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Homeland Security Exercise and Evaluation Program (HSEEP)
After Action Report/Improvement Plan Massachusetts Department of Environmental Protection
(AAR/IP) Newburyport GRP Deployment Exercise

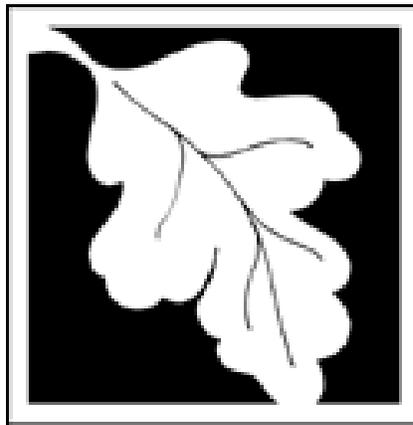
Newburyport Geographic Response Plan Deployment Exercise

October 9, 2012

Draft

AFTER ACTION REPORT/IMPROVEMENT PLAN

November 2012



Draft

HANDLING INSTRUCTIONS

1. The title of this document is the Massachusetts Department of Environmental Protection Newburyport Oil Spill Boom Deployment Exercise
2. The information gathered in this AAR/IP is unclassified
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EXECUTIVE SUMMARY

The Massachusetts Department of Environmental Protection Newburyport Geographic Response Plan (GRP) Deployment Exercise occurred on October 9, 2012. The goal was to deploy two legs in a cascade diversion booming array, utilizing as many responders as possible from three north shore communities (Newburyport, Salisbury, and Newbury). These were the communities named in the original proposal, but as the planning process got underway, neighboring towns expressed interest in participating. The exercise saw participants from eight Northeast region towns (Newburyport, Salisbury, W. Newbury, Newbury, Byfield, Georgetown, Merrimac, and Rowley) to implement the existing North Shore Geographic Response Plan NS-02 developed for Newburyport (See Figure 1) and provide hands-on experience for oil spill first responders.

Figure 1. Newburyport GRP (NS-



02)

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The Massachusetts Department of Environmental Protection (MassDEP) GRP Program exercise at Newburyport was developed to exercise local area first responder's Inter-Agency Planning and Coordination, Resource Coordination, and Local Oil Spill Preparedness capabilities. The exercise planning team was composed of many agencies, including the Newburyport Fire Department, the Newburyport Harbormaster Department, Newburyport Emergency Management, the Salisbury Fire Department, the Salisbury Harbormaster Department, the Newbury Fire Department, the W. Newbury Harbormaster Department, the Rowley Fire Department, the Massachusetts Department of Environmental Protection, NERAC, and Nuka Research and Planning Group (See Figure 2).

Figure 2: Participants Gathered During Initial Operations Briefing



In preparation for this exercise, Initial, Mid-Term, and Final Planning Conferences were held. The Initial Planning Conference (IPC) was held on August 22, 2012 at Newburyport City Hall in Newburyport, MA. A Mid-Term Planning Conference (MPC) was held on September 20, 2012 via teleconference, as was the Final Planning Conference (FPC) on October 5, 2012.

During the course of the IPC the exercise planning team discussed and determined:

- Exercise scope
- Exercise objectives
- Design requirements and conditions including:
 - Timing of the exercise in relation to tidal schedule
 - Potential use of an oil surrogate to simulate spilled oil and determine efficacy of the booming strategy

During the MPC, the exercise planning team further refined the exercise tasks and objectives and determined:

- Exercise scenario and schedule
- Manpower and vessel needs
- Logistical issues including identification of staging and field locations.
- Administrative and documentation requirements and assignments.

During the FPC, a comprehensive review of all exercise objectives was conducted as well as detailed, final discussions to review logistics and resolve all open issues.

Based on the exercise planning team’s deliberations, the following objectives were developed for the Newburyport site:

- Objective 1: Foster Inter-Agency Planning and Coordination by providing the opportunity for local responders to work with Federal (USCG) and State (MADEP) responders to plan for and deploy a GRP protective booming tactic during a simulated incident (Figure 2).
- Objective 2: Promote Resource Coordination among local responders by coordinating use of assets from participating communities and from NERAC cache. (See Table 1 and Figure 3 and Figure 4).
- Objective 3: Improve local Oil Spill Preparedness by deploying equipment from the trailer, providing participants hands-on experience mobilizing and demobilizing boom in the field, and providing an opportunity to evaluate the effectiveness of the booming tactic and identify any modifications necessary.

Figure 3: NERAC Computer Set Up at Staging Area



Community/Agency	Trailers	Vessels	Other Equipment
Newburyport	Spill Response Trailer	HM 22', 25'	Computer, wireless router
Salisbury	Spill Response Trailer	FD 32', HM 29'	Portable Radios
Newbury			
W. Newbury		HM 25'	
Georgetown			
Rowley			
MADEP	Spill Response Trailers		
NERAC	Computer, WebEOC, Tent		

Table 1: Assets Supplied for Exercise by Community/Agency

The exercise objectives focused on inter-agency coordination and resource coordination for the purpose of improving initial response capacity to oil spills in the participating communities.

Figure 4. Reviewing Equipment in Oil Spill Response Trailer



The purpose of this report is to analyze exercise results, identify strengths to be maintained and built upon, identify potential areas for further improvement, and support development of corrective actions.

Major Strengths

The major strengths identified during this exercise are as follows:

- Local agencies worked together to achieve objectives.
- Local responders demonstrated ability to adapt and modify IAP as necessary to safely

meet objectives.

- Assets from all three communities and from NERAC were integrated effectively to support the exercise objectives.
- Clear, concise, and effective communications.

Primary Areas for Improvement

The primary areas for improvement identified during this exercise, including recommendations, are as follows:

- First responders would benefit from additional opportunities to practice boom deployment in a variety of environmental conditions.
- Responders should limit amount of boom to be towed to a manageable amount, especially when maneuvering in channels and congested areas.
- Because most exercise participants in these GRP exercises are first responders (i.e. firefighters), and as such have volatile schedules and watch rotations, it is difficult to ascertain ahead of time the exact number (and experience level) of participants that will participate in each exercise. This often results in a great deal of time spent (sometimes during the Operations Brief) assigning personnel and resources, and completing the Incident Action Plan filling ICS positions in order to meet all exercises objectives. Additionally, each exercise timeline is fairly limited due to either weather or tidal variables that inherently limit the time available on any given day to complete these deployments. When possible, every effort should be made to allow exercise facilitators to meet immediately prior to exercise commencement, and ideally prior to exercise participants' arrival to compile a list of available participants and make assignments prior to commencement of the exercise.

Overall, the exercise was successful in providing an opportunity for first responders to deploy boom and strengthen inter-agency participation. Future exercises will be beneficial in strengthening local first responders skill in deploying oil spill containment boom and will provide additional opportunities for inter-town and state (MA DEP, NERAC) coordination.

SECTION 1: EXERCISE OVERVIEW

Exercise Details

Exercise Name

Massachusetts Department of Environmental Protection Newburyport GRP Deployment Exercise

Type of Exercise

Functional Exercise

Exercise Start Date

October 9, 2012

Exercise End Date

October 9, 2012

Duration

5 hours

Location

The exercise in-briefing took place at the Newburyport Fire Station, with the exercise following at Cashman Park and on the Merrimack River, in the city of Newburyport, MA.

Sponsor

The Massachusetts DEP was the sponsor of the exercise, with input from the participating towns, NERAC, and the U.S. Coast Guard and facilitation by Nuka Research and Planning Group, LLC (contractor to MassDEP).

Program

Massachusetts GRP Exercise Program

Mission

This exercise was designed to provide an opportunity for participants to practice protective booming of a sensitive area in response to a simulated oil spill.

Capabilities

Planning, Communications, Community Preparedness and Participation

Scenario Type

The scenario is a simulated oil spill in the Merrimack River.

Exercise Planning Team

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Participating Organizations

Participating organizations included:

- Newburyport Fire Department
- Newburyport Harbormaster Department
- Newburyport Emergency Management
- Newburyport Harbor Patrol
- Salisbury Fire Department
- Salisbury Harbormaster
- Newbury/Byfield Fire Department
- W. Newbury Fire/Harbormaster Departments
- Georgetown Fire Department
- Rowley Fire Department
- Merrimac Fire/Police Departments
- AMR Ambulance Service
- Massachusetts Department of Environmental Protection
- Massachusetts Environmental Police
- MEMA
- Moran Environmental Recovery
- Northeast Homeland Security Regional Advisory Council
- Nuka Research and Planning Group.
- United States Coast Guard Sector Boston

Number of Participants

- Players: 27
- Controllers: 1
- Facilitators: 2
- Observer/Evaluators: 20

SECTION 2: EXERCISE DESIGN SUMMARY

Exercise Purpose and Design

Geographic Response Plans (GRP) are tactical oil spill response plans tailored to protect a specific sensitive area from impacts following a spill. GRPs are developed by collaborative work groups that include local, state, and federal agencies, natural resource organizations, spill response organizations, and the oil industry. GRPs are incorporated into the state/federal Area Contingency Plans for oil spill and hazardous materials response. The Area Contingency Plan implements the National Contingency Plan and aligns with the National Response Framework. Once the GRPs have been published in the Area Plan, the next step in the planning and preparedness process involves exercising the GRPs to (1) field verify the resources and tactics identified in the GRP and (2) provide an opportunity for local responders to practice deploying spill response equipment utilizing an ICS framework.

The MassDEP GRP Exercise Program is currently in the fourth year of field exercises involving local fire, harbor, police, shellfish, and emergency management personnel along with state and federal agencies (Mass Division of Marine Fisheries, U.S. Coast Guard, Mass Environmental Police, National Oceanic and Atmospheric Administration). The exercise design, facilitation, planning, and reporting are funded by MassDEP. Participating towns may receive grant funding to cover overtime and backfill costs. These exercises are designed to examine the strategies and provide experience to the responders.

Exercise Objectives, Capabilities, and Activities

Capabilities-based planning allows for exercise planning teams to develop exercise objectives and observe exercise outcomes through a framework of specific action items that were derived from the Target Capabilities List (TCL). The capabilities listed below form the foundation for the organization of all objectives and observations in this exercise. Additionally, each capability is linked to several corresponding activities and tasks to provide additional detail.

Based upon the identified exercise objectives below, the exercise planning team decided to demonstrate the following capabilities during this exercise:

- **Objective 1:**
 - **Planning:**
 - Successfully demonstrate the ability to plan and coordinate a multi-town/multi-jurisdictional exercise
 - Initial, Mid-Term, and Final Planning Conferences as outlined above under Executive Summary.

- **Objective 2:**
 - **Communications:**
 - Assign Command and Operational (Marine Channel 12) frequencies;
 - Supply radios as needed to support interoperable communications; and
 - Communicate effectively during drill between shoreside/on-water responders and IC.
- **Objective 3:**
 - **Community Preparedness and Participation:**
 - Simulate incident; assign responders;
 - Develop IAP;
 - Use WebEOC to post incident updates;
 - Integrate NERAC computer and tent;
 - Deploy boom;
 - Deploy surrogate; and
 - Demobilize boom.

Scenario Summary

The scenario was a simulated oil spill in Newburyport Harbor that migrates inland, up the Merrimack River. Local responders from the Newburyport Fire Department, Salisbury Fire Department, Newbury Fire Department, Georgetown Fire Department, Rowley Fire Department, Merrimac Fire Department, Newburyport Harbormaster Department, Newburyport Emergency Management, Newburyport Harbor Patrol, Salisbury Harbormaster Department, and the W. Newbury Harbormaster Department were directed by the IC (Newburyport Fire Chief) to deploy tactic DV-01a from GRP NS-02 (Figure 1). The IC utilized WebEOC via a NERAC computer and the Newburyport EM computer. The Exercise Design Team developed an Incident Action Plan (IAP), which was utilized during the exercise. A safety officer from the W. Newbury Harbormaster Department was assigned and after initial safety and operations briefings, the field responders transported, deployed, evaluated, demobilized, and stored the boom and anchors used in the exercise. Peat moss was deployed as an oil surrogate to evaluate the boom effectiveness. Professional spill responders from Moran Environmental and the U.S. Coast Guard provided assistance and direction to the town responders. Personnel from Nuka Research and MassDEP acted as facilitators, providing direction, answering questions, and managing the exercise timetable.

After the boom was loaded back in the trailer, there was a post-exercise ‘hot wash’, during which participants were asked to share any insights learned during the exercise and/or any suggestions on modifications needed to successfully deploy the tactic. There was a group of observer/evaluators who observed part or all of the exercise and were asked to participate in the debriefing. The observers included representatives from the Coast Guard, Massachusetts Environmental Police, MEMA, AMR, NERAC, MassDEP, and members of the Newburyport,

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Salisbury, Newbury, Georgetown, Merrimac, and Rowley Fire Departments without specific assignments.

SECTION 3: ANALYSIS OF CAPABILITIES

This section of the report reviews the performance of the exercised capabilities, activities, and tasks. In this section, observations are organized by capability and associated activities. The capabilities linked to the exercise objectives of the Newburyport GRP Deployment Exercise are listed below, followed by corresponding activities. Each activity is followed by related observations, which include references, analysis, and recommendations.

Capability 1: Planning

Capability Summary: The Planning capability was implemented during pre-exercise planning conferences and during the functional exercise. The capability required Fire Chiefs and local officials from Newburyport, Salisbury, and Newbury to identify objectives, select an exercise location, select a GRP tactic to be tested, and assign manpower, vessels, and other resources to support the exercise. Effective pre-planning led to a successful exercise.

Activity 1.1: Initial and Mid-Planning Conferences to discuss site selection, exercise objectives and other issues outlined above in the Executive Summary.

Observation 1.1: Strength: Representatives from all communities worked well together, offering suggestions and weighing the merit of each before accepting or rejecting them and providing alternatives.

References: Homeland Security Exercise and Evaluation Program, Volume II, February 2007

Analysis: Town-level objectives were well aligned and exercise design proceeded smoothly. It was evident that Newburyport and Salisbury participate in other joint exercises and operations, which simplified planning and coordination efforts. Late in the planning stage other communities opted to participate as well. All fire and/or harbor departments committed manpower and/or vessels to the exercise. The host communities of Newburyport/Salisbury took the lead in running the exercise in ICS, and integrated all participating towns into the exercise. There was agreement that the exercise should provide an opportunity to gain experience for as many local responders as possible. With that said, it is equally important to manage participation levels to ensure that all exercise objectives can be effectively met and the exercise can be carried out within the often-times limited operational window. Expanding the participant pool can sometimes dilute the training experience and adversely impact completion of all exercise objectives.

Recommendations: Consider future joint oil spill response exercises, possibly involving other towns or agencies and having another community take the lead.

Activity 1.2: Mid-Term and Final Planning Conferences to assign manpower and equipment, work through exercise logistics, and additional activities outlined above in the Executive Summary.

Observation 1.2: Strength: All departments coordinated the integration of community equipment, vessels, and manpower with NERAC assets. Task Forces were comprised of first responders from different towns and departments allowing for coordination among towns and agencies, and created a training environment that fostered mentoring between responders with varying levels of experience.

References: N/A

Analysis: Logistical pre-planning led to a smooth exercise. Each community supplied vessels, equipment and responders, providing an opportunity to work together in a task force setting with mixed crews from all towns. NERAC assets supported the exercise on many levels.

Recommendations: Continue to periodically test GRPs and conduct exercises using spill response equipment and multi-jurisdictional approach.

Capability 2: Communications

Capability Summary: On-water spill response operations require a common tactical communications capability so that responders from multiple agencies can work together safely and effectively on the water and shoreline, and so that the Incident Command can maintain situational awareness of tactical operations.

Activity 2.1: Assign Communications Channels:

- Command (Channel 12)
- Operational (Marine Channel 12)

Observation 2.1:

Strength: A single working frequency was used for this exercise and the Incident Commander did an excellent job of maintaining good radio discipline through minimization of unnecessary radio chatter and by providing clear and concise direction to all tactical elements. Responders from W. Newbury, Newbury, Salisbury and other agencies were assigned handheld radios by Newburyport Fire as needed.

References: N/A

Analysis: All participants maintain good radio discipline minimizing radio “chatter” and confining radio communications to essential information. This practice was evident throughout the exercise, during which Incident Command as well as exercise facilitators

monitored radio communications and observed that while the responders communicated key information needed to deploy the boom, they did so quickly, succinctly, and without undue extraneous chatter.

Recommendations: Continue to observe good radio practices and utilize separate channels for IC and Tactical Ops.

Activity 2.2: Future exercises to reinforce good practices.

Observation 2.2:

Strength: The City of Newburyport recognized the need for portable radios for Salisbury, W. Newbury, and Newbury responders, and provided these to vessels and shoreside responders.

References: N/A

Analysis: There were plenty of handheld radios available to ensure that all crews (vessel and shore) could communicate with the IC, Operations Chief, Safety Officer, and exercise facilitators. There was also a communication link to the mobile command vehicle.

Recommendations: None

Activity 2.3: Communicate Effectively During Drill Between On-Water/Shoreside Responders and IC.

Observation 2.3:

Strength: Incident Command shared information concisely and clearly between responders on vessels and shoreside. The IC and Newburyport EM utilized WebEOC to update information during the exercise.

References: N/A

Analysis: Common operational practices among the fire departments helped to ensure that radio communications were streamlined and effective. Incident Command and Safety Officer maintained good situational awareness throughout the exercise.

Recommendations: None

Capability 3: Community Preparedness and Participation

Capability Summary: MassDEP has developed a community-based oil spill response capacity throughout coastal regions of the state by providing oil spill response equipment trailers to local fire departments (See Figure 5), developing GRPs (tactical plans to protect sensitive areas from oil spill impacts), and providing initial training to local first responders. This functional exercise provided a key link by allowing first responders from the communities of Newburyport, Salisbury, Newbury, W. Newbury, Byfield, Georgetown, Rowley, and Merrimac to work together in a task force setting to exercise their ability to deploy boom from a state spill response trailer during a mock oil spill. The community-based spill response program requires that towns be able to work together, since a major oil spill may require significant mutual aid and assistance. This field exercise provided a realistic scenario for the communities to work together to improve their spill response capacity.

Figure 5: Setting up Anchors from the Newburyport Oil Spill Response Trailer



Activity 3.1: Simulate Incident; Assign Responders

Observation 3.1:

Strength: Participants from all communities were assigned by the Incident Commander (IC) to on-water or shoreside task forces. Task forces were intentionally configured to include participants from different towns and departments to promote inter-jurisdictional cooperation (See Figure 6).

Figure 6: Participants Receiving Assignments from IC at Staging Area



References: N/A

Analysis: The process of assigning responders to various task forces provided an opportunity for the departmental leadership to consider the strengths and abilities of their responders for various spill response functions. Responders were assigned either to vessels or to shore teams (See Figure 7). Each team was comprised of responders from each participating community to promote interagency coordination. The Newburyport

Fire Chief acted as IC, the Salisbury Fire Chief was head of Operations, a Deputy Chief from Newburyport was the On-water Task Force Leader, and the W. Newbury Harbormaster acted as Safety Officer.

Recommendations: None

Figure 7: Shoreside Team and Vessel-Based Team



Activity 3.2: Use WebEOC to capture exercise in real-time.

Observation 3.2:

Strength: The IC and a representative from Newburyport EM, using NERAC assets (a computer and WebEOC/internet) to assist, updated the chronology of the exercise on the web in real time.

References: N/A

Analysis: The simulated oil spill gave the IC an opportunity to work with assets provided by NERAC, to gather information, review, edit and clarify, and create a living

document.

Recommendations: None

Activity 3.3: Integrate NERAC assets (computer, WebEOC, tent;

Observation 3.3:

Strength: A mobile command was set up at staging site and the IC and the Newburyport EM used assets including laptop computers, wireless router, and WebEOC. NERAC tents were available to be used as shelter for participants as needed.

References: N/A

Analysis: Incident Command and Newburyport EM utilized NERAC assets to consolidate and record information. WebEOC link allowed for real-time updates into the MEMA information system regarding the exercise. The availability of laptop computers with wireless internet allowed for the assignment of a dedicated person to monitor weather conditions and protect responder safety. NERAC tent was available as needed for participant comfort. The exercise afforded an opportunity for state, federal and local responders to appreciate the NERAC assets.

Recommendations: Recommend utilizing NERAC assets to the maximum extent practicable during all future MA DEP GRP exercises and training evolutions.

Activity 3.4: Deploy Boom

Observation 3.4:

Strength: Vessel and shore-based Task Forces worked well together to implement the booming tactic under challenging environmental conditions. Peat moss was deployed as a surrogate to demonstrate boom's capacity to hold floating oil.

References: N/A

Analysis: The primary objective of GRPs is to deploy boom ahead of an oil spill to prevent or reduce negative impacts to environmentally sensitive areas. Successful deployment of GRP booming tactics requires that the boom be effectively anchored and positioned so that it will divert, deflect, or exclude oil from the particular sensitive area. The cascade diversion boom configuration for the Merrimack River was successfully deployed by four vessel crews and four shoreside responders, despite the fact that the current in the channel and an ebbing tide made conditions somewhat challenging. Vessel-based responders coordinated their activities towing, anchoring, and positioning boom and worked well together throughout (See Figure 8). While responders from some towns practice boom deployment regularly, others had very limited experience. Even the experienced teams found the current and the mooring field challenging.

This exercise provided the chance to deploy a more complex boom array and highlighted the challenges of environmental considerations.

Figure 8: Vessels Towing Boom to Deployment Site



A surrogate was deployed once boom was in place to evaluate its effectiveness (See Figure 9). Due to the wind the majority of the surrogate was blown toward shore and did not impact the diversion boom. Small patches of surrogate did break away and the diversion boom prevented the surrogate from migrating farther down river.

Figure 9: Surrogate Deployed



Recommendations: Conduct future GRP deployment exercises to keep boom deployment skills current and to test GRP strategies at other locations. Improve boom deployment and tending skills by deploying existing GRPs that call for and incorporate longer boom arrays in different configurations and tending throughout the tide. Deployment of longer boom arrays and those that are relatively more complex (cascade arrays) should not be confused with towing longer sections of boom; a practice that is discouraged. For towing purposes, both due to the relatively small size of vessels used by local first responders, harbor masters and others, and due to relative lack of boom towing experience amongst first responders, it is recommended that towed boom segments be kept to 200 ft. Utilization of surrogate(s) to assess boom effectiveness should be incorporated as much as practicable in future exercises.

Activity 3.5: Demobilize Boom

Observation 3.5:

Strength: On water responders towed the boom to the boat ramp where participants who had previously been observing took on the role of rinsing and stowing the boom (See Figures 10 and 11).

References: N/A

Analysis: Demobilization of boom can be time-consuming and tedious. Responders worked well throughout this process, showing strong teamwork.

Recommendations: The same practice of towing shorter segments of boom should be followed for demobilization as it is for deployment. While demobilization during these types of exercises tends to take place at the end of sometimes very long training days, it is important to ensure that boom towing is done in a deliberate manner with good situational awareness, to avoid potential navigation safety issues.

Figure 10: Participants Washing Boom Prior to Repacking Trailer



Figure 11: Stowing (Repacking) Boom in Trailer



SECTION 4: CONCLUSION

The exercise was successful on many levels. The GRP diversion tactic was deployed as intended, and found to be an effective tactic for diverting oil to a collection point. The many communities worked together well. The boom deployment was accomplished quickly and safely despite wind and challenging tidal current conditions. The staging area provided adequate space and the responders were able to effectively use available resources to support the deployment.

The GRP deployment exercise at Newburyport was held in challenging weather conditions during an ebb tide, yet these conditions did not impede the ability of responders to successfully deploy the boom. The group demonstrated the capability to assign participants to various roles, including Incident Commander, Operations Officer, Safety Officer, vessel-based and shore responders, task forces, and observers. Equipment from the Newburyport Oil Spill Response trailer was deployed from vessels provided by Newburyport and Salisbury, and participants became more familiar with deploying, setting, and demobilizing boom, anchors, and floats. The Incident Command communicated effectively and clearly with both vessel-based and shore-based responders, while NERAC/EMA computers with wireless access to WebEOC were utilized which allowed real-time posting as the exercise progressed. Interagency communications were successful, using Newburyport Fire's portable VHF radios and available tactical/ops channels.

Lessons learned from this exercise included but were not limited to:

- Responders were able to work well in task force setting that mixed responders from many communities.
- The NERAC assets supported real-time flow of information both in posting updates and receiving weather alerts.
- Shorter boom segments are easier to tow for inexperienced personnel and in an area congested with moorings and other vessels. During this exercise, boom segments were towed by two vessels (one as the primary towing vessel and the other tending the boom at the trailing end) in a task force configuration. This method proved effective in quickly and successfully navigating the mooring fields in the area where the strategy was deployed and in and quickly setting the boom segments in a cascade array.
- Due to strong tidal currents in the channel, consider using rebar to support shoreside anchors or use existing anchors where available.
- The Cashman Park boat ramp is a good staging area.

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APPENDIX B: LESSONS LEARNED

While the After Action Report/Improvement Plan includes recommendations which support development of specific post-exercise corrective actions, exercises may also reveal lessons learned which can be shared with the broader homeland security audience. The Department of Homeland Security (DHS) maintains the *Lessons Learned Information Sharing* (LLIS.gov) system as a means of sharing post-exercise lessons learned with the emergency response community. This appendix provides jurisdictions and organizations with an opportunity to nominate lessons learned from exercises for sharing on *LLIS.gov*.

For reference, the following are the categories and definitions used in LLIS.gov:

- **Lesson Learned:** Knowledge and experience, positive or negative, derived from actual incidents, such as the 9/11 attacks and Hurricane Katrina, as well as those derived from observations and historical study of operations, training, and exercises.
- **Best Practices:** Exemplary, peer-validated techniques, procedures, good ideas, or solutions that work and are solidly grounded in actual operations, training, and exercise experience.
- **Good Stories:** Exemplary, but non-peer-validated, initiatives (implemented by various jurisdictions) that have shown success in their specific environments and that may provide useful information to other communities and organizations.
- **Practice Note:** A brief description of innovative practices, procedures, methods, programs, or tactics that an organization uses to adapt to changing conditions or to overcome an obstacle or challenge.

Exercise Lessons Learned

The entire MA DEP GRP development and testing program should be considered a best practice as it provides a model for other states to follow. This program is unlike any other in the country in that it provides a comprehensive method to:

- Develop and test Geographic Response Plans for oil spills
- Train first responders on boom deployment basics as well as specific GRP tactics

Additionally, MADEP:

- Provides equipment in the form of pre-positioned and fully stocked pollution response trailers that are assigned to select Massachusetts coastal communities
- Provides long-term maintenance and support of the equipment via a maintenance and equipment replacement program

APPENDIX C: EXERCISE EVALUATION FORM

GRP/Oil Spill Response Exercise Evaluation Form		
Cashman Park, Newburyport	Test date: 10/09/12	
Instructions to Evaluators: Complete this form based on your observations of the Oil Spill Response Trailer Training/GRP testing.		
Classroom Training Portion		
Evaluator Name:	Evaluator Organization:	
What did you find helpful about the classroom training portion?		
What, if anything, could be done differently to improve the classroom training?		
Please check a box to respond to the following.	YES	NO
1. I feel the facilitators were well prepared and knowledgeable about oil spill response/GRPs.		
2. I have a better understanding of spill response tactics than I did prior to this training.		
3. I found the handouts to be helpful.		
4. The classroom objectives were clearly explained and the classroom training met the objectives.		
5. The room and facility were adequate.		
Other comments or suggestions about training facilitation, written materials, and/or the facility?		

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Newburyport GRP Exercise	Test date: 10/09/12	
Instructions to Evaluators: Complete this form based on your observations of the GRP exercise.		
Field Training Portion		
Evaluator Name:	Evaluator Organization:	
What was your role in exercise? (responder, observer, facilitator, etc.)		
What was your level of spill response experience prior to this exercise? NONE TRAINING ONLY SOME SPILL RESPONSE A LOT		
Please check a box to respond to the following.	YES	NO
1. I feel more prepared to deploy GRPs now than I did prior to this exercise.	<input type="checkbox"/>	<input type="checkbox"/>
2. I have a better understanding of deploying spill response tactics than I did prior to this exercise.	<input type="checkbox"/>	<input type="checkbox"/>
3. I would participate in future GRP deployments at other sites.	<input type="checkbox"/>	<input type="checkbox"/>
4. The field objectives were clearly explained and the deployment exercise met the objectives.	<input type="checkbox"/>	<input type="checkbox"/>
5. The exercise was conducted safely.	<input type="checkbox"/>	<input type="checkbox"/>
Based on your experience today, would you feel comfortable setting a similar boom array during an actual incident? NOT AT ALL A LITTLE MODERATELY VERY		
Please evaluate how well the parking lot at Cashman Park worked for deploying and demobilizing boom from the trailer for this deployment: ___ <u>Ideal</u> staging area for boom for this tactic. ___ <u>Sufficient</u> as a staging area for boom for this tactic. ___ <u>Not sufficient</u> as a staging area for boom for this tactic.		
Did the GRP document (map diagram) provide clear direction as to how and where to deploy the boom? If not, please identify problems & suggest improvements.		

APPENDIX D: EXERCISE EVENTS SUMMARY TABLE

Schedule of Events

Time	Event	Location/Details
9:00	Meet for briefing and review	Newburyport Fire Station for classroom portion. Will present general information on GRPs, tactics, and protective booming equipment. Will review equipment in Newburyport trailer.
10:45	Group safety briefing and trailer review	Cashman Park boat ramp. Safety briefing and present scenario, assign personnel, develop an Operational Plan and Comms Plan. Review assignments for deployment.
11:20	Deploy DV-01a. Leave boom in place to evaluate anchor holding	Load boom to vessels from trailer at boat ramp. Responders will deploy boom as drawn in plan. Shoreside team will be deployed. Other task forces and observers/evaluators will watch from shore.
12:20	Deploy surrogate	Deploy peat moss to evaluate how well boom is holding.
11:30	Demobilize DV-01a	Break down boom and tow back to dock. Rinse and repack.
1:00	Debrief	Reconvene at Cashman Park parking lot for debrief.
1:10	Adjourn	

Tides (Newburyport Harbor) October 9, rain date October 10

High 1		Low 1		High 2		Low 2	
6:46	6.8 ft	1:08	1.2 ft	18:59	7.4 ft	13:23	1.6 ft
7:41	7.0 ft	2:03	1.1 ft	19:56	7.6 ft	14:21	1.4 ft

APPENDIX E: ACRONYMS

Acronym Table

Acronym	Meaning
DV	Diversion booming
FPC	Final Planning Conference
GRP	Geographic Response Plan
IAP	Incident Action Plan
IPC	Initial Planning Conference
IC	Incident Command(er)
LL	Lessons Learned
MEMA	Massachusetts Emergency Management Agency
MADEP(MassDEP)	Massachusetts Department of Environmental Protection
MPC	Mid-Term Planning Conference
NERAC	Northeast Homeland Security Regional Advisory Council
TCL	Target Capabilities List
USCG	United States Coast Guard
VHF	Very High Frequency
WebEOC	Web Emergency Operations Centers software