



First Responder Training and Geographic Response Strategy (GRS) Testing Exercise Series – Revere/Saugus

After-Action Report/Improvement Plan

May 11, 2023

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	2023 Revere/Saugus FR Exercise
Exercise Date	May 11, 2023
Scope	This was a full-scale exercise planned for approximately six hours at Vitale Park in Saugus and upon the waters of Saugus River. Exercise play was limited to Saugus River and the adjacent shorelines.
Mission Area(s)	Prevention, Protection, Response
Capabilities	Environmental Response/Health and Safety, Operational Coordination, Operational Communications
Objectives	<p>Objective 1: Demonstrate the ability of local first responders to conduct initial response activities within the first 4-6 hours of an oil spill incident by deploying MassDEP oil spill response equipment and implementing common Geographic Response Strategy (GRS) tactics in alignment with the MassDEP GRS Tactics Guide.</p> <p>Objective 2: Demonstrate the ability of local first responders to establish and maintain command and control in the first 4-6 hours of an oil spill incident response by identifying relative health and safety hazards, developing an initial response organization, and communicating response objectives, strategies, and tactics through the completion of an Incident Briefing form (ICS 201) and the facilitation of an Operations and Safety Briefing.</p> <p>Objective 3: Demonstrate the ability of local first responders to effectively communicate information and actions between multiple local, state, and federal agencies within the first 4-6 hours of an oil spill incident by identifying a common UHF or VHF radio channel that can be utilized by all participants.</p>
Threat or Hazard	Discharge of oil into a navigable waterway
Scenario	An oil spill has occurred that threatens Saugus River and the adjacent shorelines. The Revere and Saugus Fire Departments will utilize various Geographic Response Strategy (GRS) tactics to protect sensitive resources in Green Harbor and the surrounding area.
Sponsor	Massachusetts Department of Environmental Protection (MassDEP)
Participating Organizations	<p>Participating organizations included:</p> <ul style="list-style-type: none"> • Revere Fire Department • Saugus Fire Department • MassDEP • U.S. Coast Guard Sector Boston • Moran Environmental Recovery (MER) • Nuka Research <p>Note: See Appendix B for participant count</p>
Point of Contact	<p>Julie Hutcheson, Marine Oil Spill Prevention & Response Program Coordinator Massachusetts Department of Environmental Protection Oil Spill Prevention and Response Program 100 Cambridge St., Suite 900 Boston, MA 02114 (617) 366-7424 julie.hutcheson@mass.gov</p>

Participants practice tossing heaving line



Participants practice setting up a shoreside anchor system



Photos courtesy of Nuka Research & Planning Group

Participants practice connecting sections of boom



Incident Commander facilitates a Safety and Operations brief



Photos courtesy of Nuka Research & Planning Group

EXECUTIVE SUMMARY

Exercise Planning

In preparation for the Revere/Saugus exercise, both an Initial and Final Planning Meeting (IPM/FPM) were held with members of the Exercise Planning Team (EPT), which was comprised of personnel from each of the participating organizations listed in the Exercise Overview section.

Based on general direction provided by the EPT, and the overarching exercise scope and objectives mentioned above, the following deployment plans were developed:

- Complete deployment drills 1-5, as seen in **Figure 1** below

Exercise Conduct

Upon arrival at the deployment site on the day of the exercise, exercise controllers and senior participant personnel conducted a pre-deployment site survey to identify any limitations or obstructions that may impact the deployment plan outlined above. The following factors are typically observed and evaluated during this process:

- Wind speed and direction
- Tidal conditions, water depth, current speed and direction, and other water flow patterns
- Vessel traffic, mooring field density, and other deployment area limitations or obstructions

Based on the results of this site survey, the following limiting conditions were noted, leading to modifications to the initial deployment plan:

- Boating traffic in the vicinity of the deployment location impacts the feasibility of vessels towing boom from the Vitale Park pier

As a modification to the initial deployment, the following deployment activities were completed:

- Tow 200 ft of boom from the boat ramp near Tom's Bait & Tackle and deploy a cascading diversion (DV) configuration from a shoreside anchor point north of the Vitale Park pier



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	Ratings
Demonstrate the ability of local first responders to conduct initial response activities within the first 4-6 hours of an oil spill incident by deploying MassDEP oil spill response equipment and implementing common Geographic Response Strategy (GRS) tactics in alignment with the MassDEP GRS Tactics Guide.	Environmental Response Health and Safety	S
Demonstrate the ability of local first responders to establish and maintain command and control in the first 4-6 hours of an oil spill incident response by identifying relative health and safety hazards, developing an initial response organization, and communicating response objectives, strategies, and tactics through the completion of an Incident Briefing form (ICS 201) and the facilitation of an Operations and Safety Briefing.	Operational Coordination	P
Demonstrate the ability of local first responders to effectively communicate information and actions between multiple local, state, and federal agencies within the first 4-6 hours of an oil spill incident by identifying a common UHF or VHF radio channel that can be utilized by all participants.	Operational Communications	P
<p>Ratings Definitions:</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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).</p>		

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.

Objective 1: Demonstrate the ability of local first responders to conduct initial response activities within the first 4-6 hours of an oil spill incident by deploying MassDEP oil spill response equipment and implementing common Geographic Response Strategy (GRS) tactics in alignment with the MassDEP GRS Tactics Guide.

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

Capability 1: Environmental Response/Health and Safety

Strengths

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

Strength 1: Shoreside crews worked together to properly identify a shoreside anchor location that was above the high-water mark and in a location ideal for retrieval by an on-water vessel and at an angle sufficient for boom tactic deployment.

Strength 2: Vessel crews worked well together to relocate and tow boom from a more ideal location (a nearby boat ramp to the northwest of the deployment site) while avoiding local mooring fields and overcoming challenges related to vessel limitations and in areas with shallow water depths.

Areas for Improvement

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

Area for Improvement 1: Vessel limitations impacted the efficiency of towing and boom deployment operations.

Reference: MassDEP GRS Tactics Guide

Analysis: On several occasions, it was observed that vessel crews struggled towing boom a long distance due to insufficient horsepower. This resulted in the need for a third vessel (safety vessel) to assist with maneuvering boom to the appropriate deployment site to complete the diversion array. This added effort created longer delays impacting the ability of vessel crews to deploy and test additional booming tactics in a timely manner.

Objective 2: Demonstrate the ability of local first responders to establish and maintain command and control in the first 4-6 hours of an oil spill incident response by identifying relative health and safety hazards, developing an initial response organization, and communicating response objectives, strategies, and tactics through the completion of an Incident Briefing form (ICS 201) and the facilitation of an Operations and Safety Briefing.

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

Capability 2: Operational Coordination

Strengths

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

Strength 1: Command Staff worked well to identify local hazards and obstructions impacting exercise operations and effectively developed and coordinated modified boom deployment tactics and strategies with all other exercise participants.

Strength 2: Command Staff appropriately assigned roles and responsibilities to each participant.

Strength 3: Vessel and shoreside crews worked well together to coordinate the deployment of modified deployment tactics and strategies and overcame several vessel-related challenges to effectively deploy the cascading diversion array.

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

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

Capability 3: Operational Communications

Strengths

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

Strength 1: Participants from all agencies coordinated prior to on-water deployment to determine the appropriate radio frequencies, then utilized radios appropriately to communicate deployment tactics and adjustments.

Vessel crews towing boom to the shoreside anchoring site



Participants from the shore-side strike team prepare line to attach one end of boom to the shoreside anchor system



Vessel crews begin towing boom to the deployment site



Participants monitor deployed boom as vessel crews reposition marine anchors



Photos courtesy of Nuka Research & Planning Group

APPENDIX A: IMPROVEMENT PLAN

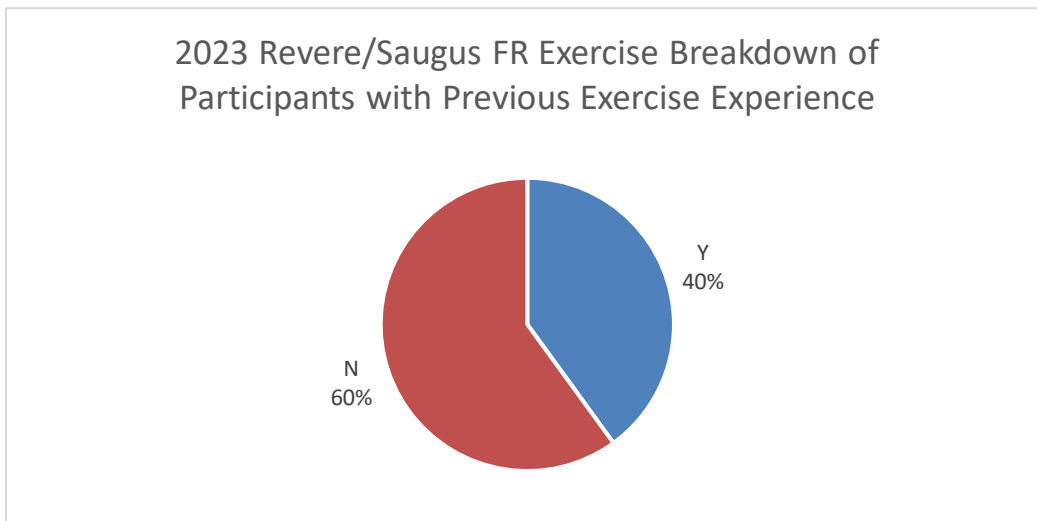
This IP is developed specifically for MassDEP, MER, Nuka Research and the Cities of Revere and Saugus as a result of the MassDEP GRS Testing and First Responder Training Exercise conducted on 11-May-23

Capability	Issue/Area for Improvement	Corrective Action	Capability Element ¹	Primary Responsible Organization
Capability 1: Environmental Response	Vessel limitations impacted the efficiency of towing and boom deployment operations	Exercise Final Planning Meeting (FPM) facilitators verify that all participating organizations plan to mobilize and utilize vessels with at least 150 horsepower	Equipment/Systems	Fire Departments and Harbormasters

¹ Capability Elements are: Planning, Organization and Leadership, Personnel, Equipment and Systems, Training, or Exercise

APPENDIX B: PARTICIPANTS & RESOURCES

Participating Organizations	
Town of Revere, MA	Participant Count
Revere Fire Department	17
Town of Saugus, MA	
Saugus Fire Department	17
TOTAL TOWN/CITY PARTICIPANTS	35
Federal	
United States Coast Guard Sector Boston	4
State	
Massachusetts Department of Environmental Protection (MassDEP)	2
Nuka Research and Planning Group, LLC (contractor for MassDEP)	3
Moran Environmental Recovery (contractor for MassDEP)	2
TOTAL	46

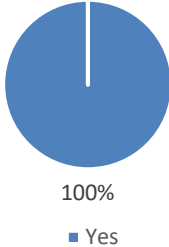
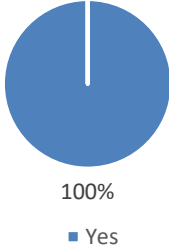
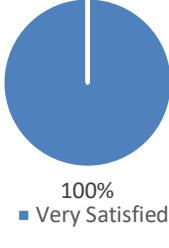


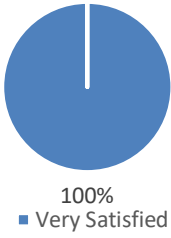
List of Resources			
Agency	Resource	Kind	Exercise Function
Revere FD	24' Utility boat	Vessel	Safety
Revere FD	12' Zodiac	Vessel	Boom deployment
Saugus FD	12' Zodiac	Vessel	Boom deployment
Revere FD	Oil spill response trailer	Trailer	Deployment/Demo
Saugus FD	Oil spill response trailer	Trailer	Demo

APPENDIX C: PARTICIPANT FEEDBACK

Participants are encouraged to provide their feedback at the conclusion of each exercise by completing a participant feedback survey provided through Google Forms. The first two yes/no questions, as seen below, gather feedback from participants on the perceived success and effectiveness of the exercise. The following two questions use a satisfaction scale (Very Satisfied, Satisfied, Neutral, Unsatisfied, Very Unsatisfied) to gather feedback on each participant’s level of satisfaction with the course and the training experience.

In some instances, participating exercise towns/cities may opt for the online delivery of classroom training materials. In these instances, exercise participants will be provided with an online curriculum feedback survey. Online feedback survey questions and their associated feedback are also included in this section if applicable.

Question	Results		Comments
Do you have a better understanding of spill response techniques and tactics than you did before this training?	 <p>100% ■ Yes</p>		<ul style="list-style-type: none"> Need more planning between classroom session and practical training
Do you feel more prepared to respond to an oil spill than you did before this exercise?	 <p>100% ■ Yes</p>		<ul style="list-style-type: none"> Need more frequent training opportunities
Please rank your overall satisfaction with the structure and length of this training.	 <p>100% ■ Very Satisfied</p>		

Question	Results		Comments				
How would you rate your overall learning experience?		 <p>A pie chart with a single blue slice representing 100% of the data. The text '100%' is centered above the chart, and a legend below it shows a blue square next to the text 'Very Satisfied'.</p> <table border="1"><thead><tr><th>Category</th><th>Percentage</th></tr></thead><tbody><tr><td>Very Satisfied</td><td>100%</td></tr></tbody></table>	Category	Percentage	Very Satisfied	100%	
Category	Percentage						
Very Satisfied	100%						