



MassDEP Geographic Response Plan – 2016 Onset Harbor (BB-26) Exercise

October 18, 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 Onset Harbor (BB-26) GRP Exercise
Exercise Dates	October 18th, 2016
Scope	This exercise is a Full Scale Exercise, planned for approximately six hours in Onset, MA and upon the waters of Onset Bay and the East River. Exercise play is limited to Onset Bay and the East River, Onset Town Pier, the Onset Ave/Stonebridge area, 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 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 Onset Bay. The Onset and Wareham Fire Departments and Wareham Harbormaster staff will utilize GRP BB-26 to deploy protective booming to protect sensitive resources in Onset Bay and the East River.
Sponsor	Massachusetts Department of Environmental Protection (MassDEP).

Participating Organizations

Participating organizations included:

- Onset Fire Department
- Wareham Fire Department
- Wareham Harbormaster
- MassDEP
- Massachusetts Department of Fire Services
- 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

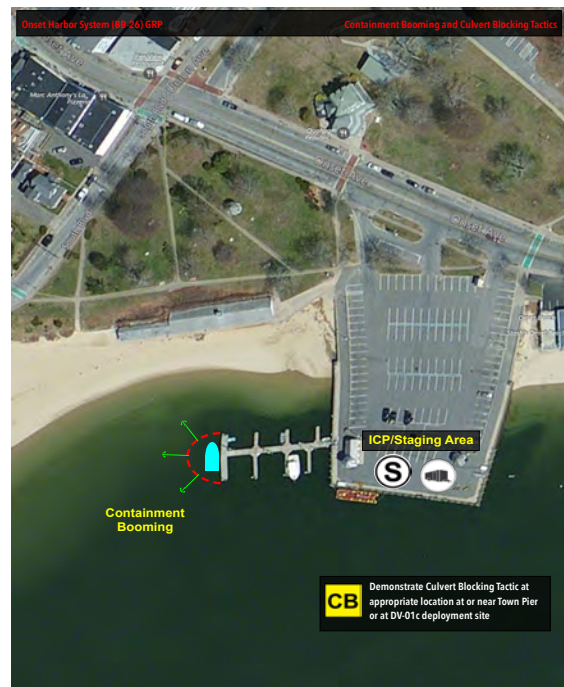
Point of Contact

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Location of the DV-01c-alt tactic.



Location of containment booming portion of the exercise.



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			
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) All skills successfully demonstrated during the exercise MassDEP trailers were readily accessible. All response equipment readily available and in good condition with some minor exceptions. Small sections of boom and mock rebar shore anchor proved to be outstanding instructional aids. They facilitated indoor instruction during inclement weather. All personnel had the opportunity to connect boom sections for familiarization. All operations conducted in a safe manner. Slide hammers were in Onset trailer. The shore team safely drove rebar into the beach by using the slide hammer. All vessels operated safely. A section of 12" boom in the Wareham trailer was damaged with tears and the cable is beginning to rot. Recommendation: <u>MER conduct repairs during next inspection cycle.</u> No trip lines in the Wareham trailer. Recommendation: <u>Rig/outfit trailer with trip lines during the next trailer inspection.</u> MER provided excellent hands-on training for the equipment in the MassDEP trailer. Crews worked well connecting boom and bridles.
	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) Trailer personnel showed great teamwork in getting boom out to boats from boat ramp. Response vessels did an excellent job of towing the boom from the staging area to the shoreline for deployment. Wareham Fire (M4) took the boom in a side tow and Wareham Fire (M2) tended the boom. Transport occurred without incident. Boom was anchored offshore while the shore anchor was being prepared. Anchor was pulled and boom adjusted a few times in strong ebb current of the East River. Wareham Harbormaster Marine Unit 1 did an excellent job of keeping a private craft out of the exercise area. Shore team did an excellent job of establishing a shore anchor with rebar. Use of 3 pieces of rebar held against strong pull from vessel towing the boom when the anchor was being deployed. Best practice: <u>Shore team hooked the eye of the bridle on the first rebar stake. This contributed to an</u>

			<p>effective shore anchor. Recommend this be included in the training.</p> <ul style="list-style-type: none"> Safety officer did an excellent job ensuring boats working in strong currents did not exceed their capabilities.
	Implement Tactics in GRP	<ul style="list-style-type: none"> Diversion boom Containment boom 	<ul style="list-style-type: none"> Performed Without Challenges (P) <p>DV-01alt</p> <ul style="list-style-type: none"> M4 dropped the anchor offshore and Onset Fire Department boat transferred the boom to shore. Safety vessel did an outstanding job of keeping a private craft out of the exercise area. Anchor at the end of DV-01c-alt needed to be adjusted/reset 2 times. Adjusting the anchor would have been easier if trip lines were employed. Tactic was deployed as planned. Surrogate was caught up in the boom and there was evidence of entrainment due to the strong current and shallow angle of the boom. Recommendation: Modify DV-01c-alt based on the lessons learned during this exercise. A cascade array may be more effective in dealing with the strong current in the East river. <p>Containment Boom</p> <ul style="list-style-type: none"> Boom was effectively deployed by the Wareham Harbormaster boat. 100 feet of 12" boom was effectively deployed around the Wareham Fire Department vessel moored along a pier. With only one anchor point in the middle of the boom, a chevron formation was used to create separation from moored vessel and a containment area for spilled oil because elements were pushing the containment boom against the vessel. This was effective and additional boom could be added if necessary.
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) Participation by the Fire and Harbormaster Departments from Wareham and Onset was excellent and everyone worked well together. All exercise participants were extremely engaged and active. The 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 shore teams. IC effectively controlled exercise. Strike teams were well organized and effectively carried out assigned tasks. IC could have shifted the command post to the Onset Street Bridge. It provided an excellent overview of the area where DV-01c-alt was being deployed. IC was in an excellent position for the exclusion boom deployment. Special thanks to crew of Rehab Unit 6. They provided support to the exercise participants and provided a venue for the exercise hot wash.

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. All participants used the identified frequencies for exercise communications. Both UHF and VHF frequencies were used. • VHF communications struggled when VHF unit in command vehicle became inoperative. UHF/VHF crossover was accomplished manually. Given the close proximity of strike teams, voice communications were often used. • M4 lost communications and they were not consistent coming from the IC due to failure of VHF in command vehicle.
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Table 2. Summary of Organizational Capability Targets and Associated Critical Tasks

Classroom training conducted at Onset Fire Department.



Photo courtesy of Nuka Research & Planning Group

Hands on training being conducted with oil spill response equipment from MassDEP trailer.



Photo courtesy of Nuka Research & Planning Group

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 (Wareham, Onset, Moran Environmental, MassDEP) worked well together to complete assigned tasks.

Strength 2: All participants conducted the boom deployment safely.

Areas for Improvement

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

Area for Improvement 1: Modify DV-01c-alt for Onset Harbor GRP (BB-26) based on the lessons learned during this exercise.

Reference: Massachusetts Geographic Response Plan Tactics Guide

Analysis: The modified tactic was deployed as planned. Surrogate was caught up in the boom but there was evidence of entrainment due to the strong current and the shallow angle of the boom. A cascade array may be more effective in dealing with the strong current in the East river.

Area for Improvement 2: MER either conduct repairs to or replace a damaged section of 12” boom during next inspection cycle.

Reference: N/A

Analysis: A section of 12” boom in the Wareham trailer was damaged with tears and the cable is beginning to rot.

Area for Improvement 3: MER set up anchors for trip lines during the next inspection cycle.

Reference: Mass GRP Tactics Guide.

Analysis: There were no trip lines in the Wareham trailer. Trip lines would have facilitated the deployment of boom in the strong current of the East River by the Wareham Fire Department vessel (M4). As it was, the current pushed the anchor as it went overboard and a pocket formed on the edge of the diversion leg.

Area for Improvement 4: Add best practice of putting eye of bridle on first piece of rebar in the shore anchor.

Reference: N/A

Analysis: The shore team hooked the eye of the bridle on the first rebar. This contributed to an effective shore anchor point in an area know for high current. This should be included in the classroom training as an anchoring option in areas of high current.

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 excellent job of controlling the many assets involved in this exercise. All teams knew their tasks and objectives during the exercise and appropriate direction was provided.

Strength 2: • The use of Rehab Unit 6 provided support to the exercise participants and a good venue to conduct the exercise hot wash.

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:

Communications was a strong point of the exercise.

Strength 1: Clear and effective communications between all participants was maintained throughout the exercise. All marine units were able to use CH-17 VHF-FM but the IC's VHF radio was inoperative. IC took good initiative to use UHF radio and provided a manual interface.

Areas for Improvement

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

Area for Improvement 1: Additional steps the IC could have taken include having a spare VHF radio available for use in the event of failure, and to shift the command post to the Onset Ave Bridge. It provided a commanding view of the area and was within range of voice communications to response assets.

Reference: N/A.

Analysis: N/A.

Wareham/Onset Fire and Harbormaster vessels
participating in the GRP Exercise



Rehab Unit 6 providing support to exercise participants.



Photos courtesy of Nuka Research & Planning Group

Shore team preparing rebar anchor.



Photo courtesy of Nuka Research & Planning Group

Bridle eye attached to first piece of rebar.



Photo courtesy of Nuka Research & Planning Group

Boom captures surrogate (peat moss) with some
evidence of entrainment due to strong current.



Photo courtesy of Nuka Research & Planning Group

Containment boom deployed around Wareham Fire
Department vessel.



Photo courtesy of Nuka Research & Planning Group

APPENDIX A: IMPROVEMENT PLAN

This IP has been developed specifically for Onset and Wareham Fire Departments and Harbormasters following the Massachusetts Department of Environmental Protection Onset Harbor GRP Exercise conducted on October 18th, 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	Modify DV-01c-alt for Onset Harbor GRP (BB-26).	Planning	Nuka Research	Mike Popovich	1/11/16	4/1/17
Core Capability 1: Environmental Response/Health and Safety	2. Overview of Response Equipment	MER either conduct repairs to or replace a damaged section of 12" boom during next inspection cycle.	Equipment	MER	John Duponte	1/11/16	4/1/17
Core Capability 1: Environmental Response/Health and Safety	3. Overview of Response Equipment	MER set up anchors for trip lines in the Wareham and Onset trailers during the next inspection cycle.	Equipment	MER	John Duponte	1/11/16	4/1/17
Core Capability 1: Environmental Response/Health and Safety	4. Overview of Response Equipment	Incorporate best practice of putting eye of bridle on first piece of shore anchor rebar.	Training	Nuka	Mike Popovich/	1/11/16	4/1/17
Core Capability 2: Operational Coordination	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Core Capability 3: Operational Communications	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

APPENDIX B: EXERCISE PARTICIPANTS

Participating Organizations	
Town of Wareham, MA	Participant Count
Wareham Fire Department*	7
Wareham Harbormaster*	3
Village of Onset, MA	
Onset Fire Department*	8
TOWN PARTICIPANTS	18
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
Massachusetts Department of Fire Services**	2
TOTAL	29

* 8 of 18 first responders (44%) reported having previous experience with GRP exercises.

** Special appreciation is warranted for the Crew of Rehab 6. They provided support to the exercise participants and provided a venue for the exercise hot wash.

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.

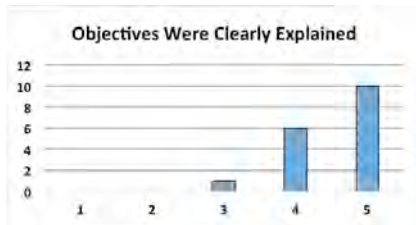
The objectives were clearly explained and the exercise met those objectives.	1 2 3 4 5
Comments:	
The material appropriately challenged me and the pace of instruction was correct.	1 2 3 4 5
Comments:	
The instructor(s) did an excellent job.	1 2 3 4 5
Comments:	
I found the classroom to be a comfortable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

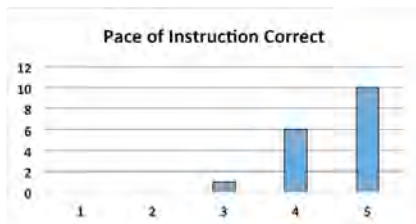
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Student Feedback Summary



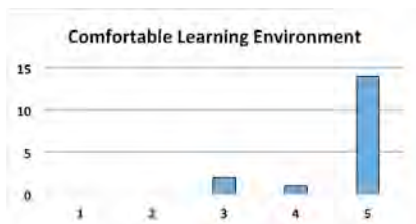
Student Comments: “Clear and to the point.”



Comments: “Since there was no trip wire, I would have liked to have detailed instructions on dropping the anchor.”



Comments: “They were great!; With increasing conditions, more guidance.”



Comments: None.



Comments: None

The best thing about this training was... “Hands on; Realistic Scenario; Practical; Very Hands-On; Practical Training; Hands on & on-water; Water time; Understanding the GRP better; Weather; Hands on; Hands on;”

This training could be improved by.... “More Boom deployed (extra 100ft); More training on the equipment; More time on the water; Comms & improving the boom and anchor set up; Comms and having someone on the bridge directing ops; Weather/current; Better organization.