



GOVERNMENT OF BERMUDA

Ministry of Transport

Department of Maritime Administration

Assessment of Maritime Training and Certification in Egypt.

Visit August 2011.

Summary.

A major customer of the Bermuda Maritime Administration expressed a desire early in 2011 to accept Egyptian cadets. The client has looked at training in Egypt and come to the conclusion that the maritime academy at Alexandria may be an ideally located establishment with suitable standards where he can base his cadet training needs.

The Director of the Bermuda Maritime Administration established contact with the Maritime Academy and after examining the available information concluded that there were reasonable grounds on which to look more closely at the proposal. He travelled to Egypt in August 2011 and visited the Maritime Academy in Alexandria and held meetings with the Egyptian Maritime Safety Authority.

Both the Academy visits and the meetings with the Maritime Safety Authority revealed a system that is well thought out, in compliance with STCW requirements, with a robust examination and assessment process and based in a well equipped and staffed academy. It is recommended that Bermuda accept Egyptian certificates for the issue of Bermuda endorsements.



Overview.

The Arab Academy for Science, Technology and Maritime Transport (AASTMT) is located at Alexandria in Egypt. It is a project supported both by the Arab League countries as a regional centre and by the United Nations Development programme. Activities started in Alexandria in February 1972 and later moved to the present purpose built location on the outskirts of Alexandria. In 1979 a dedicated examination centre was created within the campus with support from the UN.

In 1994 the curriculums were revised to make the certificates granted equivalent in level to those issued by other Egyptian Universities in an effort to attract further students and be in a position to issue Bachelor's Degrees in Technology.

Japan provided, as a donation, the current training ship which is owned by the Government of Egypt and operated by AASTMT. Other support has come from the USA, for example, which provided a modern navigational simulator.

AASTMT is the sole maritime training facility in Egypt. It is certified to ISO 9001:2008 by DNV.

Facilities.

AASTMT is an institution with various faculties other than the specific maritime training faculties. All are located on a purpose built campus with accommodation for students on campus. Students on the maritime courses wear uniform for their first years and there is a degree of military style discipline in the activities. Courses at the maritime faculty are offered at all levels from basic STCW safety training to Master and Chief Engineer. Amongst the facilities are:

Fire fighting training unit.

This unit is located on campus and has a purpose built ship-like chamber with multiple decks and access points. It fully meets the specifications for fire fighting training in STCW and allows students to tackle real fires in enclosed environments with access through a variety of doors and hatches. Adjacent to it is an expansive fire ground where students can tackle real fires in trays with portable extinguishers and other equipment. There is also a helicopter mock-up in which students can exercise at tackling crashed helicopter fires as AASTMT also has a strong focus on offshore courses and many of the courses are certified by OPITO for offshore training. Alongside the fire ground is a teaching and equipment building which has rooms with, a sample CO2 total flooding system, a working sprinkler system, and a working fixed foam system. In each of these, fires can be set and the working and effectiveness of the actual systems demonstrated and seen.

Equipment is sufficient for the purposes and in reasonable condition. Courses to the level of advanced fire fighting are offered and an examination of the materials provided in the form of emergency plans, fire fighting plans, etc. all in English suggests that the overall standard is high.



Fire training mock-up.

Sea survival, lifeboat and related training.

Adjacent to the fire fighting unit is a large open air swimming pool with a range of facilities including:

- A davit launched totally enclosed lifeboat,
- Rescue boat,
- Fast rescue boat,
- Jumping platform,
- Helicopter crash simulator,
- Davit launched liferafts,
- Conventional liferafts.

Equipment provided includes lifejackets and immersion suits and the unit has all the necessary facilities to conduct basic sea survival training and the initial parts of lifeboat training and rescue boat training.

For the actual manoeuvring at sea parts of the lifeboat course and the rescue boat courses the Academy has access to the adjacent naval facility where there are suitable boats available to operate in real sea conditions. The equipment provided is in good condition and sufficient for the purpose. There was an opportunity to see some of the instructors demonstrating some of the course elements but unfortunately, there were no students in training at the time of the visit.



The facility is adequate to meet all the STCW requirements for this training and is approved to run OPITO approved training for the offshore industry. Updating training for instructors is conducted on a routine basis by SSI.



Part of the survival training centre with the main Academy buildings in the background.

First Aid and Medical Training.

This is offered at all the required STCW levels in conventional classrooms. Instructors are appropriately trained and provide with a good range of models and teaching aids.

GMDSS training simulator.

The Academy has a large PC based GMDSS training simulator with one real equipment station and a number of sample items of portable equipment such as SARTS and EPIRBS. The PC software is capable of simulating Furuno, Sailor and Sperry equipment and all the individual work stations link to the instructor console so that exercises are as “real life” as possible.

All exercises are in English.

Courses are normally 2 weeks with one week on theory and one week on the simulator equipment and assessment.

Assessments are in two parts, a written and practical assessment by the Academy and a separate assessment, which is also written and practical, by the Egyptian Maritime Safety Authority for the issue of a License.



Liquid Cargo handling.

The Academy has developed a speciality in tanker training, particularly with LNG, which is an area they are developing as a speciality. There is a comprehensive PC based simulator which can simulate LNG tanker (membrane tanks), LNG tanker (Moss system tanks), LPG tanker, Chemical tanker, and crude carrier. The simulator can also simulate the shore terminal operation in each type of operation making it very comprehensive. It has the capability to handle 12 students at a time – each in charge of an operation. The simulator is spread over two rooms so that either two separate courses of 6 or one course of 12 can operate simultaneously.

Course materials are in English and very comprehensive covering all the required material from the STCW Convention Chapter V. The simulator is capable of dealing with a wide variety of scenarios and operations and of simulating errors and faults at any stage. Comprehensive exercise scenarios are developed.

Courses normally run for 30 hours for both the tanker familiarisation courses and for the advanced courses. It is clear that LNG, in particular, has become something of a speciality at the Academy and there seems to be an excellent level of knowledge in this area. Staff are very aware of the changes coming with the Manila amendments to the STCW Convention and are taking steps to accommodate these changes.



Tanker training simulator. (6 work stations in this room and an additional 6 in the adjacent room.)



ECDIS and Electronic Navigational Systems.

The Academy has a purpose built full mission bridge simulator capable of simulating a variety of ship models and with data and charting for a range of geographical locations including the English Channel, Singapore straits, approaches to the Suez Canal etc. The unit is used for Bridge Team Management training as well as for essential ship handling and offers 360 degree external view with realistic scenery and other vessels, radar, ECDIS, full navigational aids suite as well as controllable tug interactions.

In the same building are two other simulators, one designed for modern tugs and one designed for high speed craft. Both offer essentially the same features but on a smaller scale and without the full 360 degree view.

Additionally there are a set of individual work stations with complete ECDIS simulation and radar where generic ECDIS courses, radar courses and electronic navigation courses and practical exercises can be conducted. The facilities meet all STCW requirements for radar simulators and provide an entirely suitable basis for generic ECDIS training.

Courses on ECDIS are normally run for 5 days and follow the IMO Model course.



Main bridge and navigation simulator.



Engineering workshops

For engineering students there is a comprehensive facility with laboratories and workshops including a large number of working examples of typical shipboard machinery. A diesel engine workshop has several large operational marine diesel engines on which students can undertake practical exercises.

Workshops are well equipped with lathes, welding sets and other appropriate equipment to allow adequate practical exercises to complement theory.



Diesel Engine workshop



Theory training

For both engineering students and deck students there are a large number of classrooms. During the visit there was an opportunity to visit some of them and it is clear that there is a good supply of teaching material and examples as well as adequate teaching tools in the form of overhead projectors, computers, screens, displays and other materials.

Entry to the Academy and arrangement of training.

There is still a high demand for places at the Academy and something like 1000 applicants make application each year. Fewer than half this number is selected.

To gain entry students are required to have a High School certificate, pass an entrance examination, pass an English language test, satisfy an interview panel, and pass the set medical fitness and physical fitness examinations. Students must pass a medical on entry, pass a further medical during training, and another before being eligible for the final examinations for a certificate of competency. Medicals are conducted only in a small number of Government Authorised hospitals to standards set by the Government.

On admission as either deck or engineering cadets students embark on the programme of training set out for each. Training is split into 8 semesters over a four year programme including sea service in either the training ship or in commercial ships when this can be arranged.

Students stay at the Academy for the first 4 semesters completing all the necessary early theory work for their certificate and completing the STCW basic training. Semesters 5 and 6 are spent at sea and semesters 7 and 8 are back at the Academy.

Successful students achieve a Bachelor of Technology degree as well as their OOW certificate of competency.

Teaching.

Unfortunately the visit was undertaken during August which is normally a holiday time and also coincided with Ramadan this year and so there were fewer students than normal in attendance. However there were some on-going classes and it was possible to sit in on a couple of classroom sessions. All were in English and the standard of teaching and presentation seemed to be entirely appropriate for the student attainment level.

The opportunity was taken whenever possible to speak to students and all were easily able to respond in English and able to demonstrate a good knowledge of what they were learning.



All the teaching staff are highly qualified and many have attended the WMU while others have attended courses in other locations.

On the basis of the lecture notes, discussions with various teachers, sample examination of student course work, and the opportunity to see some classes in action, it is concluded that the standard of teaching is entirely appropriate for the various levels.

In course assessments.

For each subject there is a mid semester written assessment and a final subject assessment at the end of the semester. The opportunity was taken to examine a sample range of question papers and student answer scripts from a representative set of subjects from the 3rd Semester, 4th semester and 8th Semester. The question papers are either in English or in dual Arabic / English. Many students for these examinations answer in English. The question papers are short, generally with 8 to 10 questions and a requirement to answer 8 normally in 2 hours, but they are well divided up into parts with a requirement to answer a number of questions from each part where appropriate so that it is not possible to miss out on key subject areas. A pass in both parts is required in these cases. The pass mark is set universally at 50%. Typically each paper has one multiple choice question and the remainder are conventional written questions with a requirement to produce a calculation, diagram and explanatory text as appropriate.

For each paper there is a model answer and marking scheme. Marking appears to be quite rigorous. Wherever marked student scripts were examined it was found that the marking was fair but not over generous.

Overall it is concluded that the facilities available, the staff, the standards of teaching, and the standards of assessment are entirely acceptable, in line with STCW requirements and appropriate to the levels being targeted.

Training ship.

The Academy operates the training ship Aida IV. This vessel was purpose built for training and is the vessel that most students obtain their sea service time aboard. She is 87.7 m in length at 3000 GT and classed with NK. She has two Yanmar 4-stroke medium speed diesel main engines giving her a service speed of 14 knots. She is certified for 273 persons and equipped with 4 davit launched enclosed lifeboats, rescue boats, and davit launched rafts. The bridge has a large area aft on the same deck where the key bridge instruments are duplicated and which operates as a classroom when students are on board.



In the engine room, the layout is arranged to permit numbers of students to see and participate in engine maintenance as well as in the daily watchkeeping routines associated with running the plant.

She operates as a lighthouse and buoy tender in the Eastern Mediterranean and in the Red Sea and through the Academy's contacts with the Arab League countries used to be operated on regular voyages to the whole Red Sea and Persian Gulfs area. Since the difficulties off Somalia and the unrest in Syria her trading areas have been curtailed a little. In service she delivers stores and equipment to lighthouses and services buoys throughout her operating range. For this she has two heavy workboats on the foredeck launched and recovered with davits as well as a hydraulic crane. While she does not carry cargo for reward, she does have a forward cargo hold for lighthouse stores and equipment, and the operations of the vessel mandate a considerable involvement in seamanship operations.

The Academy have always had difficulty in placing Egyptian cadets on merchant ships as the Egyptian fleet has declined and spaces are few and far between. They are now turning their attention to the international fleets to create opportunities for their students to gain sea service in a wider context. For the moment the majority of graduates will have served their qualifying sea service, to STCW requirements, on board the training ship.

During their time on board the training ship students follow a two part study programme very much like the UK student record book and are required to complete all parts before their return to the Academy.

Final examinations.

The Egyptian Maritime Safety Authority (EMSA) has delegated the conduct of final examinations for the Certificate of Competency to AASTMT and the Academy has a separate examination centre on campus where these examinations are held and records kept. The examination centre is closely monitored by the Maritime safety Authority and is subjected to a 6 monthly ISO audit by DNV. It operates as a separate semi-independent entity within the overall campus.

Examination questions are held on computer in question banks and the makeup of each paper is selected at random by the computer with a defined breakdown between questions on each topic. The student answer scripts are marked anonymously externally against a set marking scheme and a random sample from each sitting is reviewed by a committee made up from the Academy, Maritime Safety Authority, and the maritime Industry for content and marking.

During the visit it was possible to review a sample set of question papers and student scripts from the April 2011 set of exams drawn at random which included:



OOW stability	OOW(E) Electro tech
OOW celestial navigation	OOW(E) Engineering and maintenance
OOW Chartwork and navigation	2/E Diesel Engines
OOW cargo operations	2/E Electro tech
C/O Electricity and Compass	2/E Automation and control
C/O Business and Law	2/E Law and Management
C/O navigation	2/E Naval Architecture
C/O Stability	2/E Marine Engineering Knowledge
C/O cargo operations	

In each case it was possible to select a random answer script and check it. For the final examinations for Egyptian certificates national law requires that the question paper is in both Arabic and English and students are permitted to answer in either. Almost all the students elect to answer in Arabic, being their first language. However it was still possible to assess diagrams and calculations and match the scripts with the marking schemes.

The examinations for Master and Chief Engineer level are held as oral examinations in front of a selected panel of at least two persons. Typically the oral examination takes 45 minutes to 1 hour.

The pass mark for the final certificate examinations is 60%. Reviewing the results from recent examinations shows;

OOW deck	45% passed.
C/O	49% passed.
Master	62% passed.

These results suggest a rigorous marking and assessment scheme and this is borne out by the review of a set of random papers.

The only exception to the above process is the examination for seamanship including the COLREGS which is conducted as a computer based multiple choice assessment. The computer system brings up a random selection of questions and the students have 30 minutes to complete the test. The questions are presented as, written texts, diagrams, or illustrations. This examination may be taken in English or Arabic.

Overall it is concluded that the process and standards associated with the final assessments of students for the issue of Egyptian certificates of competency at all grades is acceptably rigorous and of a standard that is appropriate to the grade of certificate being issued.



Issue of certification.

Certificates are issued, revalidated and recorded at the examination centre. It should be noted that prior to 2011 the STCW format certificates did not show the radiocommunications function and Egyptian certificate holders have to carry the GMDSS qualification as a separate document. Since the beginning of 2011 this has changed, and function 7 “radiocommunications” is now shown at the operational level on all certificates where the holder has completed the GMDSS course.

Observations.

At the completion of the visit I was asked by the Egyptian Maritime Safety Authority if I had any observations. There is one point that I would make concerning the assessment of knowledge of the Collision Regulations. While the subject is well taught, the final examination is possibly shorter than ideal. The range of questions could be enlarged and while there are plenty of questions on recognition of lights and shapes there appeared to be fewer than might be ideal on making decisions based on that recognition. The decision to be made is dependent on identifying the vessel and I suggested that it would be a useful enhancement to expand the range of questions on topics that required an identification of the other vessel in order to make the question on of choosing the right action. There are some questions in this format but the impression given was that the number and range of these could be expanded.

Conclusions.

Overall it is concluded that the system of training, the facilities available, the standards being achieved, and the effectiveness of the assessments and of the monitoring by the Government Authority are suitable for the recognition of Egyptian certificates by Red Ensign members

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24th August 2011.