

Maritime security: training, drills and exercises (*inherent value*)

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Abstract

ISPS and MTSA mandates changed the operational structure of all Maritime assets. The Maritime world is forging ahead with the first requirements in place, instituted and implemented. Now we are at the critical juncture of applying the edicts in our Security Plans, aboard ships, at shore facilities, in regions and in countries. These edicts require specific training and certifications. Drills and exercises are required. I intend to show how these have been promulgated on a Maritime Training Vessel. In a teaching/learning environment we are always striving to find innovative ways to reinforce by actual practice the concepts we introduce in the classroom. I intend to show that this is a valid methodology for insuring the greatest possible retention of the precepts introduced. Varied and unique as it is, the training insures better retention in the minds of the students. Choosing unique partners to train with, using their assets, which are at times very high tech, beyond the cost capability of most maritime training institutions, has proven effective for Maine Maritime Academy and the Training Ship "State of Maine". The value is spread to and from students to all participants in the drills and exercises and the resultant training each receives is value added to all. There is "Inherent Value" in this methodology from which we can all benefit

Keywords: maritime security, vessel security plan, teaching, learning, drills and exercises, training partners, regional cooperation, USCG, National Guard, situational awareness.

1 Introduction

01 July 2004, a date which delineated the point in time that the entire Maritime World would be tasked to implement the mandates of the International Maritime Organization's (IMO), International Ship and Port Facility Security Code

(ISPS) [1]. Details of the mandate were adopted and published in the International Convention for the Safety of Life at Sea Convention (SOLAS), 1974 as amended, Chapter XI-2.

The key to the mandates was the following relative to vessels:

- Established a Vessel (ship) Security Officer;
- Established a Vessel Security Plan;
 - Required Training;
 - Required Exercises;
 - Required tests and inspections;
- Established a Tracking Document;
- Established a Vessel Security Certificate;
- Established certain equipment requirements;
- Instituted means by which to promulgate the training and issue the documentation.

It is the intent of this paper to discuss the methods used at Maine Maritime Academy, aboard the training ship “State of Maine”, to implement the mandates of ISPS, and in the United States the Federally mandated Maritime Transportation Security Act (MTSA) [2]. To clarify, MTSA, parallels the requirements of SOLAS, ISPS and applies to U.S. Vessels.

2 Chronology and implementation

2.1 The year 2003

IMO discussions relevant to the SOLAS amendments and ISPS were underway and material was being released as early as 2003. We were aware of some of the requirements being discussed and model courses being developed. However, we chose to implement some measures of training for our crew and students prior to the ship’s deployment in May of that year.

Accordingly, we sent 3 staff officers to the Military Sealift Command for Chemical, Biological, and Radiological Training. We followed that training with two faculty members attending a Department of Defence sponsored training program designed to train instructors to teach Anti-Terrorism, Force Protection. At that point we required the entire ship’s complement deploying for Cruise 2003 to take a training course (4 hours), which resulted in receipt of certification in Anti-terrorism, Force Protection. It should be noted that this course is not specifically intended for at sea deployments but rather it is intended for ALL members of an organization and or family. It is very much pertinent to a spouse shopping in a large market for daily sustenance as well as a student on shore leave in a big city. It teaches recognition of hazards and situational awareness.

During Cruise 2003 we refined our onboard security watches and awareness. Implementation of in port security measures was tested in Santa Cruz de Tenerife and Antwerp Belgium during that time. The in port implementation and subsequent adaptation was modelled on “lessons learned” [3].

During the fall and winter of 2003 into 2004 various personnel were trained in VSO, CSO and PFSO using the Model Courses developed by IMO. The

President of Maine Maritime Academy appointed CSO, VSO and FSO personnel.

2.2 The year 2004

The year 2004 found us deeply involved in assessing the vessel in preparation for writing and submitting our security plan; this was done by the vessel owner, The United States Department of Transportation, Maritime Administration. Maine Maritime Academy being in custody of the vessel and deemed its Operator was involved in the actual walkabout. Again in 2004 the previous year's pre-cruise instruction class and in port security was again offered and in fact required for all cruising personnel. During this cruise we also installed and implemented the mandated Automatic Information System (AIS) and Ship Silent Alarm System (SSAS). Returning from Cruise 2004 just prior to 1 July we found that MARAD had sent to us the required Ship Security Plan. Also following shortly was the Certificate of Security Compliance Certificate. A review of the received plan and a method to implement it was the subject of meetings between the VSO, CSO and other Security personnel along with Faculty and partnered experts in the field. During the winter of 2004 into spring 2005 the vessel security plan was amended and re-submitted for approval. A separate referenced section on SSAS was also submitted for approval.

2.3 The year 2005

Prior to Cruise 2005 in May, "State of Maine" received full approval of the amended plans and also received a new Certificate of Compliance based on an assessment by personnel of the U.S. Coast Guard from the Portland Maine Marine Safety Office. The Cruise 2005 found us implementing the training as we did prior to Cruises 2003 and 2004 and additionally implementing a system of access control and testing of our AIS and SSAS systems during the deployment. The simple but effective use of photo ID's and Bar Code Scanners played a dual role. It gave us instant knowledge of who was aboard and accurate control of those boarding, but also tended to significantly raise the entire security awareness situation in the minds of the students due to their continual use of this access control system; a benefit we had not envisioned prior to cruise.

3 Training (teaching)

3.1 Personnel (MMA population)

The MMA and Training Ship Population consists of the following types of personnel:

- Ship's Crew;
- Licensed Cruise Hires;
- Unlicensed Professional Cruise Hires;
- MMA Faculty and staff;
- Regimental staff;

- Dining Services Staff;
- Students.

3.2 Curriculum and training

Security Training is part of the curriculum in many academic courses at Maine Maritime Academy and because the ship is used as an alongside Lab for up to 10 months of the year the platform is always there requiring watches, maintenance and sometimes providing onboard berthing for students. Accordingly, it is integrated into the normal everyday life at MMA and plays an integral role in training our students, staff and faculty. Visitors to the ship also undergo security checks according to our vessel security plan and are therefore enlightened by the student watch-keepers as to what is required, while at the same time giving the students the opportunity to practise what they are learning.

In looking at the types of training and frequency of repeat training, we look carefully at the types of personnel listed above and endeavour to tailor the training to fit the group. In some instances individuals within a certain group may actually have security credentials in some fields. We try to match the individual, and his or her skills, to a segment of training if at all possible. The old adage of using the available resources certainly fits this instance and lends credibility to the teaching if it can be wound around a “sea story”.

3.3 At sea (cruising)

While deployed, all students aboard are assigned Security watches at sea and in Port. The upper-class students (2/C) aboard are normally put in charge of the underclass (4/C) students and the 4/C report to the 2/C. Overall the Midshipman Officer of the Deck (MOOD) is parallel to a ship licensed Mate and is in charge of the security detail.

Prior to arrival in a port the Midshipman Cadet Officer (Rate) who is designated Security, Safety and Compliance Officer will issue a set of instructions for the security detail, having had approval from the VSO and Master. This sets out any particular issues at the port. The Rate will also take part in any security briefings and Declaration of Security with Port Officials should the need arise.

4 Drills and tests

4.1 AIS

AIS is an integral part of our training during bridge watch evolutions. Status change and its importance are stressed. Recognizing false information strings and improper operational techniques is important and is taught to the student population.

The early mandate for AIS equipment and the rush to define its role and operation actually worked to the advantage of those teaching its use as there are a

few glitches that are seen pretty often in the information strings being sent out by ship's AIS.

EXAMPLE: A vessel entering St John Newfoundland with a Course Over Ground of about 270 degrees actually showed a ship's heading of 091 degrees; almost 180 degrees in error. The displayed icon in fact looked like it was backing into port and had the Speed Over Ground not been 17 knots that just might have been the case. Obviously the personnel on that ship's bridge had not checked the digital repeater that was sending heading information to the AIS.

Another opportunity arises when we find tankers "underway sailing". Unfortunately on most AIS units the scroll down menu for vessel status has "Underway, Sailing" at the top of the list and as most Mates "Sail" from every port, it is the logical first choice for them, when in fact, the correct choice "Underway using engines" is lower on the list and should have been the choice.

4.2 SSAS

SSAS is routinely tested; although the exact time and methods are not disclosed, the results are shared with the student population and they are aware that the shore side entities that are to respond to our alerts have, in fact, received the test message.

4.3 Bomb threat

Bomb threats, while deployed, may be easily tested as a drill by planting a "fake" box suitably labelled. This was actually done during cruise 2005 when two boxes were set out in locations about the ship. Bomb #1 was set in the path of the Security watchman making the rounds and we were fairly certain it would be readily discovered and the alert sounded. Bomb #2 was hidden so a search would have to be initiated and techniques for searching could be demonstrated and taught.

This is what actually happened, except that the officer in the space at the time it was discovered, instructed the watchman to take it up and toss it over the stern (it was planted in the steering gear room). Students do not always listen too closely and the student interpreted this to mean take it to the Engine Room Control Station and call the Bridge for permission to toss it overboard. Why he did not simply use the steering gear room phone is still a mystery to us, but this bomb, had it been real, would have been transported to perhaps the most vital area of the ship by one of OUR lads! Anyway, lessons are learned from that to be sure...the first of which is DON'T TOUCH IT!

5 Exercises

5.1 Cruise underway joint exercise

TS "State of Maine" conducted joint exercises with the U.S. Coast Guard and Maine Army National Guard Civil Support Team while underway in 2002. This exercise utilized the Air and Sea resources of the Coast Guard to accompany and

deploy the National Guard team to the vessel via Helo. The team then used sophisticated air sampling and analysis gear to sweep an area of the ship, download the data collected to a laptop computer and uplink the data through a portable GAN Satellite feed. The team was then extricated by Helo. Several vital lessons learned resulted from this exercise not the least of which was the difficulty of moving about narrow ship passageways while suited in full gear including breathing devices, which left very little room for the backpack sampling unit. Student participation in this exercise resulted in valuable security liaison as well as communications and Helo operations training.

5.2 Alongside joint exercise

An exercise designed to train for boarding a ship from a small vessel was conducted in late 2002 while TS “State of Maine” was moored to her berth. A Mobile lab was set up capable of sampling and analyzing solid and/or liquid substances. The team first boarded a reconnaissance team via the pilot ladder and after reconnoitring hailed the balance of the search team to board. Meanwhile, their delivery vessel was taken out of the picture by a simulated casualty. Finding, analyzing and communicating the bio-hazardous material the team then had to exit the vessel.

Partners in this exercise, the USCG and Maine Army National Guard, enlisted the help of the Coast Guard Auxiliary to supply a boat to replace the Coast Guard vessel. To further complicate the mission we deemed a member of the strike team to have slipped on a ladder and broken his leg. This required an innovative way to transfer him to the waiting auxiliary vessel. After securing the casualty in a “stokes” litter a lifeboat was lowered to the main deck and the litter transferred to the lifeboat. It was then used as an elevator to lower the litter to the waters edge where the litter could be easily transferred to the Auxiliary vessel. Lessons learned from this exercise were that the teams had to be adaptable to contingencies and to utilize the ship’s crew to assist in finding ways to help getting the tasks done in a safe and efficient manner. Backup plans and assets need to be in place and readily available.

5.3 State Police K-9

For several years prior to 9-11 the training ship had requested the use of Maine State Police Canine units to sweep the vessel for drugs prior to deploying for a cruise. We did this primarily as a deterrent and training exercise for the students. One thing that we found evident in our first sweep was that not all canines were happy or able to climb shipboard ladders. This forced the police handlers to sometimes carry their dogs up and down ladders. Of course, this was thought to be very funny and the handlers were the brunt of much joking from their fellow compatriots.

The State Police then asked if they could use the ship to train their units and we have been conducting such training ever since.

With 9-11, we immediately expanded this sweep of the ship to include bomb dogs as well as drug dogs. Training continues and the deterrent affect has been absolutely effective.

5.4 Area Maritime Security

Several opportunities have been available through our participation in Area Maritime Security initiatives. Vessels, personnel for casualties, planning and asset allocation have all been discussed, planned and at exercise time executed.

Additional exercise opportunities surface when an area exercise is close enough to warrant us elevating our MARSEC level because of the threat in the area. This is a real time “threat in the area” type drill that lasts for several hours and tests our ability to ramp up our security levels. Primarily involved are crew and students, however the entire community is impacted when our MARSEC level changes and certainly demonstrates to the community at large our readiness to react.

6 Summary (lessons learned)

Multiple opportunities arise in the real world of ship security within the ship’s plan itself and in the liaison with shore entities and their facility plans. MMA has made it a point to participate in exercises, drills and area events whenever possible. The decision has been a good one and our students are well prepared to recognize and deal with different levels of security, both procedurally and operationally.

6.1 Building Block Principle of learning

One precept that we adopted in our security training is that of the Building Block Principle [4]. Our student population cannot have open access to our security plan as that is specifically forbidden, nor would it make sense. However, by introducing them to various aspects of the plan and early training during their first year at MMA, means that they will get to practice real, on board security watches on their first cruise. During their transition to the real merchant fleet in the 2nd year they have a set of basic skills and training to take with them. They should be well prepared to participate in any shipboard security on any ship and at any facility.

The final two years at MMA, after cadet shipping, are spent participating in planning, executing and being in charge of a security detail. As upper class cadets they are in charge. They should be ready to react to any situation that may arise. Opportunities should arise for them to take part in a real ship security assessment. This task, and an audit which entails accompanying the U.S. Coast Guard inspector in the annual inspection, will mean the student, upon graduation and matriculation to the merchant fleet as Third Mate or Third Engineer, will have had four years of increasing involvement with Maritime Security.

Inherent value is built into the structure of the training program. It is an integral part of every step. Students learn best when they can relate to and see value in what they are doing. We have striven to make this program work and prosper. Results to date have been gratifying.

6.2 The next step

As we march on towards ISPS being integrated into STCW as a competency that must be assessed, we are positioning ourselves to restructure our training efforts to allow for periodic assessments. Because of our structure and the active participation of our students in all four years it will be an easy transition. Assessing the competency is the goal and we are developing the paperwork as this is being written.

Table 1: Student Security Training at MMA.

When	What	Remarks
1 st year at MMA	Force Protection / Anti-Terrorism	Course and training
1 st Cruise aboard TS STATE OF MAINE (TSSOM)	Watches & Audits	Assigned to Security detail
2 nd Year at MMA	Various security segments imbedded in courses	Academic
Cadet Shipping	Merchant Ship	As Directed and as part of a Sea Project
3 rd Year at MMA	Various security segments imbedded in courses. USCG Certificate of Inspection Self Inspection Program	Academic Included audits, drills and procedures in the SIP program of Maintenance.
2 nd Cruise aboard TSSOM	Security Detail	In charge and direct liaison with Midshipman Officer of the Deck, Ship's Watch Officer and possible shore side involvement with facility plan
4 th year at MMA	Various security segments imbedded in courses	Academic
Upper Class Cruise	Ship Security Officer Model Course	Classroom, filed exercises and competency assessment
All 4 years	Access Control	Introduction to and use of security cards, electronic data logging and accountability

6.3 Course certification

Maine Maritime Academy is proceeding to certify the Ship / Vessel Security Officer model course in two ways. First is to offer it as part of continuing education, and second is as incorporated in our curriculum as part of our normal STCW training. It is the intent that classroom and practical course work will take place aboard the training ship during cruises for all who are in the license officer program.

With the acceptance of a “Model Course” for Ship / Vessel Security Officer we are transitioning to provide the required course hours and involvement of all our students as shown in table 1.

6.4 Sample 2005 pre-cruise training

The pre-cruise training PowerPoint presentation in PDF format that was used in May of 2005 is attached as an addendum to this paper for those interested in seeing it.

References

- [1] Hesse, H. and Charalambous, N. New Security Measures for the International Shipping Community. *WMU Journal of Marine Affairs*, 2004, Vol 3, No 2, pp. 123–138.
- [2] Congress, U.S. Subchapter H of Title 33, Code of Federal Regulations, Title 46 Automatic Identification System.
- [3] Barth, Roland S., *Lessons Learned: Shaping Relationships and the Culture of the Workplace*. Corwin Press, Thousand Oaks. Pg 6.
- [4] Building Block Principle of Learning Example: Learning to Read. <http://ericec.org/principle.html>

