

**POPES ISLAND GEOGRAPHIC RESPONSE PLAN DEPLOYMENT EXERCISE**

**May 11, 2011**

**AFTER ACTION  
REPORT/IMPROVEMENT PLAN**

**June 1, 2011**



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## EXECUTIVE SUMMARY

The Massachusetts Department of Environmental Protection Popes Island GRP Deployment Exercise occurred on May 11, 2011. The Geographic Response Plan for Popes Island was developed as a tool specifically for the exercise, since no GRP exists at this site. The goal was to deploy a cascaded boom array, utilizing as many responders as possible to provide hands-on experience with oil spill response equipment and using a GRP as a guide.

The Massachusetts Department of Environmental Protection Geographic Response Plan Program exercise at Popes Island was developed to test 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 numerous and diverse agencies, including the Fairhaven Fire Department, the Fairhaven Harbormaster Department, the Fairhaven Shellfish Department, the New Bedford Fire Department, the New Bedford Harbormaster Department, the New Bedford Port Security, the New Bedford Harbor Development Committee, New Bedford Emergency Management Department, Massachusetts Department of Environmental Conservation, and Nuka Research and Planning Group.

The exercise planning team discussed staging and field locations, manpower and vessel needs, timing of the exercise in relation to tidal schedule, and establishing objectives. Over two months there were two group meetings, one teleconference, and multiple email communiqués. The exercise objectives were focused on inter-agency coordination and resource coordination for the purpose of improving initial response capacity to oil spills in the towns of Fairhaven and New Bedford.

Based on the exercise planning team's deliberations, the following objectives were developed for the Popes Island 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.
- Objective 2: To promote Resource Coordination among local responders, participants were expected to coordinate use of all vessels and assess adequacy of tactic and available response resources, staging process, and site access during practice deployment of oil spill equipment from New Bedford oil spill trailer.
- Objective 3: Local Oil Spill Preparedness was to be determined by deploying equipment from the trailer, providing participants hands-on experience mobilizing and demobilizing boom in the field, and asking them to evaluate the tactic used and identify any modifications necessary.

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:

- The responders worked well together at the staging area to unload/connect legs of boom, connect anchors/lines, and during demobilizing to wash and reload the trailer.
- The response personnel were eager to get hands-on experience, whether tasked directly or offering assistance to those who were.
- The responders identified opportunities to build on this exercise with additional boom deployments and both towns indicated an intention to conduct additional deployments.

## Primary Areas for Improvement

Throughout the exercise, several opportunities for improvement in the Towns of Fairhaven and New Bedford's ability to respond to the incident were identified. The primary areas for improvement, including recommendations, are as follows:

- To improve coordination between towns, response crews could be mixed during future incidents to include both fire and harbor personnel from both municipalities
- To optimize the response resources available, utilize smaller vessels for boom deployment and assign larger vessels to command/safety.
- Enhancing communications among vessels, between vessels and shore-based responders, and with safety/security vessels, would improve situational awareness of all parties, improve safety, and increase efficiency of boom deployment.

Overall, the exercise was successful in providing an opportunity for first responders to deploy boom under challenging environmental conditions. Subsequent exercises should focus on involving other personnel who could not participate in this exercise, and in continuing to coordinate between the two towns.



## SECTION 1: EXERCISE OVERVIEW

### Exercise Details

**Exercise Name**

Massachusetts Department of Environmental Protection Popes Island GRP Deployment Exercise

**Type of Exercise**

Functional Exercise

**Exercise Start Date**

May 11, 2011

**Exercise End Date**

May 11, 2011

**Duration**

Four hours and fifteen minutes

**Location**

Safety and operations briefings occurred at the South Coast Training Center, in Fairhaven, MA. Subsequently, staging took place at the Pease Park parking lot/boat ramp, with field deployment offshore at Popes Island, in waters shared by New Bedford and Fairhaven, MA.

**Sponsor**

The Massachusetts DEP was the sponsor of the exercise, with input from the United States Coast Guard and Nuka Research and Planning Group, LLC.

**Program**

Homeland Security Exercise and Evaluation Program (HSEEP)

**Mission**

This exercise was designed to provide an opportunity for participants to practice a response to a simulated oil spill, preventing oil from impacting sensitive areas.

**Capabilities**

Planning, Resource Coordination, Community Preparedness and Participation

**Scenario Type**

The scenario is a simulated oil spill in New Bedford's Inner Harbor

### Exercise Planning Team

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## Participating Organizations

Participating organizations included: the Fairhaven Fire Department, the Fairhaven Harbormaster Department, the Fairhaven Shellfish Department, the New Bedford Fire Department, the New Bedford Harbormaster Department, the New Bedford Port Security, the New Bedford Harbor Development Committee, New Bedford Emergency Management Department, the Dartmouth Harbormaster Department, Massachusetts Department of Environmental Conservation, United States Coast Guard, Massachusetts Maritime Academy, Massachusetts Division of Marine Fisheries, Moran Environmental, and Nuka Research and Planning Group.

### Number of Participants

- Players: 38
- Controllers: 2
- Evaluators/Observers: 14
- Facilitators: 3

## 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 a hands-on opportunity for local responders to practice deploying spill response equipment.

The MassDEP GRP Exercise Program is currently in the third 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, NOAA). The exercise design, facilitation, planning, and reporting are funded by MassDEP. Participating towns received 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 has decided to demonstrate the following capabilities during this exercise:

- **Objective 1:** The goal was to 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.
- **Objective 2:** To promote Resource Coordination among local responders, participants were expected to coordinate use of all vessels and assess adequacy of tactic and available response resources, staging process, and site access during practice deployment of oil spill equipment from New Bedford oil spill trailer.
- **Objective 3:** Local Oil Spill Preparedness was to be determined by deploying equipment from the trailer, providing participants hands-on experience mobilizing

and demobilizing boom in the field, and asking them to evaluate the tactic used and identify any modifications necessary.

- **Planning:** The goal was to 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.
- **Resource Coordination:** Promote Resource Coordination; Deploy equipment from trailer and provide hands-on experience mobilizing and demobilizing boom in the field.
- **Community Preparedness and Participation:** Local Oil Spill Preparedness was to be determined by deploying equipment from the trailer, providing participants hands-on experience mobilizing and demobilizing boom in the field, and asking them to evaluate the tactic used and identify any modifications necessary.

## Scenario Summary

The scenario was a simulated oil spill in New Bedford Inner Harbor that migrates north toward Pope's Island and the Acushnet River. Staff from the Fairhaven Fire Department, the New Bedford Fire Department, New Bedford Port Security, the Fairhaven Harbormaster Department, and Fairhaven Shellfish Department was the primary responders for this deployment exercise. After initial safety and operations briefings, they transported, deployed, demobilized, and stored the boom and anchors used in the exercise. 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 keeping the process moving.

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 fill out evaluation forms online, or participate in the debriefing. The observers included representatives from the Coast Guard, New Bedford Fire Department, New Bedford Emergency Management, and the MassDEP.

## 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 Massachusetts Department of Environmental Protection Popes Island 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: INTER-AGENCY PLANNING AND COORDINATION

**Capability Summary:** To foster Inter-Agency Planning and Coordination, the exercise design provided the opportunity for local responders (Fire and Harbormaster Departments from Fairhaven and New Bedford) to work with Federal (USCG) and State (MADEP) responders to plan for and deploy a GRP protective booming tactic during a simulated incident. Coordination of response equipment, vessels, and responders from two towns during the planning and execution of the exercise were evaluated.

#### Activity 1.1: Command and Control Coordination

##### Observation 1.1: Improvement

There was a slight disconnect between on-water response assets from differing towns due to the use of parallel command structures, rather than a single Unified Command.

**References:** N/A

**Analysis:** Each fire chief acted as On-Scene commander, tasking their vessels and crew directly without necessarily coordinating across jurisdictional lines. Group members would receive specific direction only from one On-Scene commander (their respective chief), depending on their town department affiliation.

##### Recommendations:

To improve coordination between towns, response crews could be mixed during future incidents or accidents to include both fire and harbor personnel from both municipalities.

On-scene commanders could work together to provide a single point of radio contact to task all on-water response assets, rather than issuing duplicate or potentially competing directions.

### CAPABILITY 2: RESOURCE COORDINATION

**Capability Summary:** Promote Resource Coordination across towns and departments engaged

in deploying oil spill boom in protective arrays as specified in Geographic Response Plans.

### **Activity 2.1:** Mobilization and Demobilization of boom

#### **Observation 2.1: Strength**

There was seamless coordination among responders from various town departments, state and federal agencies.

**References:** N/A

**Analysis:** The responders worked together at the staging area to unload/connect legs of boom, connect anchors/lines, and during demobilizing to wash and reload the trailer.

**Recommendations:** Continue to seek opportunities to exercise equipment and personnel across towns and agencies.

### **Activity 2.2:** Deployment of Protective Booming Strategy Contained in Geographic Response Plan

#### **Observation 2.2: Strength**

Despite challenging weather and a last-minute change in exercise location, the responders were able to successfully deploy 800' of boom in four cascaded segments to divert and collect oil during a simulated incident.

**References:** N/A

**Analysis:** Weather conditions (strong directional winds, cold water and air temperatures) necessitated a last minute change in exercise location, yet all participants were able to adjust to the last minute change. Marine and shoreline anchors were set successfully by a team of responders from local and federal agencies using equipment from state response trailers. During challenging weather conditions the group demonstrated the ability to successfully deploy the assigned tactic.

**Recommendations:** Continue to seek opportunities to exercise equipment and personnel.

### **Activity 2.3** Safety

#### **Observation 2.3: Improvement**

While a safety plan and briefing were developed prior to the exercise and a Safety Officer assigned, several safety concerns were noted.

**References:** N/A

**Analysis:** It was reported to exercise facilitators (but not observed) that several participants were not wearing PFDs at all times while on docks or vessels. It was also noted during the debrief that there were several instances where a vessel lookout would have been a prudent safety measure to ensure that vessels actively deploying boom did not collide with other vessels or obstructions.

**Recommendations:**

Ensure that safety violations are quickly reported and remedied. Provide additional safety/control vessels.

**Activity 2.4** Suitability of Vessels to Boom Deployment

**Observation 2.4: Improvement**

Several of the vessels participating in the exercise experienced challenges or setbacks due to the suitability (or lack thereof) of vessel capabilities to response function.

**References:** N/A

**Analysis:** Vessels participating in the exercise ranged in size from 17 to 24 feet. While the exercise was designed to include a few larger vessels, including New Bedford's fire response vessel, participants quickly determined that the size and configuration of the vessel had a measurable impact on its ability to carry out assigned tasking. Smaller vessels with better maneuverability were better suited to setting anchors and positioning boom. The larger vessels were better suited to towing boom, but their higher freeboard made it more difficult to set and adjust boom at the waterline. Smaller vessels should be used for maneuverability through congested areas and shallow waters and large vessels can be used to transport boom and in case greater horsepower is necessary.

**Recommendations:**

Assign response vessels based on capability/configuration.

**CAPABILITY 3: COMMUNITY PREPAREDNESS AND PARTICIPATION**

**Capability Summary:** Local Oil Spill Preparedness was to be determined by deploying equipment from the trailer, providing participants hands-on experience mobilizing and demobilizing boom in the field, and applying protective booming tactics from Geographic Response Plan.

**Activity 3.1:** Responders from town fire and harbor departments were rotated in and out of active vs. observer roles to maximize the opportunity to both participate in and observe/evaluate the use of hard boom to protect priority areas during an oil spill.

**Observation 1.1: Strength**

Participants had the opportunity both to practice boom deployment and to observe a



range of techniques for setting boom and anchors.

**References:** N/A

**Analysis:** During the deployment, responders were successful under challenging conditions, and demonstrated a preparedness to conduct protective booming if needed in the event of an oil spill. Rotation of participants allowed for maximum participation among a rather large group. During the post-incident hot wash, participations provided insightful feedback about the boom deployment techniques and tactics, based on both their firsthand experience and their observation of other on-water response teams.

**Recommendations:** None

## **SECTION 4: CONCLUSION**

The GRP deployment exercise at Popes Island was held in challenging environmental conditions. The group demonstrated the capability to assign participants to various roles, including incident commanders, safety officers, shore-based and vessel-based responders, and observers. Equipment from the New Bedford Oil Spill Response trailer was utilized and the group became more familiar with deploying, setting, and demobilizing boom, anchors, and floats. Finally, the group coordinated its efforts to successfully deploy a cascaded boom array and achieve hands-on experience.

Lessons learned from this exercise included but were not limited to: safety considerations should be emphasized, communication should be clear and direct, command and control should be coordinated across towns and departments, and that large and small vessels both have their uses. Major recommendations to address these lessons are: 1) make sure everyone on vessels wears a PFD and a lookout should be assigned for each vessel involved in the exercise, 2) one Incident Commander should provide any direction needed from Command Post, and 3) smaller vessels should be used for maneuverability through congested areas and shallow waters and large vessels can be used to transport boom and in case greater horsepower is necessary.

Safety should always be paramount, so that responders can achieve their goals without injury or damage to themselves or equipment. With a single person giving direction specifically to a vessel or responder, there is less room for miscommunication and error. Knowing what equipment to use in which situation creates more opportunity for a successful exercise.

## APPENDIX A: IMPROVEMENT PLAN

This IP has been developed specifically for Massachusetts, Bristol County, as a result of the Massachusetts Department of Environmental Protection Popes Island GRP Deployment Exercise conducted on May 11, 2011. These recommendations draw on both the After Action Report and the After Action Conference.

Table A.1 *Improvement Plan Matrix*

Capability	Observation Title	Recommendation	Corrective Action Description	Capability Element	Primary Responsible Agency	Agency POC	Start Date	Completion Date
Capability 1: Interagency Planning & Coordination	1. Command and Control Coordination	1.1 Improve command and control coordination between towns	1.1.1 Encourage mixed response crews (representing multiple towns) during future exercises.	Response Coordination	MassDEP	Rich Packard	May 2011	December 2011
			1.1.2 Improve coordination and communication of response objectives among on-scene commanders	Command and Control	MassDEP	Rich Packard	May 2011	December 2011
			1.1.3 Hold additional exercises involving vessels, responders, and equipment from both towns.	Response Coordination	Fairhaven and New Bedford Fire Departments	Fire Chiefs	May 2011	May 2012
Capability 2: Resource Coordination		2.1 Ensure that safety violations are quickly	2.1.1 Stricter oversight and enforcement of	Planning and Facilitation	MassDEP	Rich Packard	May 2011	December 2011



## APPENDIX B: ACRONYMS

Table B.1: *Acronyms*

Acronym	Meaning
GRP	Geographic Response Plan
MADEP	Massachusetts Department of Environmental Protection
NOAA	National Oceanic and Atmospheric Administration
PFD	Personal Flotation Device
USCG	United States Coast Guard