



Geographic Response Strategy Exercise Series – Hingham/Hull First Responder Exercise

After-Action Report/Improvement Plan

May 3, 2022

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

EXERCISE OVERVIEW

Exercise Name	2022 Hingham/Hull First Responder Exercise
Exercise Dates	May 3, 2022
Scope	This is a full-scale exercise, planned for approximately 6 hours on the Weir River in Hull, MA. Exercise play is limited to the Weir River in the vicinity of the Steamboat Wharf Marina and the adjacent shoreline.
Focus Area(s)	Prevention, Protection, Response
Capabilities	Environmental Response/Health and Safety, Operational Coordination, Operational Communications.
Objectives	<p>Objective 1: Demonstrate the ability to deploy oil spill equipment from one or more MassDEP pre-positioned oil spill response trailers utilizing common Geographic Response Strategy (GRS) tactics.</p> <p>Objective 2: Demonstrate the ability to assemble a spill response organization utilizing Incident Command System (ICS) principles through execution of an Incident Briefing (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, harbor masters, and other state and federal first responders using VHF and UHF communications.</p>
Threat or Hazard	Discharge of oil into a navigable waterway
Scenario	An oil spill has occurred that threatens the Weir River. The Hingham and Hull Fire Departments and Harbor masters will utilize various common Geographic Response Strategy (GRS) tactics to protect sensitive resources in the Weir River and the surrounding area.
Sponsor	Massachusetts Department of Environmental Protection (MassDEP)
Participating Organizations	<p>Participating organizations included:</p> <ul style="list-style-type: none"> • Hingham Fire Department • Hingham PD/Harbor master • Hull Fire Department • Hull Harbor master • Massachusetts Department of Environmental Protection (MassDEP) • U.S. Coast Guard Sector Boston • Moran Environmental Recovery • Nuka Research <p>Note: See Appendix B for participant count</p>
Point of Contact	<p>Julie Hutcherson, Marine Oil Spill Program Coordinator Massachusetts Department of Environmental Protection Oil Spill Prevention and Response Program 1 Winter St. Boston, MA 02108 (617) 366-7424 julie.hutcherson@mass.gov</p>

First Responders practice connecting boom sections



First Responders practice assembling marine anchor systems



Photos courtesy of Nuka Research

First responders learn shoreside anchoring techniques



First responders practice throwing a heaving line



Photos courtesy of Nuka Research

Hingham Fire Department tows boom to create a containment strategy around the Steamboat Wharf Marina



Photos courtesy of Nuka Research

Hull and Hingham Fire Department and Harbormaster work simultaneously to deploy two containment strategies



Photos courtesy of Nuka Research



Figure 1. Exercise Tactics Map

ANALYSIS OF CAPABILITIES

Aligning exercise objectives and 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 capabilities, and performance ratings for each capability as observed during the exercise and determined by the evaluation team.

Objective	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 Strategy (GRS) tactics.	Environmental Response/Health and Safety		S		
Demonstrate the ability to assemble a spill response organization utilizing Incident Command System (ICS) principles through execution of an Incident Briefing (ICS 201) and implementation of on-site incident management and tactical operations.	Operational Coordination	P			
Demonstrate the ability to effectively communicate between multiple local, state, and federal agencies including fire, police and harbor master departments using VHF and UHF communications	Operational Communications	P			
Ratings Definitions: Performed without Challenges (P): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws. Performed with Some Challenges (S): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws. However, opportunities to enhance effectiveness and/or efficiency were identified. Performed with Major Challenges (M): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s), but some or all of the following were observed: demonstrated performance had a negative impact on the performance of other activities; contributed to additional health and/or safety risks for the public or for emergency workers; and/or was not conducted in accordance with applicable plans, policies, procedures, regulations, and laws. Unable to be Performed (U): The targets and critical tasks associated with the core capability were not performed in a manner that achieved the objective(s).					

Table 1. Summary of Core Capability Performance

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

Capability: Environmental Response/Health and Safety

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

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 Strategy (GRS) tactics.

Objective 1.1: Overview of Response Equipment

Associated Critical Tasks

- Access Mass DEP Trailer
- Identify boom and sorbents
- Connect boom together
- Connect towing bridle to boom
- Connect components of marine and shoreside anchor systems together

Objective 1.2: Basic Booming Operations

Associated Critical Tasks

- Transfer boom and equipment between shore and vessel
- Transport and tow boom
- Anchoring and Connecting boom to shore
- Safe vessel and crew operations

Objective 1.3: Implement Tactics in GRS

Associated Critical Tasks

- Deploy Containment Boom Tactic around a vessel at a mooring (300 ft)
- Deploy Containment Boom Tactic around a fixed dock structure (700 ft)

Strengths

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

Strength 1: Participants were attentive during the classroom and hands-on training sessions, asking informed questions throughout and providing feedback, and were fully engaged and participatory in the hands-on equipment training.

Strength 2: Overall, vessel strike teams deftly managed boom towing, connecting, anchoring, tending, and configuring. This was especially noteworthy considering the fact that five (5) small boats were setting two different containment configurations in relatively close quarters.

Areas for Improvement

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

Area for Improvement 1: Personnel carrying out the containment booming of a (simulated) vessel at a mooring experienced some challenges in boom configuration and anchor placement.

Reference: MassDEP GRS Exercise Training Curriculum

Analysis: While deploying the 300 ft containment boom section around a vessel at a mooring (simulated using a floating dock/swim platform), vessel personnel had some difficulty configuring the boom and setting marine anchor systems so as to allow the boom section to maintain proper station around the vessel. Some vessel strike team members did indicate that winds were a factor which contributed to some of the difficulty encountered.

Capability: Operational Coordination

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

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

Objective 2.1: Execute an Incident Brief (ICS 201)

Associated Critical Tasks

- **Assignments in ICS 201 followed/on-scene adjustments made**
- **Participants demonstrate command and control of exercise**

Strengths

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

Strength 1: This was the first time in the history of this program where exercise participants chose to deploy two booming configurations simultaneously. Based on the relative experience of many participants, and the availability of six (6) first responder vessels, the Incident Commander simultaneously managed the deployment of 300 ft of Containment boom around a vessel at mooring (simulated using a floating dock/swim platform), and deployment of 700 ft of containment boom around the south side of the Steamboat Wharf Marina dock. Two booming evolutions were conducted as part of this exercise including containment booming around a vessel at a dock, pier, or wharf (300 ft), and containment booming around a vessel at a mooring (150 ft). While some challenges were encountered while configuring the 300 ft containment array around the floating dock (as outlined above) participants quickly overcome these challenges and effectively deployed both booming strategies.

Strength 2: All vessel strike teams worked well together, independently coordinating on-water activity and actively providing instruction as needed to less experienced vessel operators.

Areas for Improvement

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

Area for Improvement 1: N/A

Reference: N/A

Analysis: N/A

Capability: Operational Communications

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

Objective 3: Demonstrate the ability to effectively communicate between multiple local, state, and federal agencies including fire, police and harbormaster departments using VHF and UHF communications

Objective 3.1: Effectively Communicate Using UHF/VHF Equipment

Associated Critical Tasks

- **Create Communications Plan**
- **Communicate with other participants using UHF or VHF equipment**

Strengths

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

Strength 1: Overall communication was enhanced due to the fact that the Hingham and Hull Fire Departments and Harbormaster staffs clearly maintain a close working relationship during both emergency and non-emergency situations. Command staff maintained clear and frequent communication with all strike teams and independently recognized the need to alter the deployment plan when necessary. All participating elements generally maintained clear and frequent communications throughout both boom deployment evolutions.

Areas for Improvement

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

Area for Improvement 1: N/A

Reference: N/A

Analysis: N/A

Appendix A: IMPROVEMENT PLAN

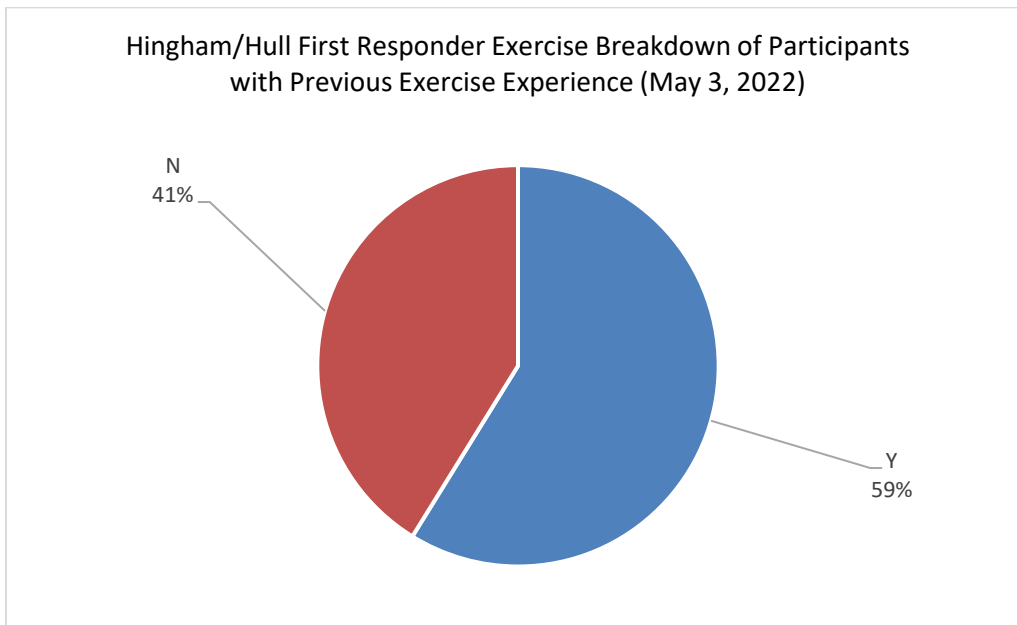
This IP is developed specifically for MassDEP, MER, Nuka Research and the towns of Hingham and Hull, MA as a result of the MassDEP GRS Exercise conducted on May 3, 2022.

Capability	Issue/Area for Improvement	Corrective Action	Capability Element ¹	Primary Responsible Organization	Organization POC	Start Date	Completion Date
Capability 1: Environmental Response/Health & Safety	1. Challenges configuring boom and setting/placing anchors for containment booming around vessel at mooring	Encourage more frequent/independent boom deployment training at local level	Training, Exercise	Nuka Research	M. Popovich	06/01/22	09/01/22

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

APPENDIX B: PARTICIPANTS & RESOURCES

Participating Organizations	
	Participant Count
Town of Hingham, MA	
Hingham Fire Department	5
Hingham Police Department/ Harbormaster	4
Town of Hull, MA	
Hull Fire Department	7
Hull Harbormaster	1
TOWN PARTICIPANTS	17
Federal	
United States Coast Guard Sector Boston	2
State/Other	
Massachusetts Department of Environmental Protection (MassDEP)	2
Nuka Research and Planning Group, LLC (contractor for MassDEP)	2
Moran Environmental Recovery (contractor for MassDEP)	2
TOTAL	25



Agency	Resource	Kind	Exercise Function
Hingham FD	MARINE 4 RHIB 18 ft	Vessel	
Hingham FD	Oil Spill Response Trailer	Equipment	Boom Deployment
Hingham PD/HM	MARINE 2 Safeboat 25 ft	Vessel	
Hingham PD/HM	MARINE 1 Safeboat 33 ft	Vessel	
Hull FD	MARINE 1 RHIB 22 ft	Vessel	
Hull FD	MARINE 5 RHIB 12 ft	Vessel	
Hull FD	Oil Spill Response Trailer	Equipment	Boom Deployment Support
Hull HM FD	HARBORMASTER 1 Parker 25 ft	Vessel	Safety Vessel

APPENDIX C: PARTICIPANT FEEDBACK

Limited participant feedback received following this field exercise. The table below contains the feedback that was received, with this feedback being overwhelmingly positive.

The objectives were clearly explained and the exercise met those objectives.	The materials appropriately challenged me and the pace of instruction was correct.	The instructor(s) did an excellent job.	I found the classroom to be a comfortable learning environment.	I feel more prepared to respond to an oil spill than I did before this exercise.
5 - Strongly agree	5 - Strongly agree	5 - Strongly agree	5 - Strongly agree	5 - Strongly agree
5 - Strongly agree	5 - Strongly agree	5 - Strongly agree	5 - Strongly agree	5 - Strongly agree
5 - Strongly agree	5 - Strongly agree	5 - Strongly agree	5 - Strongly agree	5 - Strongly agree
5 - Strongly agree	5 - Strongly agree	5 - Strongly agree	5 - Strongly agree	5 - Strongly agree