



# MassDEP Geographic Response Plan – 2015 Ipswich River (NS-09) Exercise

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## After-Action Report/Improvement Plan

June 23, 2015

The After-Action Report/Improvement Plan (AAR/IP) aligns exercise objectives with preparedness doctrine to include the National Preparedness Goal and related frameworks and guidance. Exercise information required for preparedness reporting and trend analysis is included; users are encouraged to add additional sections as needed to support their own organizational needs.

## EXERCISE OVERVIEW

<b>Exercise Name</b>	2015 Ipswich River (NS-09) Exercise
<b>Exercise Dates</b>	May 19th, 2015
<b>Scope</b>	This exercise was a Full Scale Exercise, planned for approximately six hours at Ipswich Town Wharf in Ipswich, MA and upon the waters of the Ipswich River. Exercise play was limited to the Ipswich Town Wharf and Ipswich River.
<b>Mission Area(s)</b>	Response
<b>Core Capabilities</b>	Environmental Response/Health and Safety, Operational Coordination, Operational Communications
<b>Objectives</b>	<p>Objective 1: Demonstrate the ability to deploy oil spill equipment from one or more MassDEP pre-positioned oil spill response trailers utilizing common Geographic Response Plan (GRP) tactics.</p> <p>Objective 2: Demonstrate the ability to assemble a spill response organization utilizing Incident Command System (ICS) principles through development and execution of an Assignment List (ICS 201) and implementation of on-site incident management and tactical operations.</p> <p>Objective 3: Demonstrate the ability to effectively communicate between multiple local, state, and federal agencies including fire departments, police departments, harbormasters, and other state and federal first responders using both UHF and VHF communications.</p>
<b>Threat or Hazard</b>	Discharge of oil into a navigable waterway
<b>Scenario</b>	An oil spill has occurred that threatens the Ipswich River and Ipswich Center. The Ipswich, Essex, and Rowley Fire Departments and Police/Harbormaster staff will utilize GRP NS-09 to deploy protective booming to protect sensitive resources in and near Ipswich Town Wharf and Ipswich Town Center.
<b>Sponsor</b>	Massachusetts Department of Environmental Protection. Program funds will be utilized for first responder backfill and overtime costs.

**Participating  
Organizations**

Participating organizations included:

- Ipswich Fire Department (IFD)
- Ipswich Police Department/Harbormaster (IPD)
- Essex Fire Department (EFD)
- Essex Police Department/Harbormaster (EPD)
- Rowley Fire Department (RFD)
- Rowley Harbormaster (RHM)
- MassDEP
- Massachusetts Emergency Management Agency (MEMA)
- U.S. Coast Guard Sector Boston (USCG)
- Moran Environmental Recovery (MER)
- Nuka Research and Planning Group, LLC (Nuka Research)

Note: See Appendix B for participant count

**Point of Contact**

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## ANALYSIS OF CORE CAPABILITIES

Aligning exercise objectives and core capabilities provides a consistent taxonomy for evaluation that transcends individual exercises to support preparedness reporting and trend analysis. Table 1 includes the exercise objectives, aligned core capabilities, and performance ratings for each core capability as observed during the exercise and determined by the evaluation team. Table 2 includes compiled data from the Exercise Evaluation Guide (EEG) including the organizational capability targets, associated critical tasks, and observations as observed during the exercise and determined by the evaluation team.

Objective	Core Capability	Performed without Challenges (P)	Performed with Some Challenges (S)	Performed with Major Challenges (M)	Unable to be Performed (U)
Demonstrate the ability to deploy oil spill equipment from one or more MassDEP pre-positioned oil spill response trailers utilizing common Geographic Response Plan (GRP) tactics.	Environmental Response/Health and Safety	P			
Demonstrate the ability to assemble a spill response organization utilizing Incident Command System (ICS) principles through development and execution of an Assignment List (ICS 204) and implementation of on-site incident management and tactical operations.	Operational Coordination	P			
Demonstrate the ability to effectively communicate between multiple local, state, and federal agencies including fire departments, police departments, harbormasters, and other state and federal first responders using both UHF and VHF communications	Operational Communications	P			
<p><b>Ratings Definitions:</b></p> <ul style="list-style-type: none"> <li>Performed without Challenges (P): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws.</li> <li>Performed with Some Challenges (S): The targets and critical tasks associated with the core capability were</li> </ul>					

Objective	Core Capability	Performed without Challenges (P)	Performed with Some Challenges (S)	Performed with Major Challenges (M)	Unable to be Performed (U)
<p>completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws. However, opportunities to enhance effectiveness and/or efficiency were identified.</p> <ul style="list-style-type: none"> <li>Performed with Major Challenges (M): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s), but some or all of the following were observed: demonstrated performance had a negative impact on the performance of other activities; contributed to additional health and/or safety risks for the public or for emergency workers; and/or was not conducted in accordance with applicable plans, policies, procedures, regulations, and laws.</li> <li>Unable to be Performed (U): The targets and critical tasks associated with the core capability were not performed in a manner that achieved the objective(s).</li> </ul>					

**Table 1. Summary of Core Capability Performance**

Core Capability	Organizational Capability Target	Associated Critical Tasks	Observation Notes
<b>Environmental Response/ Health and Safety</b>	<b>Overview of Response Equipment</b>	<ul style="list-style-type: none"> <li>Access Mass DEP Trailer</li> <li>Identify boom and sorbents</li> <li>Connect boom together</li> <li>Connect towing bridle to boom</li> <li>Connect components of anchor system together</li> </ul>	<ul style="list-style-type: none"> <li>Performed without Challenges (P)</li> <li>All skills successfully demonstrated during exercise</li> <li>Excellent Training from MER. Demonstration of technique to use sorbent boom to fill gap between sea wall and boom made strong impression on students.</li> <li>Full participation by students in demonstration portion of the instruction.</li> <li>Classroom training was excellent</li> <li>Area for Improvement: Would be useful to have demo ASTM connectors for students.</li> <li>Area for Improvement: Would be useful to use small sections of line for students to have some hands-on experience in tying their own knots for practice to reinforce the training.</li> </ul>
	<b>Basic Booming Operations</b>	<ul style="list-style-type: none"> <li>Transport and tow boom.</li> <li><i>Critical Task:</i> Anchoring and Connecting boom to shore</li> <li><i>Critical Task:</i> Safe vessel and crew operations. (Refer to ICS-208)</li> </ul>	<ul style="list-style-type: none"> <li>Performed Without Challenges (P)</li> <li>All boat crews effectively worked together, towing and controlling boom deployment safely.</li> <li>Tow of boom to southern shore done amidships but seamlessly shifted to stern tow when getting closer to shore.</li> <li>Shore teams were excellent, making use of an existing structure to anchor boom to shore.</li> <li>Member assisting with boom deployment on boat ramp without PFD identified by IC. Situation corrected on spot.</li> </ul>

Core Capability	Organizational Capability Target	Associated Critical Tasks	Observation Notes
	<p><b>Implement Tactics in GRP</b></p>	<ul style="list-style-type: none"> <li>Deploy Diversions Boom Tactics for Flood and Ebb tides</li> </ul>	<p>Flood Diversion deployment,</p> <ul style="list-style-type: none"> <li>Performed Without Challenges (P)</li> <li>Boom deployed as discussed in briefing representing a modification of GRP</li> <li>Tactic proved to be successful.</li> </ul> <p>Ebb Diversion Tactic</p> <ul style="list-style-type: none"> <li>On scene adjustment highly successful in diverting surrogate to collection point.</li> <li>Deployment of additional boom would assist in preventing entrainment from strong current in middle of channel.</li> <li>Anchor to shore on this tactic very effective.</li> </ul> <p>Learned from IPD that ebb/flow is seasonal and dependent on precipitation increasing the outflow from river.</p>
<p><b>Operational Coordination</b></p>	<p><b>Create and Execute An Assignment List (ICS 201)</b></p>	<ul style="list-style-type: none"> <li>Fill out ICS 201</li> <li>Assignments in ICS 201 are followed and on-scene adjustments.</li> <li>Participants demonstrate command and control of exercise</li> </ul>	<ul style="list-style-type: none"> <li>IC performed superbly and did an outstanding job of directing personnel &amp; adjusted tactics exercise based on observed conditions</li> <li>Team make up well defined.</li> <li>Enough personnel to complete assignments</li> <li><b>Best Practice:</b> Use of MEMA EOC trailer facilitated briefing and promoted already strong command &amp; control. Trailer cameras videotaped entire evolution.</li> </ul>
<p><b>Operational Communications</b></p>	<p><b>Effectively Communicate Using UHF and VHF equipment</b></p>	<ul style="list-style-type: none"> <li>Create Communications Plan</li> <li>Communicate with other participants using organic UHF equipment</li> <li>Communicate with other participants using organic VHF equipment</li> </ul>	<ul style="list-style-type: none"> <li>Performed without Challenges (P)</li> <li>Communications interoperability between departments was seamless. VHF equipment provided by IFD was used effectively (CH 14).</li> <li>Strong comms between shore and water crews.</li> <li>UHF Equipment not utilized</li> </ul>

**Table 2. Summary of Organizational Capability Targets and Associated Critical Tasks**

The following sections provide an overview of the performance related to each exercise objective and associated core capability, highlighting strengths and areas for improvement.

## Objective 1: Demonstrate the ability to deploy oil spill equipment from one or more MassDEP pre-positioned oil spill response trailers utilizing common Geographic Response Plan (GRP) tactics

The strengths and areas for improvement for each core capability aligned to this objective are described in this section.

### Core Capability 1: Environmental Response/Health and Safety

#### Strengths

The full capability level can be attributed to the following strengths:

**Strength 1:** Participants from multiple agencies (Ipswich, Rowley, Essex, Moran Environmental, MassDEP) worked well together to accomplish the goal

**Strength 2:** All participants conducted the deployment safely. There was one potential safety incident and it was rapidly addressed.

#### Areas for Improvement

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

**Area for Improvement 1:** The Ipswich River GRP (NS-09) requires revision based on the tactics used in the exercise and information obtained from local responders regarding the seasonal nature of current cycles in the Ipswich River.

**Reference:** Massachusetts Geographic Response Plan Tactics Guide

**Analysis:** N/A

Demonstration of technique to use sorbent boom to fill gap between sea wall and boom



Photo courtesy of Nuka Research & Planning Group

Deploying ebb tide diversion strategy



Photo courtesy of Nuka Research & Planning Group



Shifting boom from hip to stern tow



Photo courtesy of Nuka Research & Planning Group

Shore Team carries out effective shoreside anchoring



Photo courtesy of Nuka Research & Planning Group

**Objective 2: Demonstrate the ability to assemble a spill response organization utilizing Incident Command System (ICS) principles through development and execution of an Incident Briefing (ICS 201) and implementation of on-site incident management and tactical operations.**

The strengths and areas for improvement for each core capability aligned to this objective are described in this section.

**Core Capability 2: Operational Coordination**

**Strengths**

The full capability level can be attributed to the following strengths:

**Strength 1:** The Incident Commander did an outstanding job. All personnel were clear on assignments during the exercise.

**Areas for Improvement**

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

**Area for Improvement 1:** None

**Reference:** N/A

**Analysis:** N/A



### **Objective 3: Demonstrate the ability to effectively communicate between multiple local, state, and federal agencies including fire departments, police departments, harbormasters, and other state and federal first responders using both UHF and VHF communications**

The strengths and areas for improvement for each core capability aligned to this objective are described in this section.

### **Core Capability 3: Operational Communications**

#### **Strengths**

The full capability level can be attributed to the following strengths:

**Strength 1:** Clear and effective communications between all participants was maintained throughout the exercise. All participants maintained good radio discipline. Extraneous communication was kept to a minimum and clear guidance and asset coordination was provided to accomplish deployment objectives.

#### **Areas for Improvement**

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

**Area for Improvement 1:** None to report. It's clear that the exercise participants were experienced with using the oil spill response equipment and they routinely work together and have an excellent working relationship.

**Reference:** Homeland Security Exercise and Evaluation Program Guidance, April 2013, National Incident Management System

**Analysis:** N/A

MEMA EOC trailer promoted strong command & control



Photo courtesy of Nuka Research & Planning Group

## APPENDIX A: IMPROVEMENT PLAN

This IP has been developed specifically for Ipswich, Essex, and Rowley Fire Departments and Ipswich and Essex Police Departments/Harbor Masters following the Massachusetts Department of Environmental Protection 2015 North Shore/Ipswich River GRP Exercise conducted on May 19, 2015.

Core Capability	Issue/Area for Improvement	Corrective Action	Capability Element <sup>1</sup>	Primary Responsible Organization	Organization POC	Start Date	Completion Date
Core Capability 1: Environmental Response/Health and Safety	1. Implement Tactics in GRP	Revise Ipswich River GRP (NS-09) to incorporate adjustments made to tactics based on observed conditions	Planning	Nuka Research	Mike Popovich		
Core Capability 2: Operational Coordination	N/A						
Core Capability 3: Operational Communications	N/A						

<sup>1</sup> Capability Elements are: Planning, Organization, Equipment, Training, or Exercise.

## APPENDIX B: EXERCISE PARTICIPANTS

Participating Organizations	
Federal	Participant Count
United States Coast Guard Sector Boston	4
State	
Massachusetts Department of Environmental Protection (MassDEP)	3
Massachusetts Emergency Management Agency (MEMA)	2
Nuka Research and Planning Group, LLC (contractor for MassDEP)	3
Moran Environmental Recovery (contractor for MassDEP)	2
Town of Ipswich, MA	
Ipswich Fire Department	15
Ipswich Police Department/Harbormaster	5
Town of Essex, MA	
Essex Fire Department	3
Essex Police Department/Harbormaster	3
Town of Rowley, MA	
Rowley Fire Department	4
TOTAL	44

## APPENDIX C: EXERCISE EVALUATION FORM

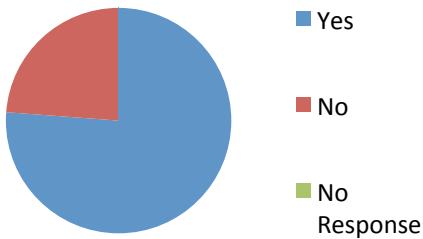
**Massachusetts DEP 2015 North Shore GRP Exercise – PARTICIPANT EVALUATION**

<b>Ipswich, Essex, Rowley – Ipswich River GRP Exercise</b>		<b>Exercise date: 19MAY15</b>	
Participant Name (optional):		Participant Organization:	
What was your role in exercise? (participant, evaluator, observer, 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 oil spill response equipment 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 oil spill response equipment or Geographic Response Plan 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 <b>Ipswich Town Wharf</b> 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 Exercise Plan (map diagram) provide clear direction as to how and where to deploy the boom? If not, please identify problems & suggest improvements.			

**PLEASE USE THE BACK OF THIS PAGE  
FOR ANY ADDITIONAL COMMENTS**

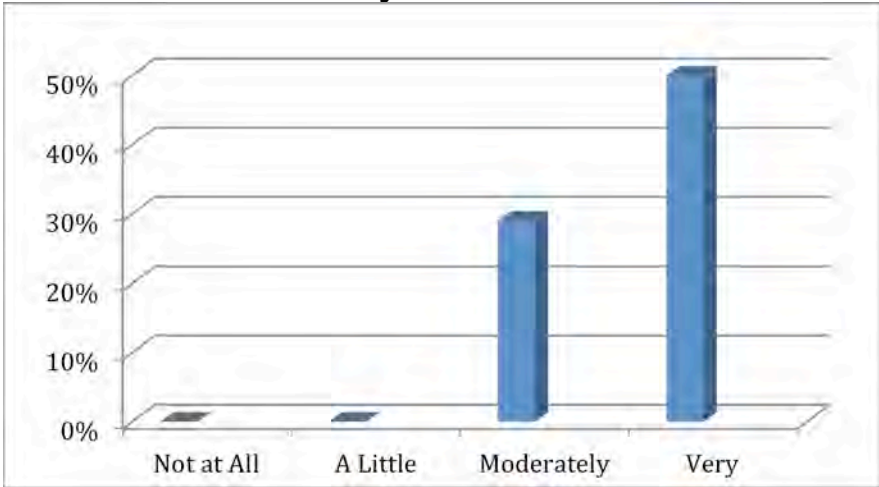
	Yes	No
Prior Oil Spill Experience	76%	24%
More Prepared after Exercise	100%	0%
Better Understanding of Deploying Spill Response Tactics	100%	0%
Participate in Future GRP Deployments	100%	0%
Field Objectives Clearly Explained and/or Met	100%	0%

### Prior Spill Experience



21 Respondents

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



### Ipswich Town Wharf as Staging Area

