



MassDEP Geographic Response Plan – 2019 Rock Harbor (CI-04)/Eastham GRP Exercise

After Action Report
October 15, 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.

EXERCISE OVERVIEW

Exercise Name	2019 Rock Harbor (CI-04)/Eastham GRP Exercise
Exercise Date	October 15, 2019
Scope	This exercise was a Full-Scale Exercise, planned for approximately six hours in Eastham, MA and upon the waters of Rock Harbor. Exercise play was limited to Rock Harbor and the 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 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, harbormasters, 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 Rock Harbor and the surrounding area. The Eastham and Orleans Fire Departments and Harbormaster staffs will utilize standard Massachusetts GRP booming tactics to protect sensitive resources in the vicinity of Rock Harbor and the surrounding area.
Sponsor	Massachusetts Department of Environmental Protection (MassDEP).

Participating Organizations

Participating organizations will include:

- Eastham Fire Department (EFD)
- Eastham Harbormaster (EHM)
- Eastham DPW (DPW)
- Orleans Fire Department (OFD)
- Orleans Harbormaster (OHM)
- MassDEP
- U.S. Coast Guard Sector Southeastern New England (USCG)
- Moran Environmental Recovery (MER)
- Nuka Research and Planning Group, LLC (Nuka Research)

Note: See Appendix B for participant count

Point of Contact

Julie Hutcheson, Oil Spill Program Coordinator
Massachusetts Department of Environmental Protection
Oil Spill Prevention and Response Program
1 Winter St.
Boston, MA 02108
(617) 556-1191
julie.hutcheson@state.ma.us

Orleans Fire Department personnel participate in hands-on anchor system set-up training



Participants prepare equipment for on-water deployment



Photos courtesy of Nuka Research & Planning Group

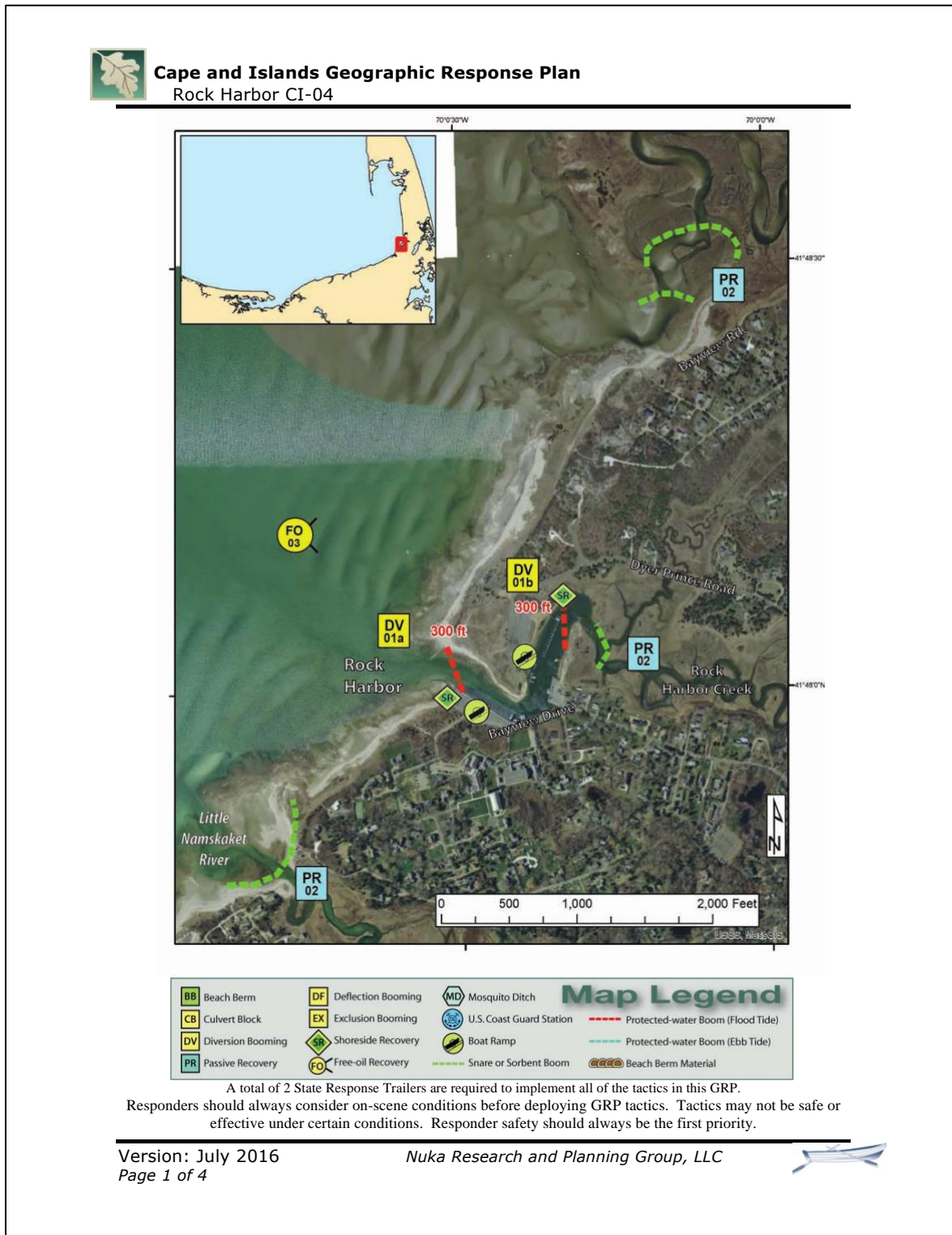


Figure 1. Rock Harbor GRP (CI-04)



Figure 2. Exercise Tactics Map

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: <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 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	<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"> Performed Without Challenges (P) All equipment was readily available in both trailers. Participation during hands-on training at multiple stations was excellent.
	Basic Booming Operations	<ul style="list-style-type: none"> Transport and tow boom. Anchoring and Connecting boom to shore Safe vessel and crew operations. (Refer to ICS-208) 	<ul style="list-style-type: none"> Performed Without Challenges (P) Anchoring requirements were initially determined once on-scene, anchor systems were configured and set-up quickly and efficiently, and adjustments to on-water anchoring including the addition of a marine anchor were quickly made during the deployment Boom towing and anchoring were conducted safely. Safety practices for working around the water were followed despite the missing PFDs. Boat operators were able to maneuver successfully during boom deployment despite narrow operating area between floating docks and vessels in harbor.
	Implement Tactics in GRP	<ul style="list-style-type: none"> Deploy and test modified DV-01b strategy at mouth of Rock Harbor Creek. Deploy containment around a vessel at the dock. 	<ul style="list-style-type: none"> Performed Without Challenges (P) Based on previous test of DV-01b strategy (2016) the deployment location was shifted eastward to avoid pier and vessel obstructions (see Figure 2). The actual deployment configuration ended up as a single-leg and this proved an effective configuration despite the inability to test with an oil surrogate. While the strategy was successfully deployed, testing its efficacy using an oil surrogate (peat moss) could not be completed as the tide had shifted (flood to ebb) by the time the boom was deployed and secured. Deployment of boom around a vessel at a dock was safely and effectively performed.
Operational Coordination	Create and Execute an Assignment List (ICS 201)	<ul style="list-style-type: none"> Fill out ICS 201 Assignments in ICS 201 are followed and on-scene adjustments. Participants demonstrate command and control of exercise 	<ul style="list-style-type: none"> Performed Without Challenges (P) The IC clearly outlined an intended operations plan and personnel assignments were made for shoreside and vessel teams. Coordination between shoreside and vessel teams was good.

Core Capability	Organizational Capability Target	Associated Critical Tasks	Observation Notes
Operational Communications	Effectively Communicate Using VHF equipment	<ul style="list-style-type: none"> Create Communications Plan Communicate with other participants using organic VHF equipment 	<ul style="list-style-type: none"> Performed without Challenges (P) The established communications plan was followed and communications, using both UHF frequencies and VHF Channel 12 as well as voice communications when appropriate, were clear, concise, and timely throughout the exercise. Barnstable County Sheriff's office Emergency Communications Center (S-39 vehicle) was on-scene to provide both UHF/VHF cross-patching support as well as provided drone coverage. No hardware or infrastructure issues were 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 and coordination by the Eastham and Orleans Fire Departments and Harbormaster staffs was excellent and all departments worked well together.

Strength 2: Participation during hands-on training at multiple stations was excellent.

Strength 3: • Deployment and testing of a modified DV-01b strategy at mouth of Rock Harbor Creek was successful. Based on previous test of DV-01b strategy (2016) the deployment location was shifted eastward to avoid pier and vessel obstructions (see Figure 2). The actual deployment configuration ended up as a single-leg and this proved an effective configuration despite the inability to test with an oil surrogate.

Strength 4: Boom towing and anchoring were conducted safely. Multiple boat crews were able to deploy both a diversion boom strategy and containment boom around a docked vessel; both near the mouth of Rock Harbor Creek.

Areas for Improvement

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

Area for Improvement 1: While the modified DV-01b strategy was successfully deployed, testing its efficacy using an oil surrogate (peat moss) could not be completed as the tide had shifted (flood to ebb) by the time the boom was deployed and secured.

Reference: Exercise Plan

Analysis: On-water deployment operations did not commence early enough before high tide to allow for testing of the exclusion boom strategy with an oil surrogate. Exercise planners should allow for more time in the schedule to conduct all other exercise training elements and deployment preparation while still allowing ample time to conduct on-water deployment and oil surrogate testing.

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: Overall operational coordination between exercise players was effective and well communicated.

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, harbor masters, 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 both UHF frequencies and VHF Channel 12 as well as voice communications when appropriate, were clear, concise, and timely throughout the exercise. Barnstable County Sheriff's office Emergency Communications Center (S-39 vehicle) was on-scene to provide both UHF/VHF cross-patching support as well as provided drone coverage. No hardware or infrastructure issues were 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

Eastham Harbormaster deploys exclusion boom at mouth of Rock Harbor Creek



Photo courtesy of Nuka Research & Planning Group

Shore teams secure boom on south shore of Rock Harbor.



Photo courtesy of Nuka Research & Planning Group

Eastham DNR personnel prepare to deploy anchor



Containment boom around a docked vessel successfully deployed



Photos courtesy of Nuka Research & Planning Group

APPENDIX A: IMPROVEMENT PLAN

This IP has been developed specifically for the municipalities of Eastham and Orleans following the MassDEP GRP Exercise conducted on October 15, 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	Update existing DV-01b strategy on GRP CI-04	Modify existing DV-01b strategy to mirror the 250 ft configuration deployed east of all floating docks closer to mouth of Rock Harbor Creek during exercise.	Equipment	Nuka Research	Mike Popovich	11/01/19	12/31/20
	Testing of deployed strategy using an oil surrogate (peat moss) could not be completed due to tide shift (flood to ebb).	Exercise planners must schedule exercises on favorable tide days to allow ample time for on-water deployment and oil surrogate testing prior to tide changes.	Planning	Nuka Research	Mike Popovich	01/01/20	12/31/20

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

APPENDIX B: EXERCISE PARTICIPANTS

Participating Organizations	
Town of Eastham, MA	Participant Count
Eastham Fire Department	6
Eastham DNR/Harbormaster	3
Eastham DPW	2
Town of Orleans, MA	
Orleans Fire Department	6
Orleans Harbormaster	2
TOWN PARTICIPANTS	19
Federal	
United States Coast Guard	2
State	
Massachusetts Department of Environmental Protection (MassDEP)	1
Nuka Research and Planning Group, LLC (contractor for MassDEP)	2
Moran Environmental Recovery (contractor for MassDEP)	2
TOTAL	26

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

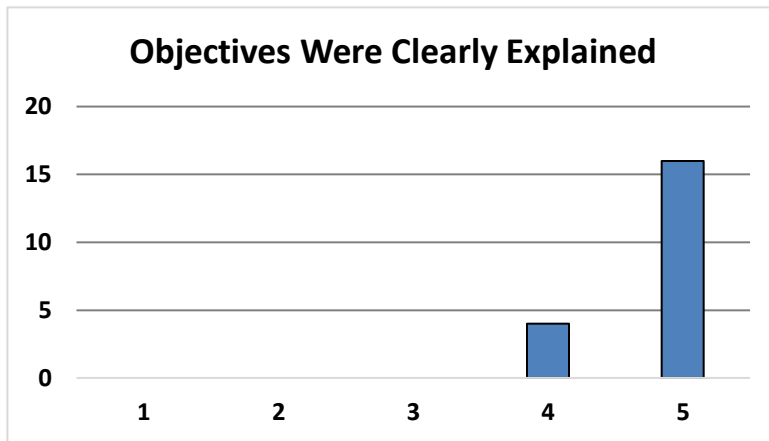
The objectives were clearly explained and the exercise met those objectives.	1 2 3 4 5
Comments:	
The material appropriately challenged me and the pace of instruction was correct.	1 2 3 4 5
Comments:	
The instructor(s) did an excellent job.	1 2 3 4 5
Comments:	
I found the classroom to be a comfortable 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.

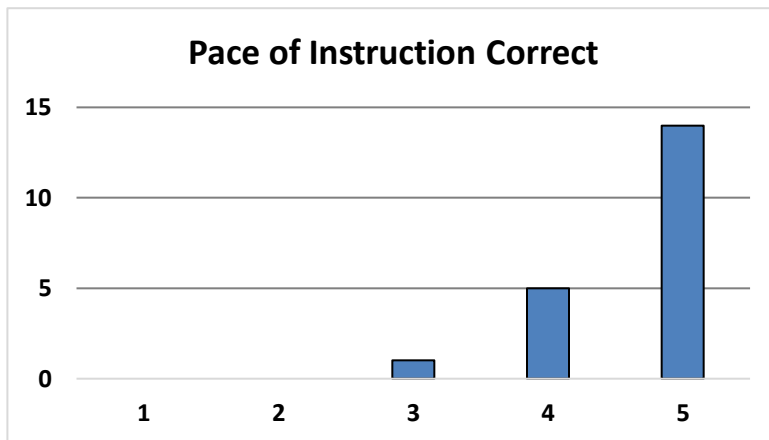
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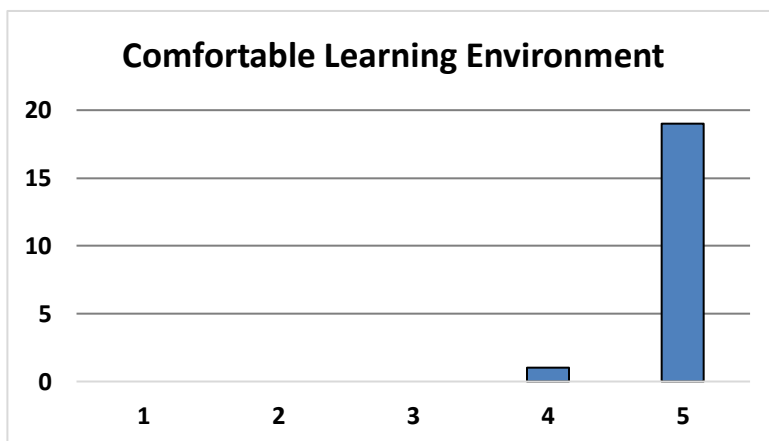
Student Feedback Summary



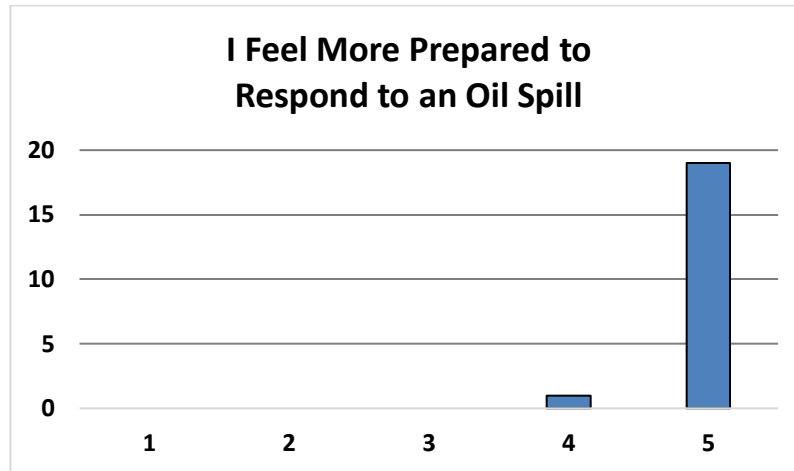
Comments: Great pic (referring to Tactics Map)



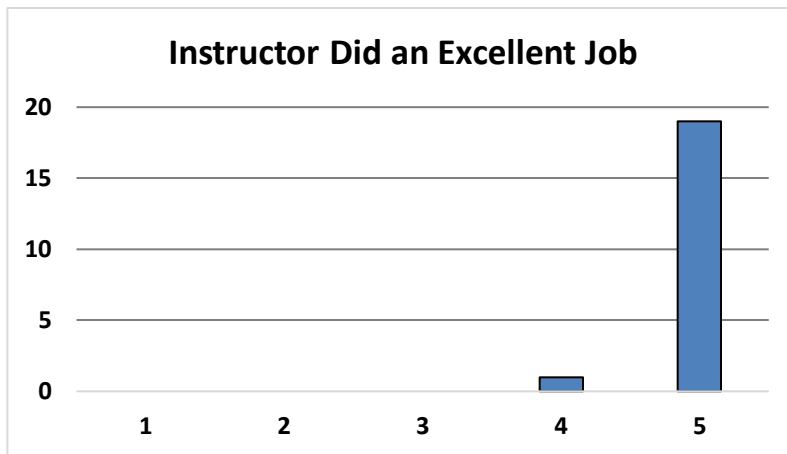
Comments: Great refresher; Excellent



Comments: Offer a bathroom break 1/2 way through; clean & clear-great Powerpoint



Comments: None



Comments: S/ow & decisive delivery

The best thing about this training was...

"Putting classroom info into practice the evolution; hands on (x3); th hands-on experience with equipment; the hands-on training; field exercise; training and using equipment; info in classroom; operations"

This training could be improved by...

"Tide was slack. Would have been more challenging otherwise; less tide movement; bigger area - more challenges"