MassDEP Geographic Response Plan – 2019 Lower Danvers River (MHB-01) Exercise

After Action Report

May 7, 2019

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.

Rev. April 2013
HSEEP-IP01

EXERCISE OVERVIEW

Exercise Name	2019 Danvers River (NS-23) Exercise
Exercise Date	May 7, 2019
Scope	This exercise was a Full-Scale Exercise, planned for approximately six hours in Salem, MA and upon the waters of the Danvers River. Exercise play was limited to McCabe Park, the Danvers River and the adjacent shoreline.
Mission Area(s)	Response
Core Capabilities	Environmental Response/Health and Safety, Operational Coordination, Operational Communications.
Objectives	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. 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 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 VHF and UHF communications.
Threat or Hazard	Discharge of oil into a navigable waterway
Scenario	An oil spill has occurred that threatens the Danvers River in the vicinity of McCabe Park. The Danvers and Salem Fire Departments and Harbormaster staffs will utilize GRP NS-23 to deploy boom to protect sensitive resources in the Danvers River near McCabe Park.
Sponsor	Massachusetts Department of Environmental Protection (MassDEP).

Participating Organizations

Participating organizations will include:

- Danvers Fire Department (DFD)
- Danvers Harbormaster (DHM)
- Salem Fire Department (SFD)
- Salem Harbormaster (SHM)
- MassDEP
- 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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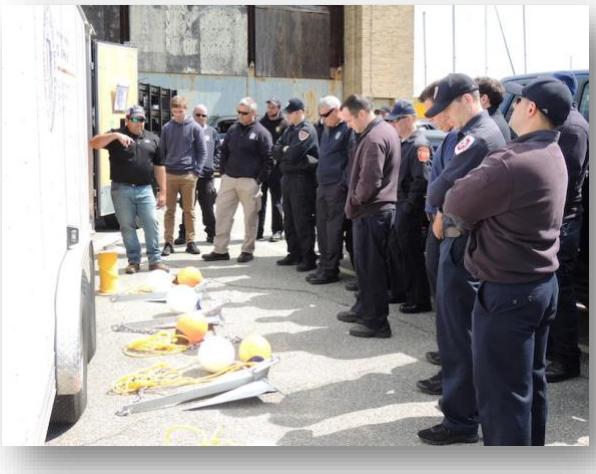
John Duponte of Moran Environmental Services provides an overview of trailer equipment to First Responders prior to the field exercise



The Salem Harbormaster conducts an Operations Brief prior to the on-water equipment deployment

Photos courtesy of Nuka Research & Planning Group

Figure 1. Danvers River GRP (NS-23)

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 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 harbormaster 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

Core Capability	Organizational Capability Target	Associated Critical Tasks	Observation Notes
Environmental Response/ Health and Safety	**Overview of Response Equipment**	• Access Mass DEP Trailer • Identify boom and sorbents • Connect boom together • Connect towing bridle to boom • Connect components of anchor system together	• **Performed Without Challenges (P)** • All operations conducted in a safe manner. • All equipment was readily available in both trailers. • Participation by the Danvers and Salem Fire Departments and Harbormaster staffs was excellent and they worked well together. • Hands on training at multiple stations was very effective and continues to garner praise from participants for its effectiveness.
	Basic Booming Operations	• Transport and tow boom. • Anchoring and Connecting boom to shore • *Safe* vessel and crew operations. (Refer to ICS-208)	• **Performed Without Challenges (P)** • Staging, preparation, and deployment of boom both from the trailer and from the dock went very well with no delays or confusion. • Anchoring requirements were quickly determined once on-scene and anchor systems were configured and set-up quickly and efficiently. • Boom towing and anchoring were conducted safely. Boat crews quickly altered their towing configurations, changing from a bow to a stern tow at one point) based on the need for more control and pulling power. • Safety Officer did an outstanding job of monitoring and ensuring overall situational awareness and site safety.
	Implement Tactics in GRP	Diversion Boom (DV-02c)	• **Performed Without Challenges (P)** • The DV-02c GRP tactic was quickly and successfully deployed in the configuration depicted in the current GRP and without modification. Peat moss was then deployed as an oil surrogate near the upstream end of the diversion boom array but due to the predominantly southerly breeze, and the state of the tide, the surrogate was driven past the upstream end of the boom. Had the surrogate been dropped closer to the boom configuration and farther to the west, it would have encountered the boom and allowed participants to observe whether or not this configuration (under these conditions) would have effectively diverted oil to shore. This was not attributed to specific error on anyone's part but merely a miscalculation. **Recommendation**: Based on general observations of the configuration as deployed and local knowledge of current speed and general flow conditions in this area, recommendations were made to increase the length of the DV-02c to 600 ft, deploy this 600 ft diversion array from the end of the floating dock (instead of terminating at the shoreline) in an easterly direction toward the overhead power cable tower located at the north side of the Route 1A bridge and railroad bridge in Beverly, MA and clearly visible from McCabe Park (also marked on NOAA Chart 13276). Additional boom (100 ft) should be placed along the floating

			dock toward shore to collect and direct oil toward a shoreside collection point, effectively making this a 700 ft diversion strategy with shoreside recovery at the base off the McCabe Park floating dock and boat ramp.
Operational Coordination	**Create and Execute an Assignment List (ICS 201)**	• Fill out ICS 201 • Assignments in ICS 201 are followed and on-scene adjustments. • Participants demonstrate command and control of exercise	• **Performed without Challenges (P)** • IC and SO effectively controlled exercise. Strike teams were well organized and effectively carried out assigned tasks. • Large-scale printout of the GRP was extremely useful to the IC during the exercise. • Coordination between municipalities and inter agency was effective.
Operational Communications	**Effectively Communicate Using VHF equipment**	• Create Communications Plan • Communicate with other participants using organic VHF equipment	• **Performed without Challenges (P)** • The established communications plan was followed and communications, using VHF Channel 12 and voice communications when appropriate, were clear, concise, and timely throughout the exercise. No hardware or infrastructure issues encountered.

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: Participation by the Danvers and Salem Fire Departments and Harbormaster staffs were excellent and they worked well together.

Strength 2: Hands on training at multiple stations was very effective and continues to garner praise from participants for its effectiveness.

Strength 3: Anchoring requirements were quickly determined once on-scene and anchor systems were configured and set-up quickly and efficiently. Boom towing and anchoring were conducted safely. Boat crews quickly altered their towing configurations, changing from a bow to a stern tow at one point based on the need for more control and pulling power.

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

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 and Safety Officer effectively controlled the exercise. Strike teams were well organized and effectively carried out assigned tasks.

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

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 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: The established communications plan was followed and communications, using VHF Channel 12 and voice communications when appropriate, were clear, concise, and timely throughout the exercise. No hardware or infrastructure issues encountered.

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

Danvers and Salem First Responders deploy boom from the Salem oil spill response trailer

Photo courtesy of Nuka Research & Planning Group

Danvers Harbormaster personnel prepare diversion boom for towing

Photo courtesy of Nuka Research & Planning Group

Danvers and Salem First Responders deploy diversion boom from the McCabe Park dock

Salem Harbormaster personnel deploy peat moss as an oil surrogate to test the final configuration of the diversion strategy.

Photos courtesy of Nuka Research & Planning Group

APPENDIX A: IMPROVEMENT PLAN

This IP has been developed specifically for the municipalities of Danvers and Salem following the MassDEP GRP Exercise conducted on May 7, 2019.

Core Capability	Issue/Area for Improvement	Corrective Action	Capability Element[1]	Primary Responsible Organization	Organization POC	Start Date	Completion Date
Core Capability 1: Environmental Response/Health and Safety	Revise NS-23 GRP	Modify the DV-01 tactic from a 400 ft single leg array to a 600 ft single leg configuration with an additional 100 ft length along the pier at McCabe Park (for a total of 700 ft).	Planning	Nuka Research	Mike Popovich	06/01/19	12/31/19
Core Capability 2: Operational Coordination	None	None	N/A	N/A	N/A	N/A	N/A
Core Capability 3: Operational Communications	None	None	N/A	N/A	N/A	N/A	N/A

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

APPENDIX B: EXERCISE PARTICIPANTS

Participating Organizations	
Town of Danvers, MA	**Participant Count**
Danvers Fire Department	5
Danvers Harbormaster	5
Town of Salem, MA	
Salem Fire Department	9
Salem Harbormaster	4
TOWN PARTICIPANTS	**23**
Federal	
United States Coast Guard (USCG)	2
State	
Massachusetts Department of Environmental Protection (MassDEP)	1
Nuka Research and Planning Group, LLC (contractor for MassDEP)	3
Moran Environmental Recovery (contractor for MassDEP)	2
TOTAL	**31**

APPENDIX C: EXERCISE EVALUATION FORM

MassDEP
Geographic Response Plan (GRP)
Exercise and Testing Program

Participant Feedback Form

1 Strongly disagree	2 Mildly disagree	3 Neutral	4 Mildly agree	5 Strongly agree

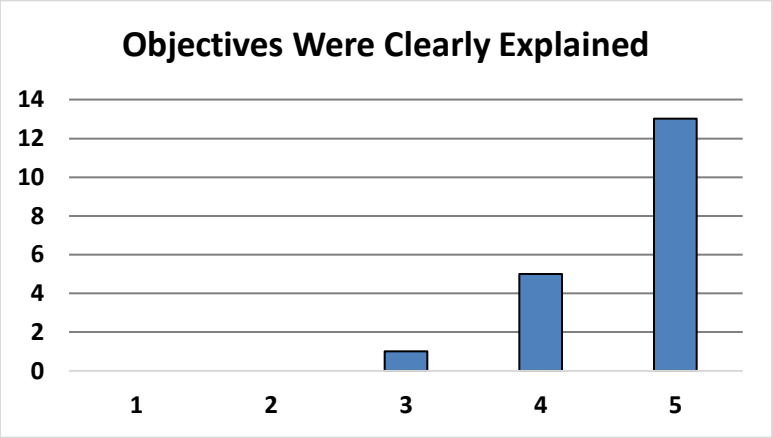
Please use the above rating scale to answer the questions for each of the following topics.

The objectives were clearly explained and the exercise met those objectives.	**1 2 3 4 5**
Comments:	
The material appropriately challenged me and the pace of instruction was correct.	**1 2 3 4 5**
Comments:	
The instructor(s) did an excellent job.	**1 2 3 4 5**
Comments:	
I found the classroom to be a comfortable learning environment.	**1 2 3 4 5**
Comments:	
I feel more prepared to respond to an oil spill than I did before this exercise.	**1 2 3 4 5**
Comments:	
The best thing about this training was_____.	
This training could have been improved by _____.	

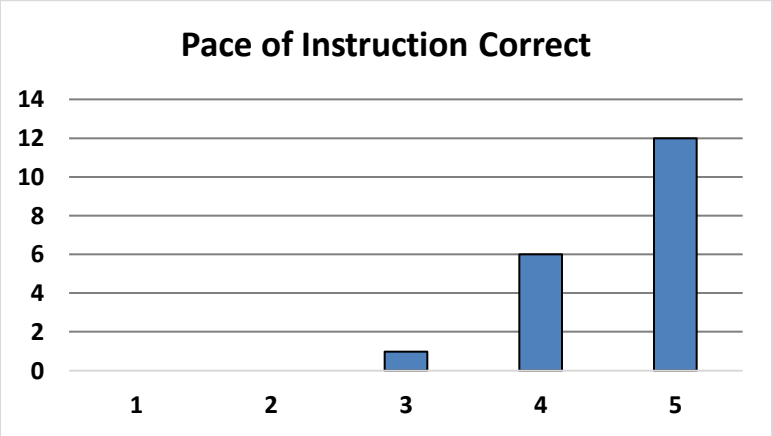
Please use the back of the sheet if you need more room for comments.

(Rev 2016)

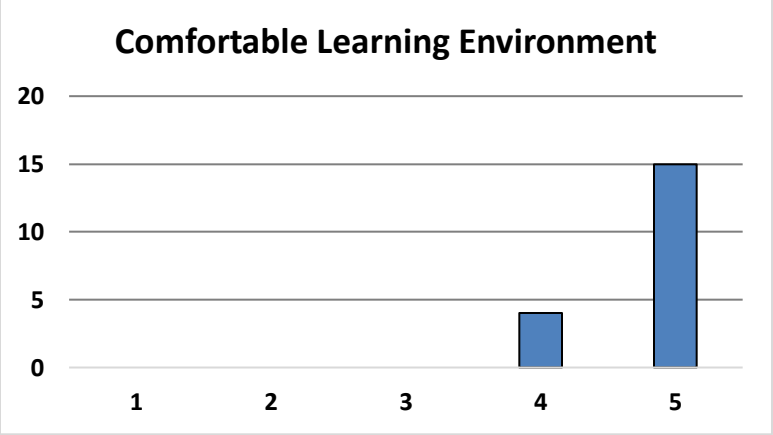
Student Feedback Summary



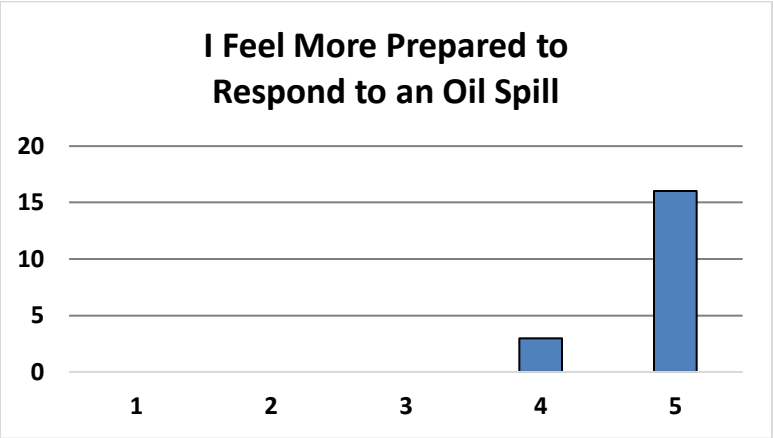
Comments:
"Exercise on water could have gone smoother", "did not trap 'oil' (peat moss)", "knowledgeable staff; past experiences and lessons learned could be told", "Objectives were clearly stated at start of program"



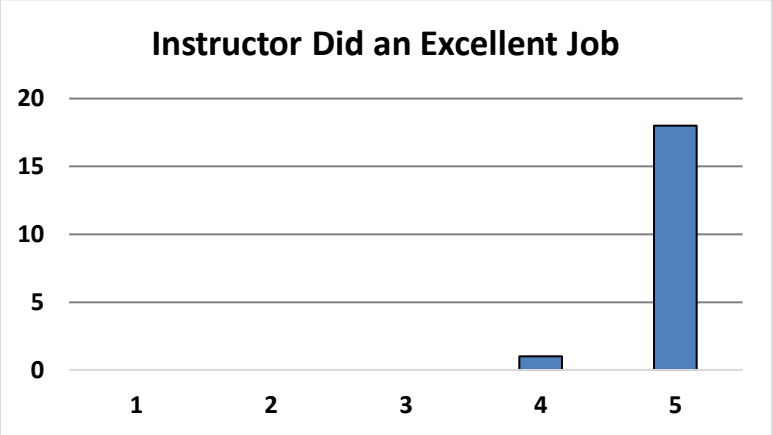
Comments:
"Pace was sometimes slow"



Comments: None



Comments:
"Yes, seeing is believing"



Comments:
"Very knowledgeable and presented well", "I liked the 4 breakout groups, helpful", "Instructors were enthusiastic and knowledgeable", "Explained very well"

The best thing about this training was…
"Hands on/application", "Becoming familiar with the equipment, which doesn't get used much", "Practical application", "Practical water event", "Practical operation", "Different procedures", "Hands on section", "Practical application", "strengthening a weak area of knowledge", "communication", "hands on interactive portion", "hands on training", "hands on time", "working on water", "the on-water training",

This training could be improved by…. "More time spent on the practical exercise", "Better luck", "Limited expectation. We have more equipment to accomplish task", "During the practical there were too many chiefs. Assigned roles were not followed and I applied little to nothing. Instructors and material was great", "better time management", "larger amount of instructors to provide greater participation", "accuracy for peat moss drop".