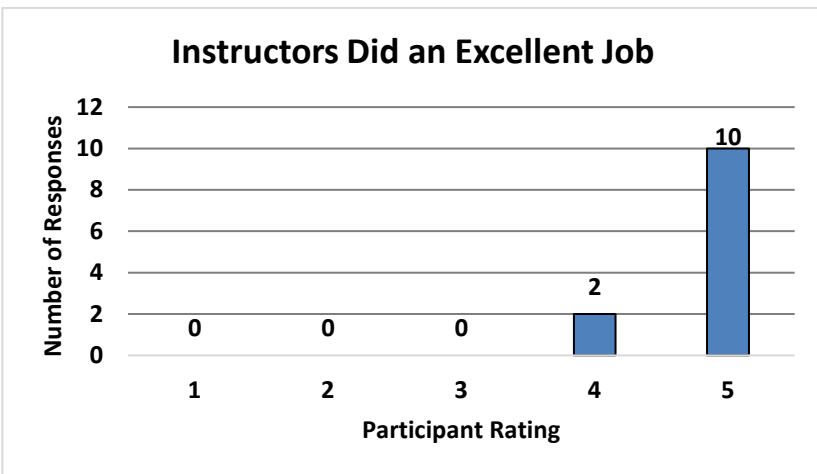
The following feedback was received from 12 of the 22 participants (55%).



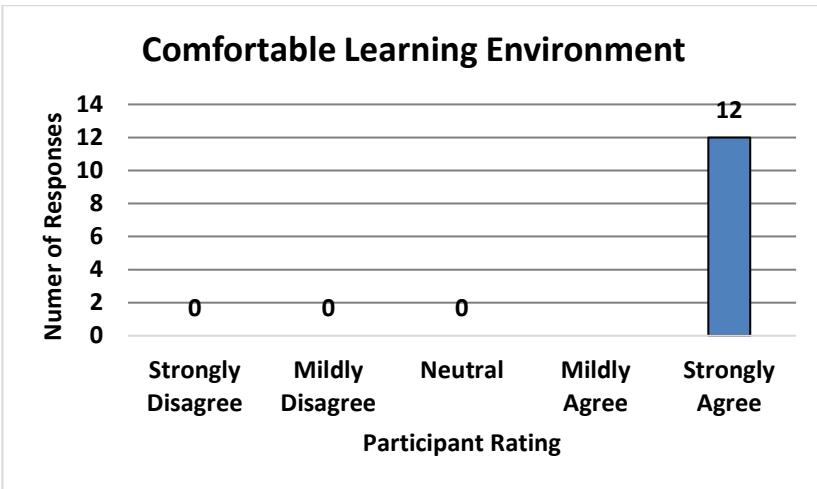
Comments: None



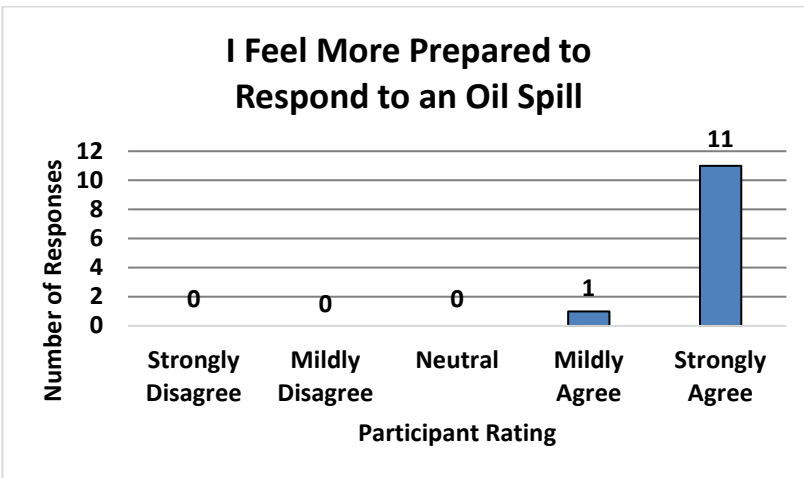
Comments: None



Comments: "Better transition from DEP portion of drill to the actual hands-on part"



Comments: None



Comments: None

The best thing about this training was "How instructors were so knowledgeable.", "Hands on training ", "Getting familiar with trailer contents ", "Hands on the equipment", "The hands-on portion.", "Trailer familiarization"

This training could be improved by" Further explaining the process of deploying anchor systems", "Nothing. Great training.", "Nothing! It was great!", "A little more instructor involvement during the exercise", "More time on the field exercise"