



MassDEP Geographic Response Plan – 2016 Fall River Waterfront (MHB-05) Exercise

October 3, 2016

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	2016 Fall River Waterfront GRP Exercise
Exercise Dates	October 3, 2016
Scope	This exercise is a Full Scale Exercise, planned for approximately six hours in Fall River, MA and upon the waters of the Taunton River. Exercise play is limited to the Taunton River, Battleship Cove, Fall River Heritage State Park 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 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, 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 Battleship Cove. The Fall River and Somerset Fire Departments and Harbormasters staff will utilize GRP MHB-05 to deploy protective booming to protect sensitive resources in the Taunton River, Battleship Cove, and Fall River Heritage State Park.
Sponsor	Massachusetts Department of Environmental Protection (MassDEP).

**Participating
Organizations**

Participating organizations will include:

- Fall River Fire Department
- Fall River Harbormaster
- Somerset Fire Department
- 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

Julie Hutcheson, Oil Spill Program Coordinator
Massachusetts Department of Environmental Protection
Oil Spill Prevention and Response Program
1 Winter St.
Boston, MA 02108
(617) 556-1191
julie.hutcheson@state.ma.us

Fall River harbormaster vessel taking boom in tow from the dock with the USS MASSACHUSETTS in the background.



Photo courtesy of Nuka Research & Planning Group

Somerset Fire Department vessel taking boom in tow.



Photo courtesy of Nuka Research & Planning Group

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 development and 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			
<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 skills successfully demonstrated during the exercise • Fall River trailer was on scene for demonstration and deployment. All response equipment readily available and in good condition. • There was mold on the boom in the trailer. Fall River FD decontaminated the boom and trailer after the drill. • MER personnel did a very good job with the hands-on trailer equipment demonstration. • All boom components identified and discussed for instructional purposes. Anchor lines were set for shallower water (8ft water depth) and had to be reconfigured to deploy DF-01-alt in 22 ft of water. • All personnel had the opportunity to connect boom sections for familiarization. • Fall River trailer did not have trip lines. Recommendation: MER prepare anchors for trip lines for this trailer during the next routine maintenance cycle.
	Basic Booming Operations	<ul style="list-style-type: none"> • Transport and tow boom. • Anchoring and Connecting boom to shore • <i>Safe</i> vessel and crew operations. (Refer to ICS-208) 	<ul style="list-style-type: none"> • Performed Without Challenges (P) • Participation by the Fire and Harbormaster Departments from Somerset and Fall River was excellent and participants worked well together. All exercise participants were engaged and active. Boat crews from both municipalities worked very well together in close proximity to each other. • Boom successfully deployed from trailer. The first segment of the GRP tactic was deployed by loading boom onto the deck of Fall River Marine One. This was successful but deploying boom from the deck proved to be manpower intensive and resulted in the boom being twisted in the water. The remaining two segments were expertly pulled off the dock from trailer at Community Boating Center. Boats used bow and stern tow methods when towing boom for each segment of the deflection booming array. All towing conducted with skill. • Trip lines were not employed. Despite this, crews skillfully adjusted anchors when necessary, especially

Core Capability	Organizational Capability Target	Associated Critical Tasks	Observation Notes
			<p>when short anchor line was replaced on the 2nd segment of boom. Recommend continuing with program for providing all trailers with trip lines.</p> <ul style="list-style-type: none"> • Boom was set in the correct location and there were no bellies in the boom. • All boats conducted safe boom towing operations. IC/Safety Officer did an excellent job of managing boats and boat crews to maximize the training opportunities of all exercise participants. • Trailer team showed great teamwork in getting boom out to boats from boat ramp. • No shore anchors were used when deploying this tactic. • Safety officer did a good job. Immediately addressed boat speeding in no wake zone. There were some workers on the dock without PFD's and one boat only had one person in it.
	<p>Implement Tactics in GRP</p>	<ul style="list-style-type: none"> • Deploy Diversion Boom Tactic • Deploy Containment Boom Tactic • 	<ul style="list-style-type: none"> • Performed Without Challenges (P) • Deflection booming tactic successfully deployed as modified during exercise planning meetings and during the operations briefing. DF-01-alt was shifted north of the Cove Restaurant and Marina and also slightly to the east to protect this valuable economic resource for the city of Fall River. • Surrogate was deployed but the lack of an ebb current or wind did not push it into the deflection boom. There is little doubt that the surrogate would have been captured by the boom and deflected away from the Cove Marina and Battleship Cove. An eddy current was identified in between the city pier and the Cove Restaurant and Marina by the safety vessel. Because of this, an additional segment of 200 feet of boom should be added at the shoreward end when this strategy is revised in the GRP. Also, the Community Boating Center proved to be an excellent staging area. This should be reflected in the GRP. Recommendation: <u>Revise MHB-05 to reflect the lessons learned during this exercise regarding DF-01alt.</u> • Safety vessel did an outstanding job of deploying surrogate.

Core Capability	Organizational Capability Target	Associated Critical Tasks	Observation Notes
<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. • Participants demonstrate command and control of exercise 	<ul style="list-style-type: none"> • Performed without Challenges (P) • Assignments were made as necessary and followed by boat crews and shore teams. • Some confusion existed immediately prior to the deployment because an operational brief was not conducted with <u>all</u> participants present but was instead conducted in smaller groups. <u>Recommendation: IC and exercise controllers must ensure that a comprehensive operational brief is conducted immediately prior to deployment; especially when the deployment plan is modified on-scene.</u> • IC was very effective in directing the exercise, which involved multiple assets and multiple towns. All units operated in a safe manner. • Assignments were followed and adjustments made as necessary by boat crews and the shore team. • Deviation from GRP would have been easier to strategize with a large-scale printout of the GRP for the IC & exercise planning team to draw on. Recommendation: A 24" by 36" map should be produced for each GRP exercise for the operational brief given at the trailer. • The use of the Rehab 1 provided an outstanding asset for exercise participants. Personnel operating Rehab 1 were extremely helpful and supportive of the exercise. Their participation greatly contributed to a safe and productive training event.
<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 UHF equipment • Communicate with other participants using organic VHF equipment 	<ul style="list-style-type: none"> • Performed with Some Challenges (S) • Communications plan was followed between boats. The lack of a Field Communication Unit to cross patched UHF and VHF frequencies did not allow for seamless communication for all participants, on Marine 17. The shore based IC communicated to the safety officer on a boat who manually cross-patched communication. As a result, some communications were only issued on UHF. Recommendation: Advise Massachusetts Executive Office of Public Safety of the results of 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: Participants from multiple agencies and contractors (Fall River, Somerset, Moran Environmental, MassDEP) worked well together to complete assigned tasks.

Strength 2: All participants conducted the boom deployment safely.

Strength 3: Rehab Unit 1 provided an outstanding asset for exercise participants. Personnel operating Rehab 1 were extremely helpful and supportive of the exercise. Their participation greatly contributed to a safe and productive training event.

Areas for Improvement

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

Area for Improvement 1: Revise Fall River Waterfront GRP (MHB-05) to include a new deployment strategy for DV-01-alt and add the Community Boating Center as a staging area.

Reference: Massachusetts Geographic Response Plan Tactics Guide

Analysis: The revised booming strategy appeared to be successful in protecting the Cove Marina and Restaurant, which has become an important economic resource in the intervening time since the MHB-05 GRP was developed. During the exercise, surrogate was deployed but the lack of an ebb current or wind did not push it into the deflection boom. That said, there is little doubt that the surrogate would have been deflected away from the Cove Marina and Battleship Cove. Additionally, an eddy current was identified in between the city pier and the Cove Restaurant and Marina by the safety vessel. Because of this, an additional 200 feet of boom should be added to the shoreward end of the modified DF-01-alt when this tactic is revised in the GRP. Also, the Community Boating Center proved to be an excellent staging area. This should be reflected in the GRP.

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 the Incident Commander (IC) and Safety Officer did an excellent job of controlling the many assets involved in this exercise. Except for some brief confusion at the commencement of deployment activities all teams knew their tasks and objectives during the exercise and appropriate direction was provided.

Strength 2: The use of the Rehab Unit 1 provided an outstanding asset for exercise participants. Personnel operating Rehab 1 were extremely helpful and supportive of the exercise. Their participation greatly contributed to a safe and productive training event.

Areas for Improvement

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

Area for Improvement 1: IC and exercise controllers must ensure that a comprehensive operational brief is conducted immediately prior to deployment; especially when the deployment plan is modified on-scene.

Reference: N/A.

Analysis: Often, during GRP exercises, tactics are modified in advance based on prevailing conditions and input from local participants. This was the case during this exercise and the deployment configuration and plan was modified based on discussions between the Incident Commander, MassDEP, Nuka Research, and MER. This briefly resulted in some confusion immediately prior to the deployment because a final operational brief was not conducted with all participants present but was instead conducted in smaller groups as everyone was staging and preparing equipment and vessels for the deployment.

Area for Improvement 2: Recommend a 24” by 36” map be produced for each GRP exercise for the operational brief given at the trailer when deviations to the GRP are anticipated.

Reference: N/A.

Analysis: Often, during GRP exercises, tactics are modified in advance based on prevailing conditions. Having a large map that people could draw on would have facilitated the collaboration between the exercise planning team and exercise control. Such a map was attempted during the classroom training but this effort was largely ineffective. Deviation from GRP would have been easier to strategize with a large-scale printout of the GRP for the IC & exercise planning team to draw on. This will facilitate discussion and provide a visual aid for the operational brief given at the trailer.

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:

Communications was a strong point of the exercise.

Strength 1: All marine units had VHF communications and the IC and Safety Officer improvised an interface between UHF and VHF communications.

Areas for Improvement

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

Area for Improvement 1: VHF/UHF communications were not seamless.

Reference: Massachusetts Statewide Communications Interoperability Plan.

Analysis: Participants were not able to cross-patch UHF and VHF frequencies, which hindered the interoperability of communications at the maritime/land interface. Either a Field Communication Unit (FCU) or a permanent trunked system could achieve this goal. The results of this exercise will be passed on to the Massachusetts Executive Office of Public Safety for their awareness as they develop plans to implement the use of CH-17 VHF for marine incidents.

Fall River and Somerset vessels finish deploying 3 sections of deflection boom.



Photo courtesy of Nuka Research & Planning Group

Somerset Fire Department vessel setting an anchor on the 2nd leg of boom.



Photo courtesy of Nuka Research & Planning Group

Fall River Fire Department's Rehab Unit 1 provided outstanding service to exercise participants.



Photo courtesy of Nuka Research & Planning Group

Vessels from Fall River Fire and Harbormaster Departments working in close proximity near DF-01-alt



Photo courtesy of Nuka Research & Planning Group

Fall River and Somerset Fire and Harbormaster personnel participate in hands-on demonstration of oil spill response equipment.



Photo courtesy of Nuka Research & Planning Group

Fall River Fire Department Marine 1 setting the anchor on a segment of boom for DF-01-alt.



Photo courtesy of Nuka Research & Planning Group

APPENDIX A: IMPROVEMENT PLAN

This IP has been developed specifically for Fall River and Somerset Fire and Harbormaster Departments following the MassDEP Marblehead Harbor GRP Exercise conducted on October 3rd, 2016.

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. Implement Tactics in GRP	Revise Fall River Waterfront GRP (MHB-05) to include a recommended deployment strategy for DV-01-alt and add the Community Boating Center as a staging area.	Planning	Nuka Research	Mike Popovich	10/15/16	12/15/16
Core Capability 2: Operational Coordination	1. Participants demonstrate command and control of exercise	Exercise controllers must ensure that assigned Incident Commander conducts a comprehensive operational brief with all participants present.	Exercise	Nuka Research	Mike Popovich	10/15/16	12/15/16
Core Capability 2: Operational Coordination	2. Participants demonstrate command and control of exercise	Provide a 24" by 36" map for each GRP exercise when deviations to the GRP are anticipated.	Exercise	Nuka Research	Mike Popovich	10/15/16	12/15/16
Core Capability 3: Operational Communications	1. Communicate Using UHF/VHF equipment	Advise Massachusetts Executive Office of Public Safety for their awareness as they develop plans to implement the use of CH-17 VHF for marine incidents.	Equipment	EOPSS	N/A	N/A	N/A

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

APPENDIX B: EXERCISE PARTICIPANTS

Participating Organizations	
Town of Fall River, MA	Participant Count
Fall River Fire Department*	15
Fall River Harbormaster*	3
Town of Somerset MA	
Somerset Fire Department*	5
TOWN PARTICIPANTS	
Federal	
United States Coast Guard (USCG)	3
State	
Massachusetts Department of Environmental Protection (MassDEP)	2
Nuka Research and Planning Group, LLC (contractor for MassDEP)	2
Moran Environmental Recovery (contractor for MassDEP)	2
TOTAL	32

* 26% of first responders have previous GRP Exercise experience.

** Special appreciation is warranted for crew of Rehab 1. Their assistance in providing rehab services for participants was greatly appreciated and contributed significantly to the successful completion of this exercise.

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.

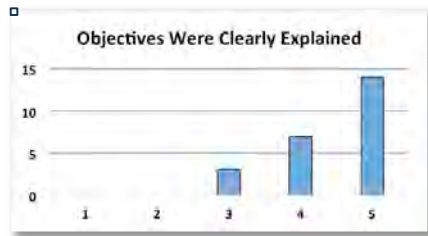
The objectives were clearly explained and the exercise met those objectives.	1 2 3 4 5
Comments:	
The material appropriately challenged me and the pace of instruction was correct.	1 2 3 4 5
Comments:	
The instructor(s) did an excellent job.	1 2 3 4 5
Comments:	
I found the classroom to be a comfortable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

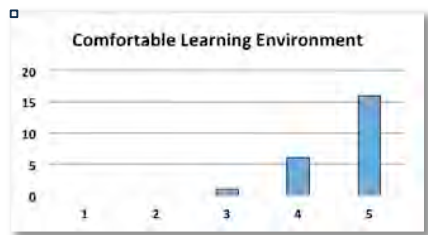
(Rev 2016)



Student Feedback Summary



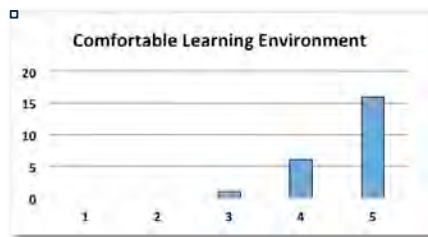
Comments: None.



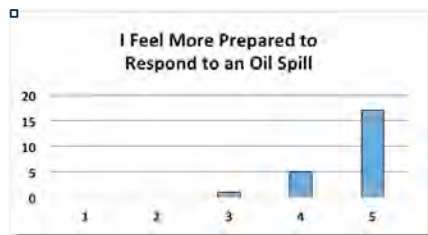
Comments: None.



Comments: None.



Comments: None.



Comments: “A dry walkthrough would have been helpful first”

The best thing about this training was...

- “The classroom training introduced new concepts to me but also covered them thoroughly.”
- “Boom deployment.”

- “Actually deploying boom and testing GRP much better than tabletop exercise.”
- “Hands on after classroom explanation.”
- “Hands-on part.”
- “Pizza.”
- “Live training.”
- “Getting hands-on experience with the equipment needed to prevent and contain spill disasters.”
- “Inter-department exchange.”
- “It gets better every time-very well done.”
- “Collaboration.”
- “Being prepared.”

This training could be improved by....

- “Fewer white shirts (chiefs) involved.”
- “Cheeseburgers.”
- “Better coordination with IC.”
- “Multi-department and multi-trailer interoperability session.”
- “Placing several thousand feet of boom out of multiple trailers.”
- “Known water depths.”
- “Better communication.”
- “Should be longer (1.5 days).”
- “Longer-using different layouts.”