



MassDEP Geographic Response Plan – 2014 Upper Merrimack River (NS-01) Exercise

November 17, 2014

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

| | |
|--------------------------|--|
| Exercise Name | 2014 Upper Merrimack River (NS-01) GRP Exercise |
| Exercise Dates | October 21, 2014 |
| Scope | This exercise is a Full Scale Exercise, planned for approximately six hours in Amesbury, MA and upon the waters of the Merrimack and Powow Rivers. Exercise play is limited to the Merrimack and Powow Rivers and adjacent shoreline. |
| Mission Area(s) | Response |
| Core 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 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 204) 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> |
| Threat or Hazard | Discharge of oil into a navigable waterway |
| Scenario | An oil spill has occurred in the Merrimack River near the confluence of the Powow River and is migrating east toward Newburyport and Salisbury. The Amesbury, Newbury, Newburyport, and Salisbury Fire Departments and the Amesbury, Newburyport and Salisbury Harbormasters will utilize GRP NS-01 to deploy protective booming to protect sensitive resources in and near the Merrimack and Powow Rivers in the vicinity of the Amesbury Boat Ramp. |
| Sponsor | Massachusetts Department of Environmental Protection. Program funds will be utilized for first responder backfill and overtime costs. |

**Participating
Organizations**

Participating organizations included:

- Amesbury Fire Department (AFD)
- Amesbury Harbormaster
- Newbury Fire Department (NFD)
- Newburyport Fire Department (NPFDD)
- Newburyport Harbormaster (NPHM)
- Salisbury Fire Department (SFD)
- Salisbury Harbormaster (SHM)
- MassDEP
- U.S. Coast Guard Sector Boston (USCG)
- U.S. EPA Region 1
- Massachusetts Bays Program (Mass. Coastal Zone Management)
- 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>Ratings Definitions:</p> <ul style="list-style-type: none"> 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 | | | | | |

| Objective | Core Capability | Performed without Challenges (P) | Performed with Some Challenges (S) | Performed with Major Challenges (M) | Unable to be Performed (U) |
|---|-----------------|----------------------------------|------------------------------------|-------------------------------------|----------------------------|
| <p>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"> 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 | <ul style="list-style-type: none"> Access Mass DEP Trailer Identify boom and sorbents Connect boom together Connect towing bridle to boom Connect components of anchor system together | <ul style="list-style-type: none"> Classroom training was excellent. Performed without Challenges (P) All skills successfully demonstrated during exercise. Excellent Training from MER. Full participation by students in demonstration portion of the instruction. Area for Improvement: Would be useful to have demo ASTM connectors for students. Area for Improvement: Would be useful to use small sections of line for students to tie their own knots for practice. |
| | Basic Booming Operations | <ul style="list-style-type: none"> Transport and tow boom. <i>Critical Task:</i> Anchoring and Connecting boom to shore <i>Critical Task:</i> Safe vessel and crew operations. (Refer to ICS-208) | <p>Performed Without Challenges (P)</p> <ul style="list-style-type: none"> All boat crews effectively worked together, towing and controlling boom deployment. Some safety issues when skiff was deploying exclusion boom as person on bow got caught between the line and the rail of the boat. Shore teams were excellent, used rebar and existing structures to anchor boom to shore. They were able to quickly/safely disconnect boom from shore to allow the skiff to get out from behind the boom in the Powow River. |
| | Implement Tactics in GRP | <ul style="list-style-type: none"> Deploy Exclusion Boom Tactic Deploy Deflection Boom Tactic Deploy Diversion Boom Tactic | <p>Performed Without Challenges (P)</p> <p>Exclusion deployment</p> <ul style="list-style-type: none"> Boom deployed as discussed in briefing, Tactic proved to be successful. Planned adjustment to forego Chevron configuration as depicted in GRP and instead deploy boom in a straight line at the mouth of the river worked well. |

| Core Capability | Organizational Capability Target | Associated Critical Tasks | Observation Notes |
|-----------------------------------|--|--|--|
| | | | Diversion Deployment <ul style="list-style-type: none"> • Diversion boom was EXTREMELY successful in capturing simulant. • Boat crews worked well together to anchor boom among the moorings. Configuration had to be adjusted and anchor moved further offshore but crew did that with skill. |
| Operational Coordination | Create and Execute An Assignment List (ICS 204) | <ul style="list-style-type: none"> • Fill out ICS 204 • Assignments in ICS 204 are followed and on-scene adjustments. • Participants demonstrate command and control of exercise | <ul style="list-style-type: none"> • Team make up well defined. • Enough personnel to complete assignments |
| Operational Communications | Effectively Communicate Using UHF and VHF equipment | <ul style="list-style-type: none"> • Create Communications Plan • Communicate with other participants using organic UHF equipment • Communicate with other participants using organic VHF equipment | Performed without Challenges (P) <ul style="list-style-type: none"> • Communications interoperability between departments was seamless. VHF equipment was used effectively. • Strong comms between shore and water crews. • UHF Equipment not utilized |

Table 2. EEG Summary

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 (Amesbury, Newbury, Newburyport, and Salisbury Fire Departments and the Amesbury, Newburyport and Salisbury Harbormasters, MassDEP, USCG) worked together to accomplish goal

Strength 2: All participants conducted the deployment safely.

Areas for Improvement

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

Area for Improvement 1: Having demonstration ASTM connectors for students would facilitate training by allowing students to have hands on participation in a shorter time.

Reference: Massachusetts Geographic Response Plan Tactics Guide

Analysis: Demonstration equipment does not exist.

Area for Improvement 2: Would be useful to use small sections of line for students to tie their own knots for practice.

Reference: Massachusetts Geographic Response Plan Tactics Guide

Analysis: Demonstration equipment does not exist.

Objective 2: 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 2: Operational Coordination

Strengths

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

Strength 1: 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 to report.

Analysis: N/A

Core Capability 3: Operational Communications

Strengths

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

Strength 1: Communications interoperability between departments was seamless. VHF channel 17 was used effectively with all equipment working properly.

Strength 2: Strong communication between shore and water crews.

Areas for Improvement

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

Area for Improvement 1: None to report.

Analysis: N/A

APPENDIX A: IMPROVEMENT PLAN

This IP has been developed specifically for MassDEP and the Towns of Amesbury, Newbury, Newburyport and Salisbury following the MassDEP Upper Merrimack River (NS-01) GRP Exercise conducted on October 21, 2014.

| 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 | 1. Having demonstration ASTM connectors for students would facilitate training by allowing students to have hands on participation in a shorter time. | Either purchase connectors from manufacturer, if possible, or harvest connectors from decommissioned boom for training purposes. | Equipment | MassDEP | Steve Mahoney | | |
| Core Capability 1: Environmental Response/Health and Safety | 2. Would be useful to use small sections of line for students to practice tying knots. | Provide small sections of line for students to use for knot tying practice. | Equipment | MassDEP | Steve Mahoney | | |

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

APPENDIX B: EXERCISE PARTICIPANTS

| Participating Organizations | |
|--|-------------------|
| Federal | Participant Count |
| United States Coast Guard Sector Boston (USCG) | 5 |
| United States Environmental Protection Agency | 1 |
| 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 |
| Massachusetts Bays Program (Mass. Coastal Zone Management) | 1 |
| Town of Amesbury, MA | |
| Amesbury Fire Department | 4 |
| Amesbury Harbormaster | 1 |
| Town of Newbury, MA | |
| Newbury Fire Department | 2 |
| Town of Newburyport, MA | |
| Newburyport Fire Department | 7 |
| Newburyport Harbormaster | 4 |
| Town of Salisbury, MA | |
| Salisbury Fire Department | 2 |
| Salisbury Harbormaster | 6 |
| TOTAL | 40 |

APPENDIX C: EXERCISE EVALUATION FORM

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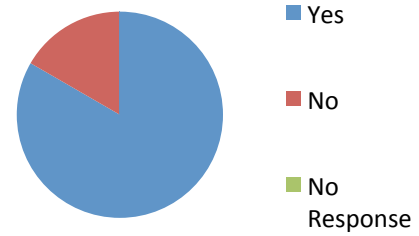
Massachusetts DEP 2014 North Shore GRP Exercise – PARTICIPANT EVALUATION

| | | | |
|---|--|-------------------------------|----|
| Amesbury/Newbury/Newburyport/Salisbury – Upper Merrimack River GRP Exercise | | Exercise date: 21OCT14 | |
| Instructions to Participants: Complete this form based on your observations of the GRP exercise. | | | |
| Evaluator Name: | | Evaluator Organization: | |
| What was your role in exercise? (responder, observer, facilitator, 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 Amesbury Boat Ramp Staging Area worked for deploying and demobilizing boom from the trailer for this deployment: <input type="checkbox"/> Ideal staging area for boom for this tactic. <input type="checkbox"/> Sufficient as a staging area for boom for this tactic. <input type="checkbox"/> Not sufficient 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**

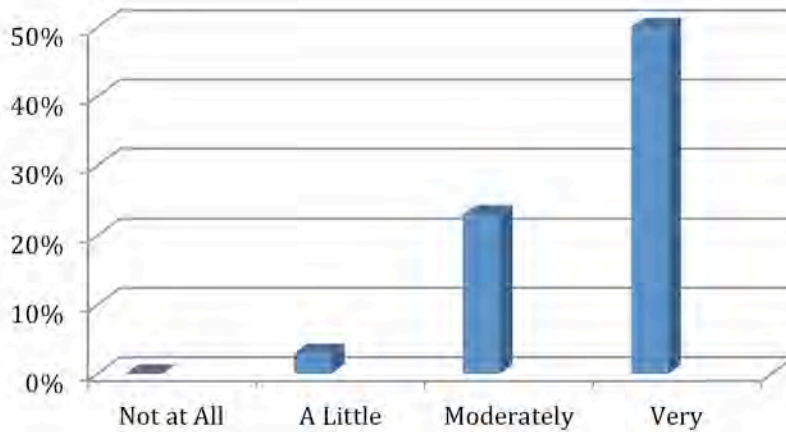
| | Yes | No |
|--|------|-----|
| Prior Oil Spill Experience | 81% | 19% |
| More Prepared after Exercise | 100% | 0% |
| Better Understanding of Deploying Spill Response Tactics | 100% | 0% |
| Participate in Future GRP Deployments | 100% | 0% |
| Field Objectives Clearly Explained and/or Met | 100% | 0% |

Prior Spill Experience



31 Respondents

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



Amesbury Boat Ramp as Staging Area

