



MassDEP Geographic Response Plan – 2019 Manchester Harbor (NS-21) Exercise

After Action Report
September 16, 2019

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.

EXERCISE OVERVIEW

Exercise Name	2019 Manchester Harbor (NS-21) Exercise
Exercise Date	September 16, 2019
Scope	This exercise was a Full-Scale Exercise, planned for approximately six hours in Manchester-by-the-Sea, MA (MBTS) and upon the waters of Manchester Harbor. Exercise play was limited to Manchester Bay in the vicinity of the Masconomo Park, Days Creek, 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 Plan (GRP) 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 Manchester Harbor. The Beverly and MBTS Fire Departments and Harbormaster staffs will utilize GRP NS-21 to deploy boom to protect sensitive resources in Manchester Harbor.
Sponsor	Massachusetts Department of Environmental Protection (MassDEP).

**Participating
Organizations**

Participating organizations will include:

- Beverly Fire Department (BFD)
- Beverly Harbormaster (BHM)
- MBTS Fire Department (MFD)
- MBTS Harbormaster (MHM)
- MBTS Police Department
- USCG Sector Boston
- MassDEP
- Moran Environmental Recovery (MER)
- Nuka Research and Planning Group, LLC (Nuka Research)

Note: See Appendix B for participant count

Point of Contact

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Moran Environmental Recovery and Manchester/Beverly first responders review trailer equipment prior to the field exercise

MBTS Fire Department personnel deploy boom Manchester Harbor .



Photos courtesy of Nuka Research & Planning Group

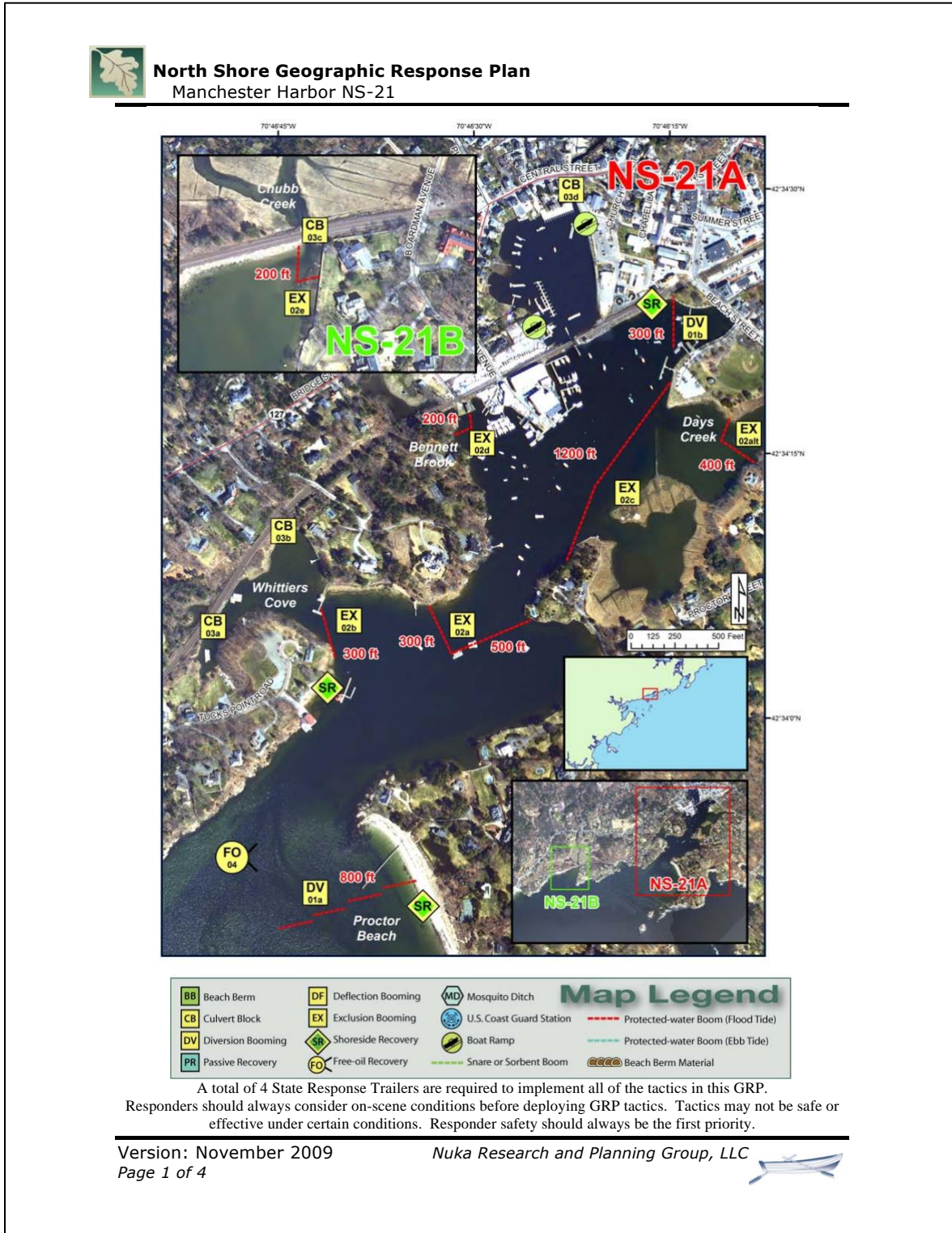


Figure 1. Manchester Harbor GRP (NS-21)



Figure 2. 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 Plan (GRP) 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	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. Participants were able to connect boom, bridle and anchors on shore and in water locations.
	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 Without Challenges (P) Vessels were able to tow 500 – 600 ft sections of boom through congested mooring fields without incident. Shore and harbor anchoring locations were modified on-scene due to congestion caused by vessels at moorings. The modified boom and anchor configuration was set-up quickly and efficiently. Boom towing and anchoring was conducted safely. Boat handling and booming operations were conducted in a safe manner.
	Implement Tactics in GRP	Exclusion Boom (EX-02c)	<ul style="list-style-type: none"> Performed With Some Challenges (S) Prior to deploying tactic EX-02c it was recognized that the existing strategy (Figure 2) would need to be modified by shortening and changing the angle due to a congested boat mooring area. The modified strategy was successfully implemented with the deployment of 1000 feet of boom at a shallow angle. The modified strategy was successful as deployed due to a North/Northeast wind. No entrainment or boom failures were observed. Recommendation: During the off season when Manchester Harbor is free of moored vessels the original tactic as depicted in the NS-21 GRP may be preferred as it will allow for deployment of boom in deeper water.
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 made. Participants demonstrate command and control of exercise 	<ul style="list-style-type: none"> Performed With Some Challenges (S) IC completed the ICS 201 and made clear and efficient personnel assignments of vessel and shore side strike teams. After initial personnel and vessel assignments were made and initial deployment commenced a change of IC was requested which caused some confusion and miscommunication. Coordination between Fire and Harbormaster departments was clear and effective and contributed to successful coordination.

<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"> • Performed without Challenges (P) • A communications plan was established and followed. Hardware and infrastructure issues encountered using local departmental equipment were overcome by utilizing the cross-patching capability provided by the on-scene MassDFS ISU (requested by MBTS FD) enabling effective communication throughout the exercise.
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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 (GRP) 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 Beverly and MBTS Fire Departments and Harbormaster staffs were excellent and they worked well together.

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

Strength 3: GRP tactic and anchoring modifications were determined on-scene and appropriate anchor systems were configured and deployed effectively.

Strength 4: Boom towing and anchoring were conducted safely and in accordance with good industry practice. Boat crews safely and efficiently towed boom through a crowded mooring field and shallow near shore area.

Areas for Improvement

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

Area for Improvement 1: None identified.

Reference: NA

Analysis: NA

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 safe and effective

Areas for Improvement

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

Area for Improvement 1: When a change of incident command is desired or needed during an incident a thorough debrief and hand-off should be conducted between the outgoing and incoming IC.

Reference: 2018 MassDEP Geographic Response Plan Exercise and Testing Program Incident Commander and Safety Officer Handbook

Analysis: Inadequate debrief during the IC transfer resulted in some confusion and miscommunication in strike team assignments and call signs of vessels as well as reduced effectiveness in the cooperation and communication between the Fire and Harbormaster departments.

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 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: A communications plan was established and followed. Hardware and infrastructure issues encountered using local departmental radio equipment was overcome by utilizing the cross-patching capability provided by the on-scene MassDFS ISU (requested by MBTS FD) and resulted in effective communication throughout the exercise.

Areas for Improvement

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

Area for Improvement 1: Beverly and MBTS should consider upgrading/programming their hand-held communications equipment to allow for communication across common UHF frequencies and/or VHF channels without the need for cross-patching support.

Reference: N/A

Analysis: N/A

Manchester Harbormaster and Fire personnel position and anchor a section of exclusion boom in Manchester Harbor



Photo courtesy of Nuka Research & Planning Group

Massachusetts Department of Fire Services Incident Support Unit on-scene to support exercise

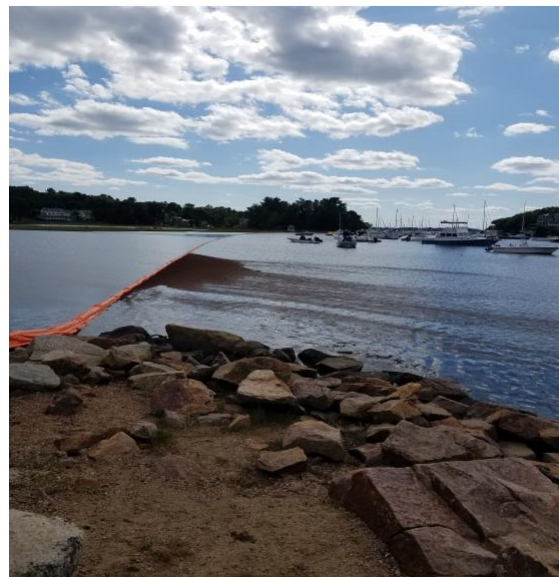


Photo courtesy of Nuka Research & Planning Group

First Responders adjust exclusion boom array



Peat moss (deployed as an oil surrogate) is contained by boom.



Photos courtesy of Nuka Research & Planning Group

APPENDIX A: IMPROVEMENT PLAN

This IP has been developed specifically for the municipalities of Beverly and MBTS following the MassDEP GRP Exercise conducted on September 16, 2019.

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	Revise NS-21 GRP	Modify tactic EX-02c to indicate that length of boom may be shortened to 1000 ft and moved into shallow water closer to the jetty during peak boating season to avoid congested mooring area.	Planning	Nuka Research	Mike Popovich	09/21/19	12/31/19
Core Capability 2: Operational Coordination	Incident Command change and continuity	Update the IC/SO Handbook and GRP exercise training material to include standard ICS Transfer of Command protocol	Organization	Nuka Research	Mike Popovich	09/20/19	12/31/19
Core Capability 3: Operational Communications	None	Beverly and MBTS should consider upgrading/programming their hand-held communications equipment to allow for communication across common UHF frequencies and/or VHF channels without the need for cross-patching support.	Equipment	Beverly and/or MBTA FD	N/A	09/20/19	12/31/20

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

APPENDIX B: EXERCISE PARTICIPANTS

Participating Organizations	
Town of Beverly, MA	Participant Count
Beverly Fire Department	9
Beverly Harbormaster	2
Town of MBTS, MA	
MBTS Fire Department	3
MBTS Police Department	3
Manchester Harbormaster	4
TOWN PARTICIPANTS	21
Federal	
United States Coast Guard (USCG)	4
State	
Massachusetts Department of Fire Services Incident Support Unit	3
Massachusetts Department of Environmental Protection (MassDEP)	1
Nuka Research and Planning Group, LLC (contractor for MassDEP)	2
Moran Environmental Recovery (contractor for MassDEP)	3
TOTAL	34

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

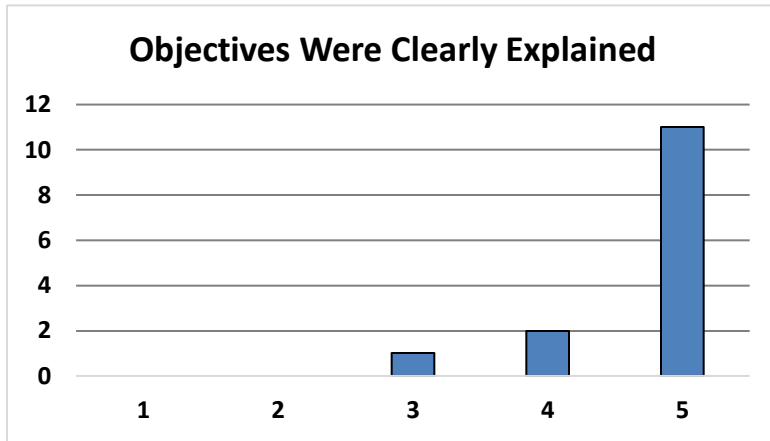
The objectives were clearly explained and the exercise met those objectives.	1 2 3 4 5
Comments:	
The material appropriately challenged me and the pace of instruction was correct.	1 2 3 4 5
Comments:	
The instructor(s) did an excellent job.	1 2 3 4 5
Comments:	
I found the classroom to be a comfortable 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.

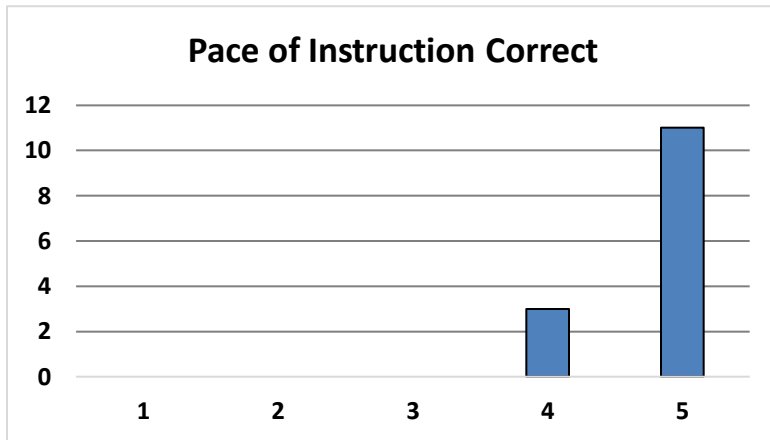
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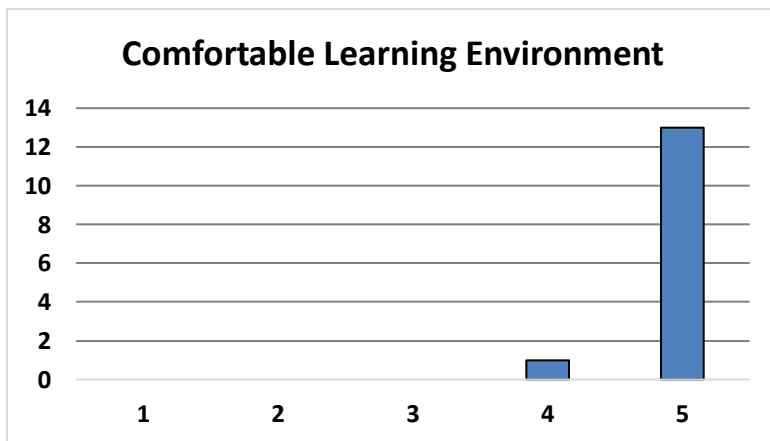
Student Feedback Summary



Comments:
"Great Class; Need more time"

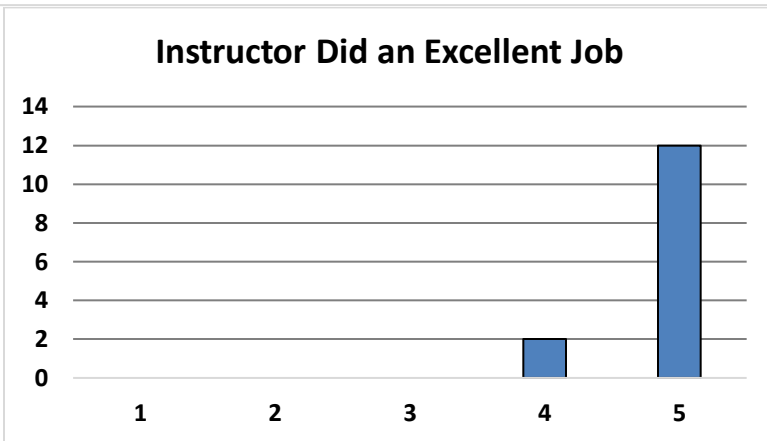
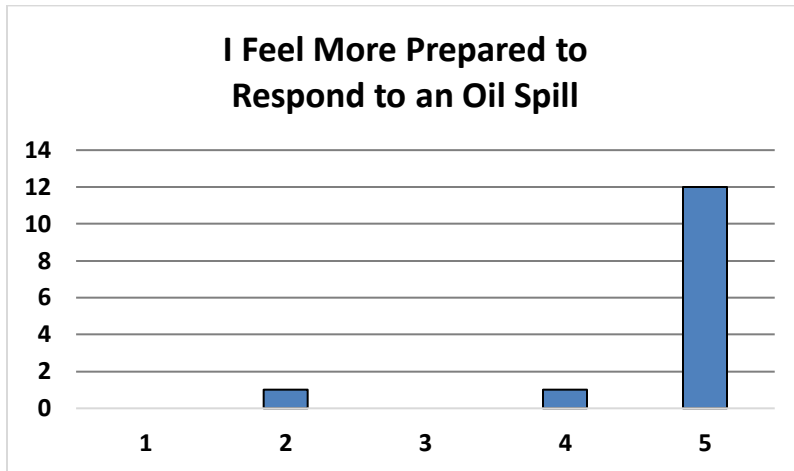


Comments:
"Covered everything"



Comments: None

Comments:
"Most definitely; Call signs should have been better adhered to; A drill of this size needs more than one day; The Manchester Plan needs to be updated because the harbor conditions have changed"



Comments:
" Great Guy, Very Informative"

The best thing about this training was...

" Communication; Visual; Communication and Multiple Agency Cooperation; The Comms Trailer being utilized; Hands on; Putting theory to practice; Working with other teams; The hands on training; The activity demonstrated how man-power intensive this will be; Weather; Field Work Development"

This training could be improved by...

" Time.. needed more time to do all evolutions; Better inter-team communication; Better command structure, too many chiefs at the start, things were changed as we were deploying the boom; More time; Doing it more often, possibly more tabletops between the deployments; One break during classroom; No comms trailer IC having to deal with VHF to UHF comm issues that's reality; More time"