

**Pines River (NS-31A) Geographic Response Plan  
Deployment Exercise**

**May 14, 2013**

**AFTER ACTION  
REPORT/IMPROVEMENT PLAN**

**June 2013**



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## HANDLING INSTRUCTIONS

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# EXECUTIVE SUMMARY

The Massachusetts Department of Environmental Protection Pines River (NS-31A) Geographic Response Plan (GRP) Deployment Exercise occurred on May 14, 2013. The goal was to deploy a diversion booming array, utilizing as many responders as possible from three towns on the North Shore (Lynn, Revere, Saugus) to exercise the existing North Shore Geographic Response Plan NS-31 developed for Pines River (See Figure 1) and provide hands-on experience for oil spill first responders.

Figure 1. Pines River GRP (NS-31A)



Version: November 2009  
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Nuka Research and Planning Group, LLC

The Massachusetts Department of Environmental Protection (MassDEP) GRP Program exercise at Pines River (NS-31A) was developed to exercise local area first responder's Inter-Agency Planning and Coordination, Resource Coordination, and Local Oil Spill Preparedness capabilities. The Exercise Design Team (EDT) was comprised of several agencies, including the Lynn, Revere and Saugus Fire Departments, the MassDEP, the United States Coast Guard Sector Boston, and Nuka Research and Planning Group, LLC (Nuka Research).

In preparation for this exercise, Initial, Mid-Term, and Final Planning Conferences were held.

The Initial Planning Conference (IPC) was held on March 3, 2013 at the Revere Police Department Community Room in Revere, MA. A Mid-Term Planning Conference (MPC) was held on April 9, 2013 via teleconference and the Final Planning Conference (FPC) was held on May 6, 2013 at the Point of Pines Yacht Club in Revere, MA.

During the course of the IPC the EDT 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 EDT 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 EDT's deliberations, the following objectives were developed for the Pines River (NS-31A) site:

- Objective 1: Foster Inter-Agency Planning and Coordination by providing the opportunity for local responders to work with Federal (USCG) and State (MassDEP and Mass Environmental Police) 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 all three towns and from the NERAC cache. (See Table 1 and Figures 3 - 5).
- Objective 3: Improve local Oil Spill Preparedness by deploying equipment from one or more MassDEP provided Oil Spill Response trailers, providing participants hands-on experience mobilizing and demobilizing boom in the field, and providing an opportunity



to evaluate the effectiveness of the DV01a booming tactic (as depicted on the NS-31A GRP) and identify any modifications necessary.

Lynn	Revere	Saugus	MEP	MADEP
Spill Response Trailer	FD Vessel (22')	Spill Response Trailer	Safety Vessel (30')	Spill Response Trailers
FD Vessel (14')	Portable Radios	Harbormaster Vessel (42')		Exercise facilitators
Jet Ski (2) (Safety)	Engine Truck (rinse boom)			Spill response contractor/trainer
Electronic Sign Boards <sup>1</sup> (2)				
Laptops (3)/iPad <sup>1</sup>				

Table 1: Assets Supplied for Exercise by Town/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 towns of Lynn, Revere, and Saugus.

Figure 2. Participants Gathered During GRP Overview and Familiarization



Photo Courtesy of Nuka Research and Planning Group

<sup>1</sup> - obtained from NERAC equipment distribution projects/Emergency Management Performance Grants (EMPG). See Activity 3.2 below

Figure 3. Equipment Overview with Saugus Oil Spill Response Trailer



Photo Courtesy of Nuka Research and Planning Group

Figure 4. Lynn Fire Department IMT and EMPG Resources



Photo Courtesy of Nuka Research and Planning Group

Figure 5. Deploying Boom from Lynn Oil Spill Response Trailer



Photo Courtesy of Nuka Research and Planning Group

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 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 practice towing boom, especially when maneuvering in channels,

congested areas, and in areas of high current speeds.

- Task Force elements must clearly communicate deviations from the IAP when changes to the operational plan become necessary or otherwise carried out during a deployment.
- Additional equipment (as part of standard trailer equipment) including anchor crown buoys and snap rings for connecting towing line and anchors to boom will benefit safer, faster, and easier boom deployment.

Overall, the exercise was successful in providing an opportunity for first responders to deploy boom and strengthen inter-agency participation. Future exercises, both formally planned functional exercises as well as smaller inter and intra-departmental exercises and drills 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 coordination.

# SECTION 1: EXERCISE OVERVIEW

## Exercise Details

### Exercise Name

Massachusetts Department of Environmental Protection Pines River (NS-31A) GRP Deployment Exercise

### Type of Exercise

Functional Exercise

### Exercise Start Date

May 14, 2012

### Exercise End Date

May 14, 2012

### Duration

5 hours

### Location

The exercise in-briefing took place at the Point of Pines Yacht Club in the town of Revere, MA, with the field exercise following at the same location.

### Sponsor

The MassDEP was the sponsor of the exercise, with input from the participating towns, the U.S. Coast Guard, UASI, NERAC, 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 municipal first responders 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 Lynn Harbor and the Saugus River which incorporates the deployment of protective booming tactics and strategies as outlined in the Pines River (NS-31A) GRP.

## Exercise Design Team

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## Participating Organizations

Participating organizations included:

- Lynn Fire Department
- Revere Fire Department
- Saugus Fire Department
- Lynn Harbormaster
- Saugus Harbormaster
- Lynn Department of Public Works
- Massachusetts Department of Environmental Protection
- Massachusetts Environmental Police
- Moran Environmental Recovery
- Lynn Police Department
- Nuka Research and Planning Group, LLC
- United States Coast Guard Sector Boston
- United States Coast Guard First District

## Number of Participants

- Players: 55
- Controllers: 1
- Facilitators: 3
- Observer/Evaluators: 7

## 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 fifth 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 HSEEP grant funding to cover overtime and backfill costs.

The purpose of these exercises is twofold; 1) Test existing GRPs developed as part of the MassDEP GRP Program between 2009 and 2012 to determine their efficacy, and 2) Provide an opportunity for local first responders to improve skills utilizing the pre-positioned oil spill response equipment provided to them by MassDEP.

### Exercise Objectives, Capabilities, and Activities

Capabilities-based planning allows for EDTs 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 EDT 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 common operating frequency (800 Mhz) for Command and Operations;
    - Supply radios as needed to support interoperable communications; and
    - Communicate effectively during drill between shoreside/on-water responders, Operation Section Chief and IC.
- **Objective 3:**
  - **Community Preparedness and Participation:**
    - Simulate incident; assign responders;
    - Develop IAP;
    - Use WebEOC to post incident updates;
    - Integrate Lynn Fire Department Incident Management Team (IMT) personnel and equipment ( obtained from NERAC Equipment Distribution Projects);
    - Deploy boom; and
    - Demobilize boom.

## **Scenario Summary**

The scenario was a simulated oil spill in Lynn Harbor that threatens the Saugus and Pines River area as outlined in the Pines River GRP (NS-31A). Local responders from the Lynn, Revere, and Saugus Fire Departments, and the Saugus Harbormaster were directed by the IC (Revere FD Deputy Chief) to deploy tactic DV-01a from GRP NS-31A (Figure 1). The Exercise Design Team developed an Incident Action Plan (IAP), which was utilized and modified as necessary during the exercise. A safety officer (ashore) and assistant Safety Officer (afloat) from the Lynn Fire Department and the Massachusetts Environmental Police respectively were 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 (See Figures 6-7). An oil surrogate (peat moss) was deployed (See Figure 8) to evaluate the effectiveness of the strategy as deployed. Professional spill responders from Moran Environmental 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.

Figure 6. Setting Shoreside Anchor for DV-0231A



Photo courtesy of Nuka Research and Planning Group

Figure 7. Multiple Towns and Agencies Work Together to Deploy Oil Spill Containment Boom



Photo Courtesy of Nuka Research and Planning Group

Figure 8. Demobilizing, Rinsing and Re-stowing Boom in Lynn Oil Spill Response Trailer



Photo courtesy of Nuka Research and Planning Group

Figure 9. Saugus Harbormaster deploying Oil Surrogate (Peat Moss)



Photo courtesy of Nuka Research and Planning Group

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 (See Figure 10). There was a group of observer/evaluators who observed part or all of the exercise and were asked to fill out evaluation forms. The observers included representatives from the Coast Guard, Massachusetts Environmental Police, MassDEP, and members of the Lynn, Revere and Saugus Fire Departments.

Figure 10. Post-Exercise Hot Wash



Photo courtesy of Nuka Research and Planning Group

## 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 Pines River (NS-31A) 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 Lynn, Revere and Saugus 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. All fire or harbor departments committed manpower and vessels to the exercise. There was agreement that the exercise should provide an opportunity for broad participation by as many local responders as possible including Harbormasters, who, in the case of Lynn, Revere, and Saugus, are not full-time employees.

**Recommendations:** Consider future multi-jurisdictional oil spill response operations-based exercises, including drills and functional exercises.

**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 communities coordinated and integrated town equipment, vessels, and manpower. Multi-jurisdictional task forces were assembled and in some cases single task forces were comprised of first responders from different towns and departments creating a training environment that fostered mentoring between responders with varying levels of experience.

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

**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.

**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 and Operations were assigned the same frequency (800 MHz)

### Observation 2.1:

**Strength:** In this exercise, command and operations shared the same frequency. Revere Fire Department provided handheld radios for use by all participants and utilized the Central Fire Ground Channel (Channel 2). The geographic proximity and the nature of the ICS structure made sharing the same frequency efficient and ensured timely communications between the IC, Operations Section Chief, Safety Officer, and all task force elements.

**References:** Homeland Security Exercise and Evaluation Program, Volume II, February 2007, National Incident Management System

**Analysis:** All participants maintained 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. While not done in this exercise, recommend that IC and Tactical Ops typically utilize separate channels.

**Activity 2.2:** Future exercises to reinforce good practices.

### Observation 2.2:

Strength: Lynn, Revere, and Saugus utilize a common Metro Fire Ground Channel for communications. In previous exercises involving other towns and municipalities, having the capability and equipment to communicate on a common operating channel or channels has proved problematic. In these cases, county EMA and other entities have participated and provided communication equipment in the form of portable radios and other communications suites to facilitate multi-jurisdictional communications. For the purposes of the exercise, Revere Fire provided portable radios for all participants. All radios utilized the central fire ground channel.

**References:** Homeland Security Exercise and Evaluation Program, Volume II, February 2007, National Incident Management System

**Analysis:** The assignment and tracking of radios for interoperable communications provided a workable solution to address the fact that both towns share tactical frequencies among their UHF radios. There were sufficient handheld radios available to ensure that all crews (vessel and shore) could communicate with the IC, Operations Chief, Safety Officer, and exercise facilitators.

**Recommendations:** Towns should continue to work together to develop shared communications channels for multi-town/multi-agency on-water incidents.

**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.

**References:** Homeland Security Exercise and Evaluation Program, Volume II, February 2007, National Incident Management System

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

**Recommendations:** N/A

## 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, 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 Lynn, Revere, and Saugus to work together in a ICS-based scenario 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.

### Activity 3.1: Simulate Incident; Assign Responders

#### Observation 3.1:

Strength: Participants from all three towns were assigned by the Incident Commander (IC) to on-water task forces and shoreside task forces. The two on-water task forces who were primarily assigned to boom deployment were comprised of one Lynn Fire vessel and one Revere Fire vessel. These two vessels included personnel from their respective departments. A third on-water task force (Saugus Harbormaster vessel) included participants from different towns departments to promote inter-jurisdictional cooperation. The shoreside task force was also comprised of participants from different towns and worked well together throughout the exercise.

**References:** Homeland Security Exercise and Evaluation Program, Volume II, February 2007, National Incident Management System, GRP NS-31

**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. The GRP provided a tactical plan that was ready for field implementation. Each team was comprised of responders from each participating community to promote interagency coordination. A Revere Fire Department Deputy Chief acted as IC, a Revere Fire Department Lt. acted as Operations Section Chief and a Lynn Fire Department Deputy Chief acted as Safety Officer with a Massachusetts Environmental Police Sergeant acting as the assistant Safety Officer and primary on-water safety officer. This organization was very effective and worked well.

**Recommendations:** Continue to promote inter-departmental coordination and cross-pollination during future GRP exercises. Adequate pre-planning and identification of personnel to fill key Command-level, Section, Division, and Group leadership positions is critical to exercise success and should be accomplished at the Final Planning Conference.



Figure 11. One of two Lynn Fire Electronic Signboards Utilized for Exercise



Photo courtesy of Lynn Fire Department

**Activity 3.2:** Use WebEOC during exercise

**Observation 3.2:**

Strength: Computer and wireless hotspot was set up at staging site and local responder used these assets to access WebEOC and the internet. The Point of Pines Yacht Club was used as an Incident Command Post, shelter, and gathering location for participants, observers, and evaluators and provided an elevated vantage point from which to view the deployment exercise.

**References:** Homeland Security Exercise and Evaluation Program, Volume II, February 2007, National Incident Management System, NERAC Equipment Cache

**Analysis:** The simulated oil spill gave the IC an opportunity to use WebEOC as a source of information and to post exercise updates. Lynn Fire Department's Emergency Management Director set up a Planning Section using Lynn Fire Incident Management Team (IMT) personnel and equipment in the command post. Lynn Fire is developing a local IMT (personnel and equipment cache) that can incorporate planning, logistics, and

admin elements into the existing incident management organization (which is typically focused on operations initially). Lynn Fire used 3 laptop computers (See Figure 4), a printer, an iPad, and other office equipment owned by Lynn Fire and obtained from Emergency Management Performance Grants (EMPG). Revere Fire brought a mobile hot spot that allowed Lynn Fire to connect to the internet and Web EOC and also allowed for networking the computers and printer. While this exercise focused primarily on the operation and tactical elements, and not all planning functions were carried out or fully integrated, Lynn Fire did however:

- Simulate the collection of IAP information and discussed the content
- Document significant events and tactical accomplishments (monitored radio channel)
- Post situation reports on NERAC's WEB EOC.
- Simulate and discussed resource tracking.
- Simulate and discussed resource requests via WEB EOC.
- Discuss demobilization of resources.

Lynn Fire also utilized 2 electronic signboards (See Figure 11) obtained from NERAC Equipment Distribution Projects. One signboard is operated by Lynn Fire Department and the other is operated by Lynn Police Department. The sign boards were placed on either side of the General Edward's Bridge visible on Route 1A and the Point of Pines neighborhood notifying the occurrence of a "Water-based Public Safety Exercise In Progress".

**Recommendations:** Senior Fire Department personnel will benefit from a tutorial in the basics of WebEOC, so that they may utilize and become familiar with it during training or in case of an actual event. Recommend utilizing county assets to the maximum extent practicable during all future MassDEP GRP exercises and training evolutions. Further research into available NERAC and UASI assets is recommended.

### **Activity 3.3:** Deploy Boom

#### **Observation 3.3:**

Strength: Vessel and shore-based Task Forces worked well together to implement the booming tactic/strategy under somewhat challenging site conditions (current speed).

**References:** Homeland Security Exercise and Evaluation Program, Volume II, February 2007, National Incident Management System, GRP NS-31

**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 identified sensitive area (s). This exercise provided the chance to test the tactic and evaluate its effectiveness in this area and in these weather conditions. The diversion boom configuration in Pines River (NS-31A) was deployed by two vessels (Lynn and Revere Fire) and one shoreside

team (multi-jurisdictional). On-water task force elements coordinated their activities towing, anchoring, and positioning boom and generally worked well together throughout the deployment and retrieval phases of the exercise. There were a few occasions when the task force elements deviated from the original operational plan (as outlined in the operational brief prior to commencement of field activities), and failed to communicate these changes to the Shoreside Task Force Leader, Ops Section Chief or the Incident Commander. The IC immediately communicated with the on-water task force leaders to re-direct them or otherwise clarify the reason for the deviation.

Due to the strong current (relative to the size and horsepower of the participating fire department vessels), and time constraints, the diversion tactic could not be deployed as depicted on the GRP. While all 600 feet of boom was deployed, the fire department vessels that were conducting the deployment were unable to quickly configure the boom in a single, straight, diversionary leg. Significant bows, or “bellies” in the boom were present.

Following deployment of the DV01A strategy, a surrogate, in the form of peat moss, was used to simulate floating oil and assess the effectiveness of a diversionary booming strategy in this location. Surrogate was deployed upstream from the diversionary boom by a third on-water task force (Saugus Harbormaster) but did not reach the boom as the wind counteracted the current and carried the surrogate to the southern shoreline east of the deployment site

**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 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 vessel used by local first responders, harbormasters and others, and due to relative lack of boom towing experience amongst first responders, it is recommended that boom segment be kept between 200-400 ft. Utilization of surrogate(s) to assess boom effectiveness should be incorporated as much as practicable in future exercises.

- MassDEP will revisit and evaluate the booming strategy for Pines River (NS-31A) and make include a notation under Special Considerations regarding the potential difficulty in deploying this strategy during flood tide with some smaller vessels.

#### **Activity 3.4:** Demobilize Boom

##### **Observation 3.4:**

Strength: Despite the distance between the boom trailer and waterside deployment

location, first responders manually carried the boom sections quickly and safely between the trailer and deployment site. The boom was offloaded, staged, retrieved, rinsed and restowed without incident.

**References:** GRP NS-31A

**Analysis:** Demobilization of boom can be time-consuming and tedious. In this exercise, demobilization and transport was done primarily by hand as the boom itself was deployed directly off the beach and did not require towing long distances over water but instead manual overland movement (approximately 50 yards) from the trailer to the beach. Responders worked well throughout this process, showing strong teamwork. Revere Fire provided an engine to support boom rinsing.

**Recommendations:** Ideally, a staging area should provide waterside access for the boom trailer and accompanying towing vehicle. If immediate waterside staging for the trailer is not possible, as was the case at Point of Pines Yacht Club, first responders must ensure to the best of their ability, that there is a means of safely removing and transporting the boom from the trailer to the deployment site. Once a corridor has been identified, on-scene commanders must ensure that there are adequate personnel to transport the boom and that all hazards have been eliminated or reduced as much as practicable along the transport corridor. For nighttime operations, adequate lighting should be in place along the entire corridor. Limited portable lighting is included in all MassDEP pre-positioned trailers. 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 retrieval and transport back to the trailer (whether on-water and overland) is done in a deliberate manner with good situational awareness, to avoid potential navigation and personnel safety issues. For exercises that approach 5 or more hours, providing lunch for participants may help to alleviate fatigue.

## SECTION 4: CONCLUSION

This was a useful and successful exercise. While the DV01a strategy was not successfully deployed in the strict sense of the term, the deployment itself still exposed first responders to the unique challenges in deploying oil containment, familiarized them with the pre-positioned oil spill equipment provided to them by MassDEP, and provided an opportunity to work with other local municipalities. All three communities worked together seamlessly. The boom deployment was accomplished relatively quickly and safely although the tidal current presented a challenge to the participating fire department vessels. The Point of Pines Yacht Club proved to be both an adequate staging area and served as an excellent temporary Incident Command Post.

It must be noted that the strategy as written could have been deployed by the Saugus Harbormaster vessel without much difficulty as this vessel was 42 feet in length with adequate horsepower. It could have also likely been deployed successfully with the smaller vessels being utilized by Lynn and Revere Fire but it would have taken considerably more time. Additional artificiality was built-in to the exercise as the exercise facilitator and Exercise Design Team members deliberately broke down the deployment into stages (deploying short segments at a time in a specific order using both fire department vessels in order to provide multiple opportunities to repeat various boom deployment techniques and procedures.

This deployment highlighted two key issues; 1) Not all GRP strategies can be deployed by first responders based on available resources and, 2) Surrogate movement showed that oil is heavily influenced by both wind and current and does not always flow in the direction or manner expected. This does not negate the need to take pre-emptive action to protect sensitive coastal resources by utilizing the GRPs to proactively deploy protective booms in advance of an actual or potential oil spill.

Weather conditions for the GRP deployment exercise at Pines River (NS-31A) were satisfactory. The current speed, while not excessive, presented a challenge to responders. However, these conditions did not impede the ability of responders to deploy the boom during the flood tide, as planned. The group demonstrated the capability to assign participants to various roles, including Incident Commander, Operations Section Chief, Safety Officer, vessel-based and shore responders, task forces, and observers. Equipment from the Lynn Oil Spill Response trailer was deployed from vessels provided by all three communities, 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 the Lynn Fire IMT computers and Revere Fire wireless access to WebEOC supported other exercise documentation. Interagency communications were successful, using Revere Fire Department's handheld UHF radios and available Central Fire Ground channel.

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 all three towns.
- The Lynn Fire IMT assets supported real-time flow of information both in posting

- updates and receiving weather alerts.
- While adequate instruction was given on how to connect towing bridles to the ends of boom sections, First Responders noted that need further direction is need (from exercise facilitators) on how to properly and simultaneously connect both the towing bridle and the anchor system when it becomes necessary to transition immediately from towing to anchoring.
  - Task Force Leaders must communicate with the Operations Section Chief and/or the Incident Commander whenever deviations from the operational plan are considered.
  - This strategy (DV-01a) can be difficult to deploy during flood tide with some smaller vessels utilized by local first responders. A notation under Special Considerations should be made in the Pines River GRP alerting First Responders and Planners of these potential limitations.
  - Exercise Facilitators and the Exercise Design Team must balance the need to structure the exercise in a way that provides a training benefit to First Responders who have never deployed oil spill containment boom before along with the need to deploy the specific tactic and strategy utilizing the optimal techniques, personnel and equipment that will be used in an actual incident. As noted previously, the vessels and techniques utilized during this exercise were not optimal in terms of effective deployment of this particular strategy, but were in most cases, ideal for providing maximum exposure to the equipment and techniques.
  - Additional equipment including additional crown anchor buoys and lines as well as D-rings would have made towing, setting, and adjusting the boom easier for First Responders. This additional equipment is not currently provided in the pre-positioned trailers.
  - The Point of Pines Yacht Club is a good staging area and potential temporary Incident Command Post.

## APPENDIX A: IMPROVEMENT PLAN

This IP has been developed specifically for Massachusetts, Essex and Suffolk Counties, as a result of the Massachusetts Department of Environmental Protection Pines River (NS-31A) Geographic Response Plan Exercise conducted on May 14, 2013. These recommendations draw on both the After Action Report and the After Action Conference.

### Improvement Plan Matrix

Capability	Observation Title	Recommendation	Corrective Action Description	Capability Element	Primary Responsible Agency	Agency POC	Start Date	Completion Date
Capability 2: Communications	1. Towns would benefit from further cooperative exercises using portable UHF radios	2.1 Continue to observe good radio practices and utilize separate channels for IC and Tactical Ops.	2.1.1 Arrange another cooperative exercise at a different site	Communications	Lynn, Revere, Saugus Fire Depts.	Fire Chiefs	May 2013	May 2014
Capability 3: Community Preparedness and Participation	1. Communities would benefit from further training in WebEOC	3.2 Seek out opportunities to participate in other exercises and utilize WebEOC to continue to gain experience	3.1.1 Participate in another exercise and volunteer to use WebEOC	Community Preparedness and Participation	Lynn, Revere, Saugus Fire Depts.	Fire Chiefs	May 2013	May 2014

Capability 3: Community Preparedness and Participation	1. Vessel and shore-based task forces work well together	3.3 MassDEP will make Special Consideration notation in GRP NS-31 indicating need for adequate size vessels to deploy DV-01a	3.3.1 Participate in additional testing of tactic with larger/higher horsepower vessels	Community Preparedness and Participation	MassDEP	DEP representative	May 2013	May 2014
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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 MassDEP 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

This program has proven highly successful and garnered praise from the international community. In 2011, MADEP and Nuka Research and Planning Group, (the contractor

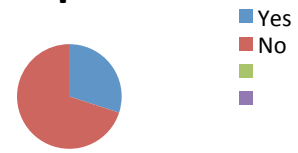
overseeing the project) submitted a white paper (later approved and entered as a poster) at the International Oil Spill Conference in Portland, OR in 2011. The poster was entitled “Approaches to Development and Testing of Geographic Response Plans in Massachusetts and Rhode Island” and won first place in the Preparedness category.

## APPENDIX C: EXERCISE EVALUATION FORM

<b>Lynn, Revere, Saugus GRP Exercise (NS-31)</b>		<b>Test date: 05/14/13</b>	
Instructions to Evaluators: Complete this form based on your observations of the GRP exercise.			
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.			
2. I have a better understanding of spill response tactics than I did prior to this exercise.			
3. I would participate in future GRP deployments at other sites.			
4. The objectives were clearly explained and the deployment exercise met the objectives.			
5. The exercise was conducted safely.			
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 Point of Pines Yacht Club 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.			

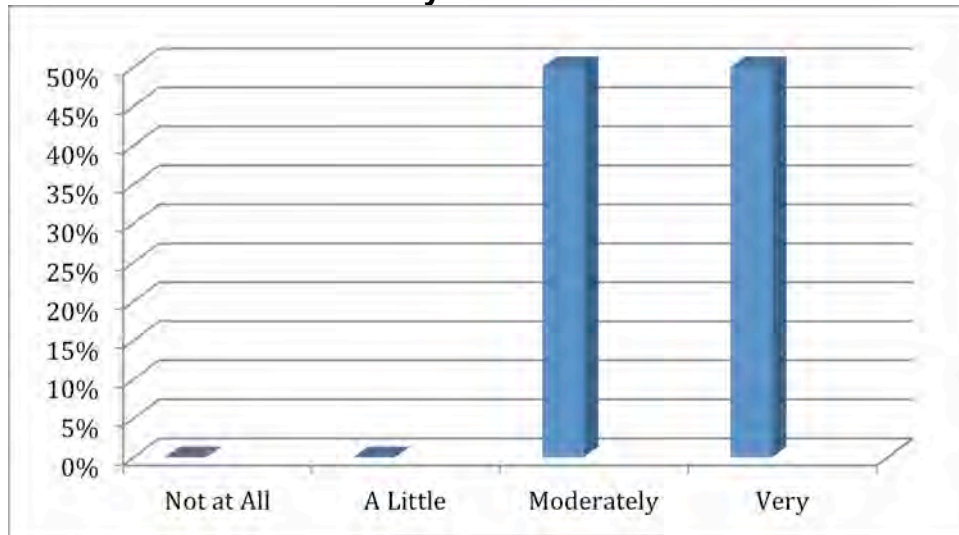
	Yes	No
Prior Oil Spill Experience	30%	70%
More Prepared after Exercise	100%	0%
Better Understanding of Deploying Spill Response Tactics	100%	0%
Participate in Future GRP Deployments	100%	0%
Field Objectives Clearly Explained and/or Met	100%	0%

### Prior Spill Experience



10 Respondents

Based on experience today, comfort level with setting a similar boom array in actual incident



### Point of Pines Yacht Club as Staging Area



# APPENDIX D: EXERCISE EVENTS SUMMARY TABLE

## Schedule of Events

Time	Event	Location/Details
10:00	Conduct Operational Overview/Briefing	Point of Pines Yacht Club (PPYC). Will present general information on GRPs, tactics, and protective booming equipment. Will review principals of oil spill response including site-specific clean-up tactics and strategies. Develop Operational and Comms Plan and assign personnel.
11:30	Conduct equipment familiarization (at trailer) and finalize Incident Action Plan (IAP)	PPYC, Command Post. Will review equipment in Lynn trailer
12:00	Lunch	PPYC
12:30	Group safety briefing, review IAP, participant assignments for deployment	PPYC. Safety briefing and present scenario, assign personnel and equipment, and finalize Incident Action Plan.
12:45	Deploy DV01a (primary) or DV01b* (NS-31) strategy. Leave boom in place to evaluate anchor holding.  * - If tide, current, or other weather conditions preclude DV01a deployment.	Vessels launch from Mills/Thayer Ave. Boat Ramp (North Shore Marine/Zeoli's Marine Services). Load boom to vessels from shoreline at PPYC. Responders will deploy boom as outlined in Incident Action Plan (IAP). Shoreside teams will assist. Other task forces and observers/evaluators will watch from shore.
13:45	Evaluate DV01a. Deploy surrogate.	Evaluate tactic/strategy deployed as written in IAP. Assess how well boom is diverting surrogate for shoreline collection.
14:15	Demobilize DV01a.	Break down boom and tow back to boat ramp. Rinse and store boom in trailer.
14:45	Debrief	Reconvene at PPYC parking lot for debrief and to fill out evaluations.
15:00	Adjourn	

## Tides (Lynn Harbor – 14MAY13)

HIGH				LOW			
AM	ft	PM	ft	AM	ft	PM	ft
2:34	9.7	3:11	8.7	8:52	0.5	9:04	1.5

## APPENDIX E: ACRONYMS

### Acronym Table

Acronym	Meaning
DV	Diversion booming
EDT	Exercise Design Team
EMA	Emergency Management Agency
EMPG	Emergency Management Performance Grant
FPC	Final Planning Conference
GRP	Geographic Response Plan
IAP	Incident Action Plan
IPC	Initial Planning Conference
IC	Incident Command(er)
LL	Lessons Learned
MassDEP	Massachusetts Department of Environmental Protection
MPC	Mid-Planning Conference
NERAC	Northeast Regional Homeland Security Advisory Council
NS	North Shore
TCL	Target Capabilities List
UASI	Urban Areas Security Initiative
UHF	Ultra High Frequency
USCG	United States Coast Guard
VHF	Very High Frequency
WebEOC	Web Emergency Operations Centers software