



XVIth IALA Conference Workshop Dalian Workshop on Aids to Navigation Training

Workshop Report

Executive Summary

A workshop on training in aids to navigation was held in Dalian, Peoples Republic of China, May 29-30, 2006, immediately following the XVIth IALA Conference.

The workshop was attended by 93 persons from 25 countries. During the workshop a number of presentations were provided by China, Hong Kong SAR, Vietnam and IALA. Delegates had an opportunity to indicate how training was addressed in their countries / areas of expertise. Opportunity for discussion identified a number of common challenges in providing aids to navigation training, as well as some possible solutions. In the course of the workshop the IALA World Wide Academy concept was presented.

The workshop included a technical tour of Liaoning VTS and the port of Dalian, where participants viewed VTS and training facilities and had an introduction to the IALA Learning Portal.



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Introduction

A workshop on the training of Aids to Navigation personnel was held at the Furama Hotel, Dalian, Peoples Republic of China. The workshop was attended by 93 delegates, including delegates from 25 countries.

The objective of the workshop was to identify and discuss the various approaches to training aids to navigation personnel. The two (2) day workshop provided presentations, discussions and demonstrations. A technical tour of Liaoning VTS and the port of Dalian, where participants viewed VTS and training facilities and had an introduction to the IALA Learning Portal.

The Programme of the Workshop is attached at Annex 1 and a list of the participants is given at Annex 2.

Session 1 – Identifying the need for aids to navigation training

Chairperson – Jin Shengli

Jin Shengli opened the session by stating that the port city of Dalian was regarded as the cradle for Chinese maritime education and that qualified mariners were essential for safe navigation. He added that IALA had played a big role in improving safety, by publishing recommendations, guidelines and manuals such as the NAVGUIDE and the VTS Manual. He noted that all aids to navigation authorities were facing new challenges in the digital age such as the training of personnel to deal with AIS and e-navigation.

Training of the professional talented persons of aids to navigation - Shang Chun yu Dalian Maritime University (DMU)

S Chun yu said that China MSA, though its five year plans for coastal navigation, provided for the training of qualified aids to navigation personnel. He then outlined the extensive and systematic program in navigation and aids to navigation engineering that was started at both the Dalian Naval Vessels College and Dalian Maritime University in the late 1980's.

In discussing future strategy, S Chun yu stated that the objective was to build an aids to navigation training system underpinned by an educational system that would offer more comprehensive training.

Defining the need for aids to navigation training in Vietnam – Hoang Hong Giang, Vietnam Maritime University (VIMARU)

Hoang Hong Giang presented the current situation and future objectives on training of aids of navigation. He pointed out the various streams of education and courses offered at the University. He added that number of students graduating from VIMARU had increased by 30 % each year. VIMARU had ISO 9001 accreditation. Graduates could work in aid to navigation system designing, construction, management, evaluation of safety for maritime action, design and implementing access channels.

He noted that VIMARU is a member of the international maritime training institutes. He stated that a majority (60%) of the graduates were unable to find work in aids to navigation or maritime safety field, due to a lack of opportunities. Further the training curriculum was out



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of date, as the text books and reference material were based on Russian material of the 1960's.

He noted the ongoing capacity building project with VINMARU and IALA, indicating the plan was developed, however funding was an ongoing issue.

In response to a query on improving the skills of the trainer, Hoang Hong Giang stated that every two years, VIMARU selected the top student from the graduate class, who then fulfilled the role of trainer/teacher.

A comment from the floor noted that IMO is responsible for the safety of navigation and may be in a position to assist in the Capacity Building Project. T. Kruuse agreed to provide assistance from IALA in presenting the project to IMO. It was noted that IALA proposes to use the Capacity Building Project with VIMARU as a pilot project for the IALA World Wide Academy.

Training for maritime supervision person in Hong Kong - Tony C.S. Chan Marine Department HK SAR

T. Chan said VTS training in Hong Kong dated back to 1987. He presented details on courses, classroom training, simulation, OJT, tests and assessments.

He then compared the training in Hong Kong, and said that it exceeded the requirements identified in V 103. The Hong Kong Marine Department typically recruited chief officers and master mariners. They are anticipating a shortage of seafarers for recruitment, as the younger generation found seafaring to be not an attractive career option. Therefore new entry and training requirements must be formulated.

He pointed to some of the pitfalls of simulation training, stating it was difficult to design scenarios. In response for IALA to build a catalogue of scenarios, T. Chan noted that this could be difficult due to different rules and regulations in different ports.

In response to a question on the availability of the course to foreigners, Tony C S Chan said that this was possible, although the fees for the four-month course were high.

Session 2 – Overview of IALA and A to N Training -

Chairperson – Jean-Charles Leclair, IALA

On-the-job Training of A to N Management Personnel - Zhu Yong qiang

Zhu Yongqiang discussed China MSA's training strategies and plans, the main forms of OTJ training, training centres and future strategy. He noted that China MSA's training strategy was based on a people-oriented principle and the building up of a professional team of qualified personnel. China MSA had a unified training plan to improve standards and adopt flexible training methods. The main forms of OTJ training included theoretical courses, short-term training and formal training courses. He then detailed the elements of a theoretical training course for senior aids to navigation management personnel. He also gave details on short term training courses and said they provided good results.

Zhu Yong qiang concluded by stating that China MSA's future strategy would be to build a team, who will grasp trends with modern aids to navigation management theory and practice, become experts and provide guidance and participate in international meetings and technical exchanges.



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Introduction to the IALA World Wide Academy Concept – Jean-Charles Leclair

Jean-Charles Leclair started by asking the question, “why an academy?” He stated that if we wished to avoid accidents, we required first class aids to navigation. The common question he heard on his missions to various countries was “how and where should we train our staff?” In order to harmonise aids to navigation worldwide, which was the aim of IALA, we need to harmonise training worldwide.

The answer could be short or long courses. For example, one could do OTJ training if one had the right trainers. IMO and its associated universities was a good example of what could be done.

J-C Leclair concluded by noting that IALA must take action for training aids to navigation personnel. The IALA WWA is a concept that is to develop and follow international standards, adopted for small workforce and to deliver short courses, not necessarily in English and training can be audited

Introduction to the IALA World Wide Academy Concept and the IALA e-learning portal – Jillian Carson-Jackson

J Carson-Jackson stated that the human element was the cornerstone of maritime training and IALA was committed to training in aids to navigation. IALA’s mission statement is that it will respond to our members needs for access to harmonized quality aids to navigation training. IMO has recognised the IALA model courses developed for VTS training. She also highlighted the various drivers for a move to the IALA World Wide Academy, including the IMO Voluntary Audit Scheme.

After the success of V-103, IALA developed a guideline that provides info on training in aids to navigation. While members have found this guideline to be of interest, the request is continually received to continue the V-103 approach for all aspects of Aids to Navigation training.

J. Carson-Jackson concluded her presentation with a short overview of the IALA e-learning portal, noting that this would be further demonstrated during the tour to Dalian Maritime University.

Discussion – Challenges in providing Aids to Navigation Training – Jillian Carson-Jackson

Participants were then asked to work in small groups and respond to the question ‘What are the main challenges that you/your organization have found when implementing aids to navigation training? Following discussion time, a plenary session was held where initial thoughts were presented to the group. An initial grouping of the challenges identified is included in Annex 3.



Session 3 – Best practices in training

Chairperson – Ma Jianshe, China MSA

Training practices in individual countries – a discussion

Individual countries offered the information and this is attached at Annex 4

The practice and discussions of training for VTS technical persons, Li Guocheng, Tianjin MSA

Li Guocheng discussed the necessity for training VTS technicians and their training at DMU and Tianjin MSA. He also discussed improvements in training.

Li Guocheng noted that the present day VTS had new technologies installed (like DGPS and AIS). Technicians have played an important role in implementation such systems, but they need to keep their skills and knowledge current. They need training due to the implementation of new technologies.

Quality control of seafarers in China – Li Zhing Gua

Li Zhing Gua stated that China had a large number of seafarers and big merchant fleet. This provided a pool of available personnel for the maritime industry. In discussing examination and certification, he stated that the policy of examination assessment and certification, China MSA was responsible for examining seafarers testing have been responsible for computer-based paperless exams.

Session 4 – Consistent, quality delivery of aids to navigation training

Chairperson – Zhang Xuwu

Enhancing the training, promote the quality and fully utilize the function of the VTS system - Chen Jian jun

Chen Jian jun presented an overview of the role and functions of the VTS system of Liaoning MSA. He also listed the sensors, the geographical limits and the volume of traffic. He touched upon its manning, profiling of the qualifications including the OTJ training.

Chen Jian jun concluded by saying that the development of personnel was one the main tasks of the human resources management training development will be permanent theme of HRD.

Chen Jian jun responded to questions on the recruitment of instructors and trainees, noting that trainees are all existing employees. He also explained the VTS monitoring functions, including the integration of AIS into the VTS.

Discussion identifying / responding to challenges in the aids to navigation training area, Identifying where IALA can respond – IALA Jillian Carson-Jackson

Using the challenges table developed in Session 2, J. Carson-Jackson facilitated a discussion session to begin identifying responses to the challenges. The initial table of responses is included in Annex 3.

The results of both the discussion session on Challenges and the discussion session on Responses were collected, for collating at a later date.



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Concluding remarks

In closing the session, J Carson-Jackson said that the workshop presented an overview of the aids to navigation training in China, Hong Kong and Vietnam. Attendees also had the opportunity to discuss issues related to resources, wide geographical areas and the cost-benefit aspects. The concept of the IALA World Wide Academy had been introduced, and will be further developed through the existing IALA process, and – it is hoped – with funding at a later date.. She added that just as IMO promoted training for shipboard staff, IALA needs to promote training for aids to navigation. IALA was always looking for ways to improve its service. She concluded by thanking everyone for their participation.

It was noted that there would be a tour of Liaoning VTS and the port of Dalian, where participants viewed VTS and training facilities and had an introduction to the IALA Learning Portal.

Workshop Closing

In closing the workshop, Mr. Li Yuheng felt that the workshop had been a success. He noted that the issue of training in Aids to Navigation is quite broad, and that further discussion would be required to ensure a harmonized approach to AtoN service delivery, including training.

Action Items

As a result of the workshop, a number of action items were identified:

IALA

- Proceed with development of the IALA World Wide Academy concept, with three streams of action:
 - Adapt existing documentation to provide curriculum base for training institutes;
 - Develop model courses within the IALA committee structure;
 - Seek funding from outside the IALA membership.
- Contact IMO with regards to possible support in AtoN training and capacity building initiatives as these influence safety of navigation.
- In developing further aids to navigation training workshops, include specific objectives for elements (detailed objectives) and allow ample time for discussion
- When reviewing and updating IALA Recommendation V-103 include elements of training for VTS technical, as well as operational and management personnel.
- Consider approaching the international association of maritime training institutes to present the IALA World Wide Academy concept.
- Work with training institutes to review and identify areas where aids to navigation training exists and adapt available material to avoid duplication of effort, respecting intellectual property issues.



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Delegates

- Continue to promote aids to navigation training in their area of expertise and influence
- Assist IALA in developing aids to navigation training documentation and the IALA learning portal.



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Annex 1 – Workshop Programme

Time	Theme	Speaker	Session Chairman
08300-900	Opening Session	Opening Speech (Mr. Hou Jinghua)	Hou Jinghua
		Welcoming Speech (Mr. Liu Gongcheng)	
		IALA secretary-general Speech (Mr. Kruuse)	
0900-1015	Session 1: Identifying the Need For A to N Training		Jin Shengli
0900-0915	Introduction-workshop overview	Session chairman	
0915-0935	Training of the Professional Talented Persons of Aids to Navigation	Shang Chun yu DMU	
0935-0955	Defining the need for A to N Training in Vietnam	Vietnam (Hoang Hong Giang)	
0955-1015	Training for maritime supervision person in HK	Tony C.S. Chan Marine Department HK SAR	
1015-1045	Coffee Break		
1045-1230	Session 2: Overview of IALA and A to N Training		Jillian Carson-Jackson
1045-1105	On-the-job Training of A to N Management Personnel	Zhu Yong qiang	
1105-1125	Introduction to the IALA World Wide Academy Concept / discussion session	IALA	
1125-1230	IALA and e-learning Demonstration /hands-on for IALA and e-learn Overview discussion on concept / future direction	IALA	
1230-1330	Lunch - Ballroom on the 2nd floor in the West Wing of Furama Hotel		
1330-1515	Session 3: Best practices in training of A to N training for Maritime Safety		Ma Jianshe
1330-1430	Delivering A to N Training in various countries who provide training	Various	
1430-1500	The practice and discussions of training for VTS technical persons Quality Control of Seafarer in China	Li Guo cheng Li Bo	
1500-1515	Discussion	Chairman	
1515-1545	Coffee Break		
1545-1700	Session 4: Consistent, Quality Delivery of AtoN Training		Li Yuheng
1545-1615	Enhance the Training, Promote the Quality and Fully Utilize the Function of the VTS System	Chen Jian jun	
1615-1645	Discussion: Identifying/responding to challenges in A to N Training Identifying where IALA can respond to A to N Training requirements	Jillian Carson-Jackson	
1645-1700	Overview of workshop and wrap up. Information on tours on following day.	Li Yuheng	



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Annexe 3 – Challenges and responses in implementing aids to navigation training:

Challenge	Possible means of responding
Small organizations may not have resources (human, financial, time) to develop and implement training.	Three suggested solutions 1) Provide distance learning through the WWA process 2) Buy in training 3) Responsible authorities to recognise the need and provide for training in their budgets.
Language can be a barrier when looking to provide training developed outside of the organization or when sending personnel to training courses abroad.	A simple way is to use the distance learning process with training delivered in own language
Aids to navigation cover a wide spectrum – including management, operations, maintenance, and design. For this, there are limited numbers of experts to provide training.	Two suggested solutions 1) The WWA 2) Use local universities where available
There is a large geographic spread in resources, and this can be difficult to overcome.	
Training for both existing and future aids to navigation. How to ensure skills for today and develop personnel for tomorrow.	
Different levels of education for trainees – addressing all levels for training of personnel.,	
VTs Personnel – addressing training requirements with a small student base, and existing skills.	



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Challenge	Possible means of responding
Addressing the needs of users – training users on the services provided.	
Developing training on fairway design, risk management techniques and AtoN service implementation. Very small group of experts for this area, limited language capabilities.	
Providing structured approach to on-the-job training, and ensuring updating of training in OJT.	
Identifying and setting standards for training in Aids to Navigation – what are the standards that can be realistically achieved at an international level, who can set the standard?	
Getting a training budget for AtoN training.	
Ensuring effective application of skills after the training, including upgrade and maintenance of training when required.	
Developing trainers (teachers, instructors) and ensuring they are qualified for the job, able to assess training effectively.	Empower trainers with suitable training material
Sharing of expertise – ensuring access to expertise when and where required.	Development of an internet forum where experts can be contacted
Performing international AtoN training in a cost-effective manner.	Use of internet and seminars
Ensuring governmental support for AtoN training initiatives – initial support and ongoing.	
Identifying the bench-mark for AtoN training (what is the benchmark, how can it be reached and, in future, how can it be increased?)	
Coordination and development of AtoN training at an International, Regional and local level to ensure skill available meet requirements.	



Annex 4 – Presentation of Training Approaches

- Ireland - size of their organisation was small, therefore they had to source formal training externally. Some courses were hard to find. They have developed in-house courses on lights and colour. A leaflet outlining this was handed out. It was noted that IALA could prepare a template for training on maintenance of aids to navigation.
- Argentina - University program provides specific training on the design and concept of engineering and other aspects of all aids to navigation. Within Hidrovia, training is provided at three levels – elementary, basic and specific (subjects such as AIS). Training is provided in Spanish, however it could be provided in English on request. There was a request that IALA form an ad-hoc group on training in all aspects of aids to navigation, because this is fundamental to the delivery of the service.
- Australia – VTS training (only refers to VTSO training in REEFVTS, not all VTS in Australia). Maritime Safety Queensland (MSQ) employs VTSOs in seven ports and one Coastal VTS. VTS training has been outsourced since 2001 to three registered training organisations. Training in-house is difficult due to small numbers. Courses have been awarded national accreditation and comply with V 103. Courses use simulators and VTS equipment to give hands on training. On line access in VTS centre to REEFVTS data assists in simulation training and peer review.
- Denmark - VTS training (Information service). Recruit only master mariners. Training to V 103 and is approved by Lloyds. Staff put on the job, after a four day basic training.
- Sweden - Seven VTS centres and eighty VTS operators. Trying to write new guidelines, looking to recruit master mariners. ‘Older’ staff may not have a navigational background. VTSO have basic training as per V 103. Every model course is assessed continuously. Advanced training is provided in Gothenberg. Discussing common VTS Training with Denmark. No refresher training is required currently, but this is under review currently.
- Canada – VTS Training. Requirement for VTSO - high school graduate, no mariner qualifications required. Emphasis on simulation and discovery learning techniques. Course offered in English and French. Courses offered only in Canada.
- Norway – VTS Training. Will have five VTS centres by end of 2006. Will recruit only mariners with at least 1st mates experience. At least 12 weeks training as per V 103. Cooperate with universities or colleges where VTSO get a risk management course and simulator training. Companies operating in the North Sea have their own system, to monitor the areas around the platform.
- Korea – 3000 aids to navigation in Korea. Private aids to navigation suppliers employ staff who come from various backgrounds – electrical or electronic engineering, for example. An aids to navigation qualification system is now being introduced on a national scale. The private sector employs those who have an aids to navigation



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certificate. Government staff is encouraged to get similar qualifications. Twelve ports operate VTS and there are two coastal VTS, with 200 operators and technicians.

- Italy - Training is conducted in accordance with IMO and IALA guidance. Personnel are selected from the Italian Coast Guard, provide they have a high school certificate or higher qualifications. They are trained to manage situations that can arise in VTS. VTS training is conducted in Messina facilities with simulation. Instructors are either internal, experienced personnel or external companies with professional qualifications.
- Finland – VTS Training – recruitment of deck officers, with a 2 week course in a training institute (South Tyneside College). Of note, it is increasingly difficult to get trained navigators, and the situation is getting worse. 6 months of fairway knowledge and on the job training follows. In AtoN field, about 100 service technicians and 10 foremen, for approx. 29000 aids to navigation, of which approx. 2500 are lighted.