



MassDEP Geographic Response Plan – 2017 Assonet River (MHB-09) Exercise

October 26, 2017

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	2017 Assonet River (MHB-09) Exercise
Exercise Date	October 26, 2017
Scope	This exercise was a Full Scale Exercise, planned for approximately six hours in Dighton, MA and upon the waters of the Taunton River. Exercise play was limited to Broad Cove 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 Assignment List (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 communications.</p>
Threat or Hazard	Discharge of oil into a navigable waterway
Scenario	An oil spill has occurred that threatens the Taunton River in the vicinity of Broad Cove. The Berkley, Dighton and Freetown Fire Departments and Harbormaster staffs will utilize GRP MHB-09 to deploy protective booming to protect sensitive resources in Broad Cove and the Taunton River near the Shawomet Yacht Club.
Sponsor	Massachusetts Department of Environmental Protection (MassDEP).

Participating Organizations

Participating organizations included:

- Berkley Fire Department (BFD)
- Berkley Harbormaster (BHM)
- Dighton Fire Department (DFD)
- Dighton Harbormaster (DHM)
- Freetown Fire Department (FFD)
- Freetown Harbormaster (FHM)
- Attleboro Fire Department (AFD)
- 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

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The classroom portion of the exercise is conducted at the Dighton Town Hall.



Vessels from Berkley, Dighton and Freetown work together to deploy oil spill response boom.



Photos courtesy of Nuka Research & Planning Group

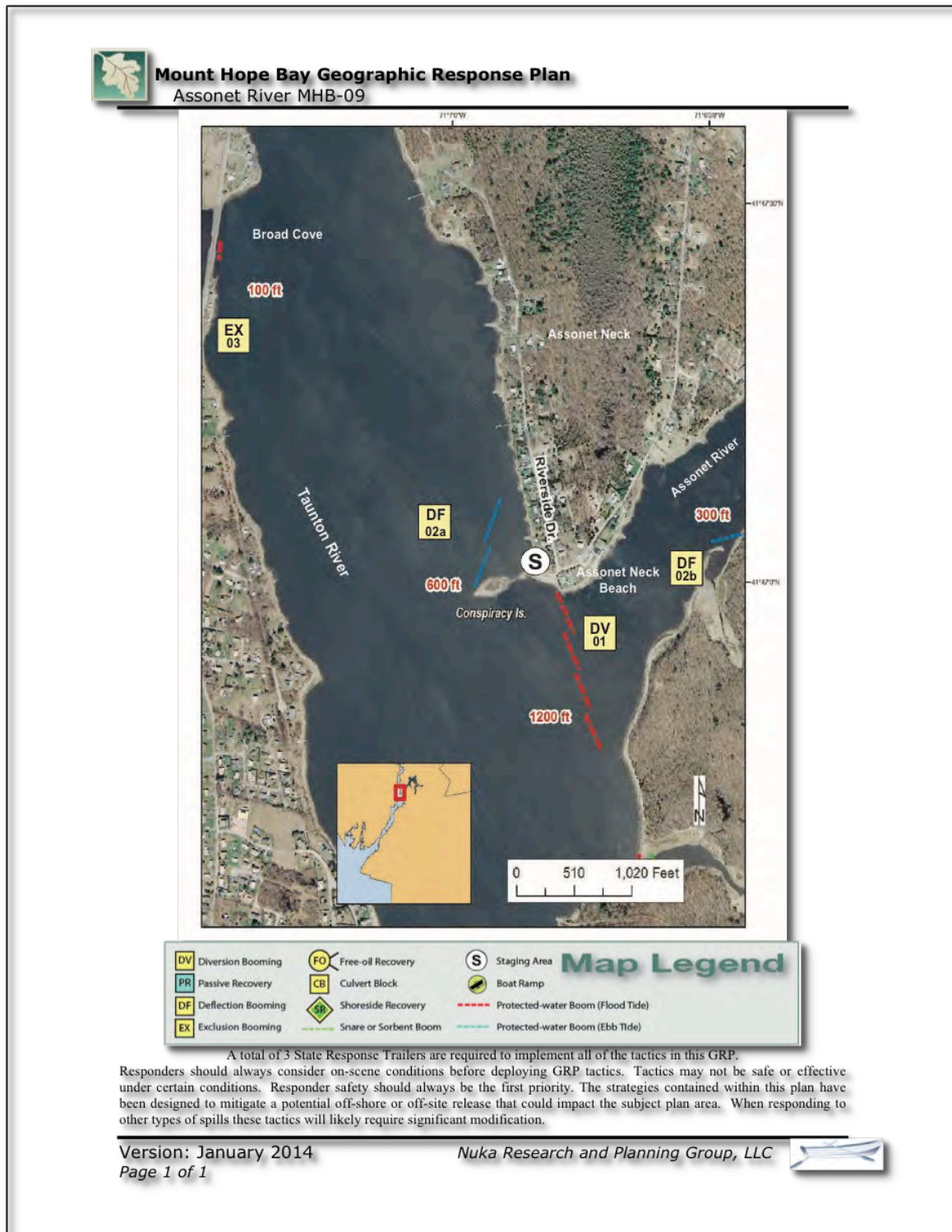


Figure 1. Assonet River GRP (MHB-09)

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	P			
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 communications	Operational Communications	P			
Ratings Definitions: <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) Active participation by all exercise players in trailer equipment demonstrations. Use of skill stations resulted in increased engagement of participants. MassDEP trailers were easily accessible. All boom components identified and discussed for instructional purposes. All response equipment readily available and in good condition. Participation by the Fire and Harbormaster Departments from Dighton, Freetown and Berkley was excellent and they worked well together. All exercise participants were extremely engaged and actively involved. This was one of the biggest exercises undertaken to date. With 50 participants, a departure from standard practice was undertaken in an attempt to minimize the amount of idle time for participants. Boat crews conducted the EX-03 tactic twice, switching roles. This worked well for boat crews, providing them with additional experience working with boom and deploying the tactic. Shore teams were divided into 2 sections. The first section served as a shore team while the second participated in the trailer hands on demonstration. This would have worked perfectly except for the time needed to prepare the equipment and put the boats in the water at the beginning of the first tactic deployment. This left some participants with idle time. If this approach is to be attempted in the future, boats and equipment must be immediately ready to deploy when participants get to the staging area. Recommendation: Place a cap on the number of participants for future exercises or reduce the number of participating towns (per exercise) from three to two.
	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) Participants were very familiar with boom connection and anchoring. Boom was effectively secured to the shore (guard rail posts) during the tactics. Boom was effectively tied off to a cleat before any towing was attempted. Line tossing used to transfer boom to shore was challenging in the stiff winds experienced during the exercise. Heaving balls would be very useful in facilitating a more effective transfer. Recommendation: Continue with outfitting of trailers with heaving line balls.

	Implement Tactics in GRP	Exclusion Boom (EX-03)	<ul style="list-style-type: none"> • Performed Without Challenges (P) • EX-03 was deployed twice without modifications. Shore teams were outstanding in deploying and recovering boom. Trailer team worked very effectively to put the boom in the water and recover/decontaminate the boom. • The Dighton HM 21' Justice conducted the first deployment of the tactic with Freetown FD "Marine 2" assisting with the boom tow and transferring tag lines to shore. Berkley FD "Marine 1" served as the safety/security vessel and deployed oil surrogate (peat moss) to test the tactic. During the second EX-03 deployment, the Dighton HM and Marine 1 switched roles. • Freetown FD "Marine 2" was very effective in working close to shore, and transferring tag lines. Marine 2 also effectively pulled the boom offshore into the current with a bow tow to demobilize the tactic. • EX-03 was not effective. While the exclusion tactic appears to run parallel to the flow in the Taunton River, the current moving under the bridge in this area of the river was extremely strong. Surrogate entrained under boom during both deployment evolutions. Recommendation: Change EX-03 to a larger chevron to better deflect the strong current and provide shore-side recovery locations on both the north and south sides of the chevron.
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. • Participants demonstrate command and control of exercise 	<ul style="list-style-type: none"> • Performed without Challenges (P) • IC was very effective in directing the exercise, which involved multiple assets and multiple towns. The IC was very active in directing the response, transiting from the staging area to the site where the EX-03 tactic was deployed to provide on site leadership/direction. • Tasking was clear. Assignments were followed and adjustments were rapidly/effectively made by boat crews and shore 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) • Communications plan was followed as designed. • Field Communications Unit 10 (FC-10) was able to cross patch VHF and UHF frequencies so all participants were able to communicate seamlessly and allow for maritime/land interoperability. • Special thanks LT Jason White and Firefighter Thomas Beaucage III from the Attleboro FD for their participation. The inclusion of Field Communication Unit 10 (FC-10) greatly contributed to the successful achievement of the communications objective for this exercise.

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: Exercise participants from Dighton, Berkley and Freetown, along with MassDEP, Nuka Research and Moran Environmental worked well together to complete assigned tasks.

Strength 2: The larger vessels rotated thorough the safety vessel and boom deployments. Deploying the same tactic multiple times enabled the crews observing the first evolution to learn from the first crews performing the tactic.

Strength 3: The Shawomet Yacht Club was an outstanding staging area for this exercise. The use of the facility significantly contributed to the success of this exercise and is greatly appreciated.

Areas for Improvement

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

Area for Improvement 1: Continue with outfitting of trailers with heaving line balls.

Reference: Massachusetts GRP Tactics Guide.

Analysis: As experienced in past exercises, line tossing used to transfer boom to shore was challenging due to the stiff winds experienced during the exercise. Heaving balls would be very useful in facilitating a more effective transfer.

Area for Improvement 2: Change the EX-03 tactic in the MHB-09 GRP to a larger chevron to better deflect the strong current and provide shore side recover locations on both the north and south sides of the chevron.

Reference: Massachusetts GRP Tactics Guide.

Analysis: The EX-03 tactic was simply not effective. While the exclusion tactic appears to run parallel to the flow in the Taunton River, the current moving under the bridge in this area of the river was extremely strong. Surrogate entrained under boom during both deployment evolutions. A different tactic that is less susceptible to entrainment such as a chevron to either exclude oil from passing under the Pleasant Street bridge or diverting to shore side recovery locations would

be a significant improvement to this GRP. Pleasant Street provides excellent access for shore side recovery on both the north and south sides of the bridge. The rip-rap along the shore at these locations would benefit from passive recovery tactics as well.

Area for Improvement 3: Place a cap on the number of participants for future exercises or reduce the number of participating towns (per exercise) from three to two.

Reference: Massachusetts GRP Tactics Guide.

Analysis: This was one of the biggest exercises undertaken to date. With 50 participants, a departure from standard practice was undertaken in an attempt to minimize the amount of idle time for participants. Boat crews conducted the EX-03 tactic twice, switching roles and shore personnel were divided into 2 sections. The first section served as a shore team to support booming operations while the second participated in the trailer hands on demonstration. This would have worked perfectly except for the time needed to prepare the equipment and put the boats in the water at the beginning of the first tactic deployment. This left some participants with idle time. If this approach is to be attempted in the future, boats and equipment must be immediately ready to deploy when participants get to the staging area.

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: The Incident Commander did an outstanding job of controlling the exercise. He was very active in directing the response, transiting from the staging area to the bridge where the EX-03 tactic was deployed to provide on site leadership and direction. Tasking was clear. Assignments were followed and adjustments were rapidly/effectively made by boat crews and shore teams.

Areas for Improvement

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

Area for Improvement 1: None

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, 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: The communications plan was followed as designed. The inclusion of Field Communication Unit 10 (FC-10) greatly contributed to the successful achievement of the communications objective for this exercise. By cross patching VHF and UHF frequencies, all participants were able to use their normal radios to communicate with each other across the maritime/land interface.

Areas for Improvement

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

Area for Improvement 1: None

Reference: N/A

Analysis: N/A

Peat moss is used to simulate an oil spill on the water to test the effectiveness of the booming tactics.



Photo courtesy of Nuka Research & Planning Group

Field Communications Unit 10 (FC-10) facilitated communications during the exercise.



Photo courtesy of Nuka Research & Planning Group

Freetown FD "Marine 2" transfers boom to personnel on the shore.



Boom is towed from the staging area by the Dighton Harbormaster boat.



Photos courtesy of Nuka Research & Planning Group

Boom is deployed under the bridge on Pleasant Street in Dighton to protect sensitive environmental resources from a simulated oil spill.



Photos courtesy of Nuka Research & Planning Group

APPENDIX A: IMPROVEMENT PLAN

This IP has been developed specifically for the towns of Dighton, Berkley and Freetown following the MassDEP GRP Exercise conducted on October 26th, 2017.

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	1. Heaving line balls.	Continue with outfitting of trailers with heaving line balls.	Equipment	MER	John Duponte	11/15/17	4/15/18
	2. Revise the MHB-09 EX-03 tactic.	Change the EX-03 tactic in the MHB-09 GRP to a chevron.	Planning	Nuka Research	Mike Popovich	11/15/17	1/15/18
	3. Exercise participant limits.	Place a cap on the number of participants for future exercises <u>or reduce the number of participating towns (per exercise) from three to two².</u>	Exercise	Nuka Research	Mike Popovich	1/15/18	4/1/18
Core Capability 2: Operational Coordination	None.	None.	N/A	N/A	N/A	N/A	N/A
Core Capability 3: Operational Communications	None.	None.	N/A	N/A	N/A	N/A	N/A

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

² These three towns will no longer participate together in a single GRP exercise. Instead, and as is done for most other MassDEP GRP exercises, only two towns will be paired for participation in each exercise. For future exercises, Berkley and Dighton will be paired together and Freetown will be paired with Fall River.

APPENDIX B: EXERCISE PARTICIPANTS

Participating Organizations	
Town of Berkley, MA	Participant Count
Berkley Fire Department	8
Town of Dighton, MA	
Dighton Fire Department	14
Dighton Harbormaster	2
Town of Freetown, MA	
Freetown Fire Department	10
Freetown Harbormaster	1
City of Attleboro, MA *	
Attleboro Fire Department	2
TOWN PARTICIPANTS	37
Federal	
United States Coast Guard (USCG)	3
US Environmental Protection Agency	1
State	
Massachusetts Department of Environmental Protection (MassDEP)	3
Nuka Research and Planning Group, LLC (contractor for MassDEP)	3
Moran Environmental Recovery (contractor for MassDEP)	3
TOTAL	50

* Special thanks LT Jason White and Firefighter Thomas Beaucage III from the Attleboro FD for their participation. The inclusion of Field Communication Unit 10 (FC-10) greatly contributed to the successful achievement of the communications objective for this exercise.

41% of first responders reported having previous GRP exercise experience.

APPENDIX C: EXERCISE EVALUATION FORM

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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.

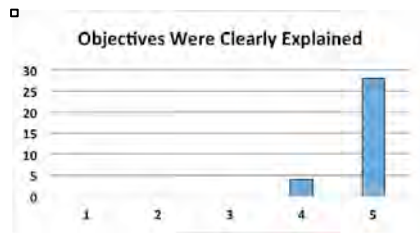
The objectives were clearly explained and the exercise met those objectives.	1 2 3 4 5
Comments:	
The material appropriately challenged me and the pace of instruction was correct.	1 2 3 4 5
Comments:	
The instructor(s) did an excellent job.	1 2 3 4 5
Comments:	
I found the classroom to be a comfortable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

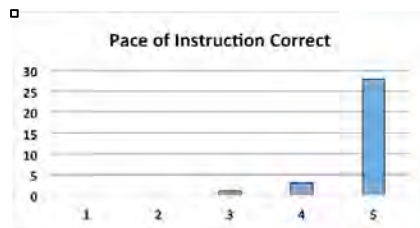
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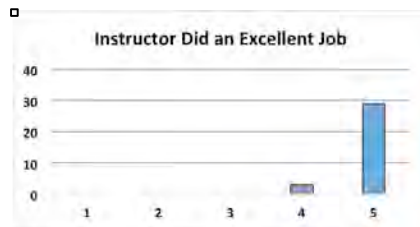
Student Feedback Summary



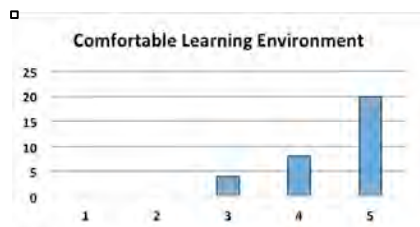
Comments: "Instructors were very good"



Comments: None



Comments: "Very informative"



Comments: "Chairs"



Comments: None

The best thing about this training was... "the practical portion" "practical" "hands on" "knowledge of equipment inside trailer" "lunch" "hands on training" "showing small tricks with things" "everything" everything" "learning" "boom deployment" "Learning something new" "everything" "hands on learning" "on water experience" "practical" "practical" "on water" "practical evolutions" "containment"

This training could be improved by.... "more pizza" "additional boom setups" "laymen's terms" "having bathroom" "nothing" "nothing" "N/A" "food" "hand instruction on boat booming" "was good as it was" "nothing" "nothing" "more organization" "n/a" "Weather condition"