Maritime Security: Joint Service Training and Development of Operational Tactics

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ABSTRACT
Response to Maritime Security threats and incidents requires swift, coordinated and flawlessly executed operations. Threats to ports, facilities and vessels include chemical-biological-radiological agents, weapons of mass destruction, improvised explosive devices, armed raids, or a combination of all.

Deterring these threats, or minimizing their impact, depends on timely and accurate intelligence followed by efficient and rapid transport and delivery of properly trained and equipped response teams. Meeting this goal requires detailed joint service training operations between the US Coast Guard, US Army Civil Assist Teams, Merchant Marine, State Response Teams and other US Military units.

New approaches to joint service and inter-agency training is the key to success and requires examination of key elements, such as terminology, physical fitness, small boat operations, vessel and helicopter transfer of personnel and equipment, communications, ocean survival, small arms, personal protective equipment, and vessel construction.

To assist in development of executable response plans Maine Maritime Academy is the Training Ship State Of Maine, R/V Friendship, and tug Pentagoet, and rubber inflatable boats (RIB) to conduct training with the US Coast Guard, US Coast Guard Auxiliary, US Army National Guard Civil Assist Teams, and civilian response teams. These evolutions are producing efficient and effective protocols and procedures for responding to the wide range of vessel and port facility threats.

1. Introduction

Protecting our ports, waterways, marine facilities and vessels from threats and attack is crucial for survival of our governments and societies. Accomplishing this goal requires aggressive and innovative planning and response procedures.

Sun Tzu in the art of war lists six principles: a) win all without fighting, b) avoid strength, attach weakness, c) use deception and foreknowledge, d) use speed and preparation, e) shape the enemy, f) use character-based leadership. Terrorists and criminals who threaten maritime assets use these principles, and so to prevent their success those responsible for protection of vessels, ports and facilities must respond in kind, adhering to the same principles.

A modern application of Sun Tzu is found in Mr. Jeff Cooper's book, "*Principles of Personal Defense"* which presents seven principles for protecting oneself; a) alertness, b) decisiveness, c) aggressiveness, d) speed, e) coolness, f) ruthlessness, g) surprise. Cooper succinctly says we should turn fear into anger, and anger into indignation.

Additionally, military tactical training emphasises flexibility to adapt to changing environments, accepting chaos and uncertainty as constants, seizing the initiative and maintaining that initiative, preparing to act instinctively and the ability to adapt to any situation encountered.

Success for those involved in maritime security and response depends upon blending Sun-Tzu, Jeff Cooper and military tactics into a pro-active response force culture that observes, detects, analyzes and acts to prevent or diminish terrorist and criminal threats.

2. At Home On and In the Water

Personnel involved with maritime protection must be at home in and on the water. Water must not be viewed as an obstacle but as their home environment. By being at home with the marine environment, responders will better be able to predict, anticipate, detect and thwart problems. For example, only a diver can understand underwater operations, just as only a small boat coxswain can understand the skills needed to operate a boat, and an expert shooter can understand the importance of being sure of your target.

All maritime response personnel need to be trained in water skills such as swimming, use of immersion suits and personnel flotation devices and operation of survival equipment such as flares and liferafts. Personnel with these skills and knowledge will have increased confidence and be able to operate and survive during stressful operations. Maine Maritime Academy has provided extensive ocean operations training to the Maine U.S Army National Guard Civil Support Team whose mission is response to threats and incidents involving chemical-biological-radiological agents and weapons of mass destruction. These highly trained teams exist in each State, but most have little or no maritime training, which is essential for effective response to regions with coastlines and inland waters. During four days of training for Maine's Civil Support Team we provided daily physical fitness training, use of immersion suits, personal flotation devices, liferafts, and small boats. We taught skills first in a daylight environment and then used a blackened pool to simulate night where we conducted underwater swims, and egress from an restricted enclosure (Figures 1, 2, 3)

Figure 1. US Army Civil Support Team learning ocean survival skills at Maine Maritime Academy, March 2004.

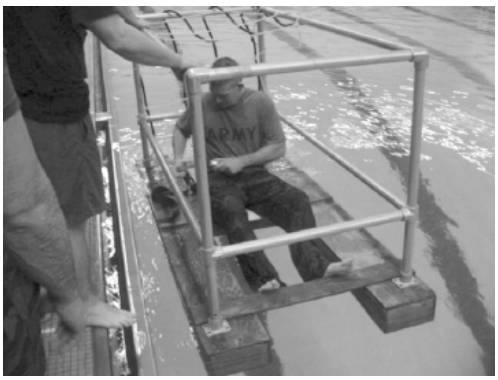

Figure 2. US Army Civil Support Team learning underwater egress skills at Maine Maritime Academy as part of their Ocean Operations Training, March 2004

Figure 3. U.S. Army Civil Support Team personnel perfecting underwater swimming and use of ocean survival equipment in a blacked out pool at Maine Maritime Academy during four days of ocean operations training in March 2004.

Once skills were learned in a pool environment, the same skills were executed in open water. Water temperatures in Maine range from highs of 50º F (10ºC) in the summer to 32ºF (0º C) in the winter. In March 2004, when the most recent training occurred, water temperature was near 40º F (4.4ºC). US Army personnel were required to jump into the water from a height of 15 ft wearing immersion suits. This skill was incorporated into a ship insertion exercise and was not announced, in order to create some anxiety and teach adaptability under stressful conditions (Figure 4.)

Figure 4. US Army Civil Support Soldiers entering 40º F (4.4 º C) ocean water during ship evacuation exercise as part of ocean operations training at Maine Maritime Academy during March 2004.

3. Physical Fitness

Strong bodies and strong minds are needed when operating under stressful environmental and psychological conditions. Many, if not most, mariners and land based response personnel are not in adequate physical condition to meet the demands of emergency operations. As a society our standards of personal fitness have declined dramatically. This is reflected in the rise of obesity and obesity related problems.

Physical fitness is a vital component of response capability. Too much emphasis is often placed on technology and organizational structure, to the detriment of physical conditioning for response personnel. High physical fitness increases overall endurance, the ability to perform critical thinking under stress, to out-perform adversaries, and to regroup faster and more effectively.

Evaluating and increasing maritime response personnel physical conditioning is accomplished using the US Navy SEAL (Sea, Air and Land) standards. Minimum performance for entrance into U.S. Navy SEAL training is satisfactory performance of the following skills, which is also suitable for evaluating maritime response individuals:

> Swim 500 yds. (1/4 mile) in 12.5 minutes. Rest for 10 minutes.
> Do 42 pushups in two minutes. Rest for two minutes.
> Do 50 sit-ups in two minutes. Rest for two minutes.
> Do 8 pull-ups. Rest for 10 minutes.
> Run 1.5 miles in boots and pants in 11.5 minutes.

This level of performance may seem high, but in reality is a level that most males between the ages of 18-50 should be able to accomplish. Much of our society has become lacking in physical conditioning due to the obvious problems of overeating, lack of daily physical activity built into our lives, and lack of understanding on the true need and benefits of physical conditioning. Personnel who do not meet the SEAL standard described above respond quickly to a rigorous daily PT program.

Figure 5. Maine Maritime Academy Midshipmen participating in US Navy SEAL PT regime during summer training cruise 2004. Increase in muscle strength and endurance increased dramatically within three weeks.

For example, students at Maine Maritime Academy who participated in a three times daily for 30 minutes PT program showed a remarkable increase in all areas of endurance and muscle strength after only 3 weeks of training (Figure 5.)

4. Small Arms Training

Use of small arms in maritime security requires training quite different from that often provided to land based law enforcement and security personnel. Transporting, carrying and effective use of small arms on vessels requires a solid understanding of munitions-what type of rounds will not ricochet off steel decks-how to carry a weapon up a pilots ladder, and how to tactically sweep enclosed ship spaces. Identifying and acquiring targets from and to a moving boat is an acquired skill. Whether response personnel carry or do not carry small arms they should be trained in their tactical use in order to understand the issues and concerns involved (Figure 6.)

Figure 6. Small arms training and confidence is an essential skill for all personnel trained for response to maritime security incidents. Small arms and the authorized us of deadly force are elements of a successful training program.

5. Communications

Vessels, ports and facilities use a wide range of communications systems, from cell phones to VHF to UHF radios. Shipboard noise, most often from machinery and deck equipment often preclude response personnel from engaging in verbal communications. As such, response personnel need to learn and use hand signals and standard response protocol to eliminate the perceived need for extensive and often distracting verbal communications. For example standard procedures for boarding a moving vessel from a rubber inflatable boat (RIB), without the use of verbal communications can be developed, as can procedures for securing bridges and engine main control spaces.

In addition, the extensive steel frames, longitudinal, hull plating and compart-mentalization of boats and ships often degrade or prevent the propagation of radio signals. Use of hand signals should be taught as standard procedure. Additionally, most response operations will involve use of small open boats, which are noisy and not suitable for receiving or sending verbal transmissions. Extensive verbal communications is often an indication of insufficient or poorly planned operations.

6. Maritime Terminology and Ship Plans

Often overlooked in response execution is an understanding of basic marine and shipboard terms. Most of us know how to describe and find our way around a hotel or office building, and likewise maritime responders need to have a solid understanding of cruise ships, tankers, military vessels and the like. Skill of how to locate and read ship fire and security plans need to be learned by all response personnel. How to locate a vessels bridge, engine room main control, and steering gear should be taught. During training exercises with the US Coast Guard and US Army National Guard, we have emphasized the skills of locating, reading and following ships plans. (Figure 7.)

Figure 7. Crew from the T/S State Of Maine, US Army National Guard and US Coast Guard confer over ships fire plans prior to making an entry into the ships aft house during a drill to detect hazard chemical substance. Understanding ship plans and location of compartments is critical to execution of a successful operation.

7. Conclusion

Preparation and adequate response to maritime security threats and incidents requires highly trained and pro-active personnel, who are both physically and mentally sharp, can operate effectively in stressful and adverse environments and who can adapt to a rapidly evolving physical and psychological environment. An in-depth understanding of ships nomenclature, construction, security systems, boarding procedures, use of small arms, ocean survival skills, bridge and engine room controls, and self defense techniques as well as superior physical conditioning are necessary. Through the coordinated training of US Coast Guard, shoreside security, and US military personnel, a seamless and highly effective vessel, port and facility security system will work.

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BIOGRAPHY

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