



RECOMMENDATION

R0141(E-141)

TRAINING AND CERTIFICATION OF MARINE AIDS TO NAVIGATION PERSONNEL

Edition 4.0

December 2017

Revokes Model Course E-141/2

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DOCUMENT HISTORY

Revisions to this IALA document are to be noted in the table prior to the issue of a revised document.

Date	Details	Approval
December 2009	1 st issue	Council 46
June 2012	Reference to Level 1+ training for senior managers added. Removal of detailed training syllabus for Level 2 technician removed. This detail was included in the model course overview for Level 2 technician training.	Council 53
December 2014	Page 5; 8: Minor amendments to definitions of who might deliver training with the inclusion of the IALA World-Wide Academy. Page 6: Deletion of non-applicable abbreviations and revised definitions of “manager” and “technician” as footnotes. Page 7: Amendment of details on certificates for Level 1+ and Level 1 courses and deletion of paragraph on risk management courses. Page 9: Deletion of “Grandfather Clause” and insertion of recognition of long-standing training arrangements. Page 10: Addition of introduction to e-navigation course.	Council 59
June 2015	Entire document reviewed and updated.	Council 60
December 2017	Entire document: Deletion of Model Course E-141/2 for senior managers and updated to include IALA Guideline 1100.	Council 65



THE IALA COUNCIL

RECALLING:

- 1 the function of IALA with respect to Safety of Navigation, the efficiency of maritime transport and the protection of the environment;
- 2 Article 8 of the IALA Constitution regarding the authority, duties and functions of the Council;

NOTING:

- the Decision taken at the 52nd IALA Council to develop the IALA World Wide Academy (The Academy) as the vehicle by which IALA delivers training and capacity building which has subsequently issued four Model Courses on Marine Aids to Navigation (AtoN) Level 1 Manager Training and 32 Model Courses on AtoN Technician Training;
- that the SOLAS Convention, Chapter 5, Regulation 13, paragraph 2, states that “in order to obtain the greatest possible uniformity in aids to navigation, Contracting Governments undertake to take into account the international recommendations and guidelines when establishing such aids” and that should include recommendations on training and qualification of the personnel in charge of the delivery of Marine Aids to Navigation services;

RECOGNISING:

- that training in all aspects of Marine Aids to Navigation delivery – from inception to installation, to maintenance and life-cycle planning – is critical to the consistent provision of the Marine Aids to Navigation service;
- the work done by IALA on the development of training for Marine Aids to Navigation managers, technicians and VTS personnel;

CONSIDERING the proposals of the IALA Engineering and Sustainability Committee;

ADOPTS the Recommendation Training and Certification of Marine Aids to Navigation Personnel, as amplified in IALA Guideline G1100 – The Accreditation and Approval Process for AtoN Personnel Training;

INVITES Members and Marine Aids to Navigation authorities worldwide to implement the provisions of the Recommendation;

RECOMMENDS THAT:

- National members and other appropriate Authorities, providing or intending to provide Marine Aids to Navigation services, use the IALA guidance for training and the related Model Courses as the basis for the certification of Marine Aids to Navigation personnel;

REQUESTS the AtoN Engineering and Sustainability Committee or such other committee as the Council may direct to keep this Recommendation under review and to propose amendments as necessary.



ANNEX

TO

IALA RECOMMENDATION R0141(E-141)

TRAINING AND CERTIFICATION OF MARINE AIDS TO
NAVIGATION PERSONNEL



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1 INTRODUCTION

1.1 GENERAL

The international character of shipping operations generates the need for a common approach and universally agreed standards for Marine Aids to Navigation (AtoN). According to the SOLAS Convention Chapter V, Regulation 13, Paragraph 2, "In order to obtain the greatest possible uniformity in Marine Aids to Navigation, Contracting Governments undertake to take into account the international recommendations and guidelines when establishing such aids." Reference is made to IALA Recommendations and Guidelines.

The successful delivery of AtoN services depends upon competent and experienced personnel to implement and maintain such aids. It means that IALA should not only define international standards for the AtoN themselves, but also for the personnel in charge of their implementation and their maintenance.

The recruitment, selection and training of suitable personnel are pre-requisites to the provision of professionally qualified personnel capable of contributing to safe and efficient AtoN operations. This Recommendation sets out the training requirements and certification standards for AtoN personnel. These should be implemented by National members and other appropriate Authorities to ensure that uniform standards of procedures, practices and professional standards are applied to AtoN services world-wide.

1.2 OBJECTIVES

National AtoN Competent Authorities are encouraged to adopt this Recommendation together with the associated model courses as the basis for mandatory training in a manner consistent with their domestic legal framework.

The objectives of this Recommendation are to provide a basis:

- for AtoN Authorities when recruiting potential AtoN staff;
- for model courses used to develop a training programme on the specific knowledge, skills and attitude requirements necessary to qualify AtoN personnel;
- to ensure that AtoN personnel gain the appropriate level of competency to enable them to perform the tasks required;
- to assess regularly the ability of AtoN personnel to perform to established and recognised standards;
- to provide a basis for a structured progression for AtoN personnel;
- to foster professionalism and pride in AtoN personnel;
- to support, as far as is practicable, the consistent application of AtoN standards world-wide and;
- for AtoN Authorities to meet their international obligations.

2 GENERAL PROVISIONS

2.1 RESPONSIBILITIES

In planning and establishing AtoN services, the Government or the Competent Authority should:

- ensure that the AtoN Authority, and where appropriate other AtoN service providers, are provided with sufficient staff who are appropriately qualified, suitably trained and capable of performing the tasks required, taking into consideration the type of AtoN and the level of services to be provided;
- establish appropriate qualifications and training requirements for AtoN personnel, taking into consideration the type of AtoN and the level of services to be provided;



- ensure that the standards set by the Competent Authority for levels of service and staff qualifications are met by all AtoN service providers.

2.2 PRINCIPLES

In order to discharge the duties required when planning, designing, implementing, maintaining and disposing of AtoN at the end of their operational life, all personnel involved should obtain an AtoN qualification before being considered competent to intervene in AtoN matters.

A person should therefore only be considered capable of carrying out the duties regarding AtoN activity when in possession of:

- A Level 1 Certificate for an AtoN Manager, including all modules for that area of responsibility.
- A Level 2 Certificate for an AtoN Technician with only the modules necessary for the job function.

2.3 IALA MODEL COURSES

The basis of AtoN training is set out in the following IALA model courses:

1. L1.1 Level 1 AtoN Manager Training
2. L1.3 Use of IALA Risk Management Tools (delivered at least annually by the IALA World-Wide Academy)
3. L1.4 Global Navigation Satellite Systems and e-Navigation
4. L1.5 Historic Lighthouses
5. L2.0 Level 2 AtoN Technician Training Overview (lists details of the 31 specific model courses for AtoN Technicians)

These courses are not intended to be used directly as course material but are guides that can be adapted to enable course design to be matched to the requirements of individual AtoN Competent Authorities.

The contents of all Model courses take into account IALA Recommendations and Guidelines, and the NAVGUIDE Manual. Those describing technical functions for Level 2 technician training can also be used for Level 1 manager training if appropriate.

The Model Courses are designed to produce universally common standards. It is for the relevant Competent Authority to approve the courses undertaken at accredited AtoN training organisations.

2.4 ACCREDITATION AND APPROVAL PROCESS FOR AtoN TRAINING

A training organisation intending to provide AtoN training should apply for accreditation to the Competent Authority of the country in which it is located. The Competent Authority, or an authority designated and approved by the Competent Authority, should conduct an audit to ensure that IALA standards as well as any other national requirements are met by the training organisation.

The purpose of approval is to provide a basis to ensure that AtoN courses meet the requirements of this Recommendation and its related model courses which should be delivered under the framework of a Training Management System within an approved quality system.

IALA Guideline G1100 on the Accreditation and Approval Process for AtoN Personnel Training sets out the process by which AtoN training courses leading to the issue of Level 1 or Level 2 course certificates can achieve approval.

2.5 RECOGNITION OF AtoN CERTIFICATES

Only the IALA World-Wide Academy or Competent Authorities who have signed a Memorandum of Understanding with IALA can use the wording “International Aids to Navigation Certificate” on certificates issued



by an Accredited Training Organisation in that State. It is expected that all IALA National members will recognise “International” AtoN certificates.

Where suitable reciprocal arrangements apply, the Competent Authority of one country should recognise an AtoN Certificate issued by the Competent Authority of another country provided that the:

- Certificate has been issued in accordance with this Recommendation; and
- Competent Authorities are satisfied with the training arrangements of the other country concerned.

The Competent Authority of a country may decide to recognise a training organisation based in another country so that AtoN training can be delivered to its nationals abroad. In that case, the foreign training organisation may be defined as an “Accredited Training Organisation” by the local Competent Authority.

3 AtoN PERSONNEL

3.1 LEVEL 1- MANAGER

Both Competent Authorities and other AtoN organisations require the appointment of managers to administer, organize and maintain the service that should be provided at a level in accordance with the IALA standards. Depending on the number of AtoN and the length of coasts, there may be one or several managers at national, regional and/or local level.

Internationally agreed qualifications for AtoN Managers are the key to the establishment of common training standards. The qualifications to be awarded after successful completion of an accredited training programme based on Model Course L1.1 should be in the form of an ‘AtoN Level 1 Certificate’. Previous qualifications and experience may be taken into consideration when assessing the training requirements for prospective AtoN Managers.

3.2 LEVEL 2 – TECHNICIAN

Control and intervention on any AtoN should be done by a qualified technician in accordance with IALA standards. The technician should be qualified in accordance with the type of AtoN and the nature of control or intervention concerned.

Internationally agreed qualifications for an AtoN Technician are the key to the establishment of common training standards. The qualifications to be awarded after successful completion of an approved training module based on specified elements shown in Model Course L2.0 should be in the form of an AtoN Level 2 Certificate for L2.## (Reference of the Level 2 training module). Previous qualifications and experience may be taken into consideration when assessing the training requirements for such a module.

An AtoN Certificate, Level 1, should be awarded upon successful completion of the necessary IALA approved training programme delivered by an accredited training organisation or by the IALA World-Wide Academy.

An AtoN Certificate, Level 2, for any specific module, should be awarded upon successful completion of that IALA approved training module.

Any technician or worker intervening on behalf of a contracting supplier, and under its responsibility, should be exempted from holding a Level 2 AtoN Certificate, when intervening on equipment provided or maintained by that supplier.

4 SELECTION AND RECRUITMENT

4.1 ENTRY REQUIREMENTS

For potential candidates on a Level 1 course delivered in English, a satisfactory command of the English language is a prerequisite. Candidates selected for participating in a Level 1 AtoN manager course should have a background in engineering or hold a Masters' Certificate or equivalent.

Details of all other entry requirements and the evaluation and assessment of course participants can be found in the text of Model Course L1.1.

4.2 MEDICAL, PHYSICAL AND PERSONAL ATTRIBUTES

Candidates should meet the medical (including optical) standards of physical ability and health established by the Competent Authority.

Personal attributes are important factors in the selection criteria. A continual assessment should be made of the candidate's suitability throughout the selection process. Candidates should at a minimum have an appropriate sense of responsibility, ability to adopt and follow procedures, as well as having a willingness to co-operate with others as part of a team. Formal leadership training forms part of the syllabus of Model course L1.1.

5 QUALIFICATION AND CERTIFICATION

5.1 QUALIFICATION

Qualification is the education, knowledge, skill, experience or any other attribute which the Competent Authority may have determined desirable for performing the duties of the relevant position.

The award of AtoN qualifications should be based on the principle that satisfactory results are obtained during the AtoN model courses.

The following steps are recommended for attaining qualification:

1. The candidate has been selected and the language ability, medical and physical prerequisites have been fulfilled.
2. On successful completion of an approved training course, the AtoN participant receives a course certificate. The qualification for personnel to act as an AtoN Manager is the possession of a current Level 1 Certificate. Qualification for personnel to act as an AtoN Technician is the possession of current Level 2 Certificate(s) for the module(s) in relation with the actual job or activity.

5.2 CERTIFICATION

A national or international AtoN Level 1 Certificate should be awarded by the accredited training organisation delivering approved AtoN training to participants on completion of their AtoN training. Details of the difference between national and international certificates may be found in IALA Guideline 1100. In either case the minimum information on a Level 1 manager or Level 2 technician certificate should include:

- the participant's full name;
- the country in which it was awarded;
- signature of issuing Authority and the training organisation;
- the relevant course or module of that course;
- date of birth and/or unique identification information;
- the date of award and;



- the unique serial number of the certificate.

5.3 VALIDITY

An AtoN qualification should be valid unless there is a break in carrying out the duties for a period of five years or more. In such case, a revalidation is required to ensure the holder of an AtoN qualification continues to maintain professional competence. The revalidation method should be made by a board convened by the AtoN Competent Authority.

5.4 NATIONAL RECORDS OF CERTIFICATE

The Competent Authority should ensure that a proper record of all AtoN certificates issued by accredited training organisations, whether within that country or abroad, is maintained.

6 QUALIFICATIONS OF INSTRUCTORS, ASSESSORS/SUPERVISORS

6.1 INSTRUCTORS AND COURSE SUPERVISERS

Competent Authorities should ensure that instructors and supervisors (assessors) are appropriately qualified and experienced for the training and assessment of competence for which they are given responsibility. Instructors should hold suitable professional and academic qualifications. Details of the qualifications and requirements of course instructors and supervisors can be found in the text of Model Course L1.1.

7 TRAINING

7.1 INTRODUCTION

IALA recognises that a number of well-established National members and other appropriate Authorities have long-standing, comprehensive training arrangements in place for the assessment, specification and delivery of AtoN requirements. Many of the model courses set out in this Recommendation were prepared with their assistance. It is recommended that those National Members and other appropriate Authorities satisfy themselves that to the extent appropriate their training syllabi and procedures meet or exceed those standards set out in this Recommendation and its associated model courses.

IALA further recognises that many National members and other appropriate Authorities make a clear distinction between assessment and specification of AtoN requirements and the delivery of those requirements and that their training arrangements will reflect these two distinct areas accordingly.

7.2 TRAINING GUIDELINES

The type of training and its delivery depends largely on the knowledge base and experience, if any, of trainees.

The key to the successful delivery of a training course is thorough preparation based on a Training Management System. To deliver a training course effectively, consideration should be given to the availability and the use of:

- qualified instructors and supervisors;
- support staff;
- classrooms and other spaces;
- equipment including where appropriate simulators;
- textbooks; technical papers and other reference material and training aids.

All training and assessment of AtoN personnel should be:



- Structured in accordance with written programmes, including such methods and media of delivery, procedures, and course material as are necessary to achieve the prescribed standard of competence and;
- conducted, monitored, evaluated and supported by qualified persons as mentioned in section 6 above and detailed in model course L1.1.

All training courses should be based on the model courses associated with this Recommendation. They should also be approved by the Competent Authority concerned. AtoN training should be carried out at a training organisation which provides accredited AtoN training including the IALA World-Wide Academy.

Competent Authorities should ensure that the aims and objectives of training are defined within an overall training programme. Specific training objectives and tasks should be selected so that they relate as closely as possible to AtoN tasks and practices.

7.3 ATON MODEL COURSES

The model courses associated with this Recommendation are composed of modules. This approach facilitates model courses to be developed and:

- reflects the training received while maintaining common international standards and;
- takes into account the previous training and experience of potential AtoN personnel.

7.3.1 LEVEL 1 ATON MANAGER COURSE

The award of an AtoN Level 1 Certificate and endorsement to act as an AtoN Manager whether within a Competent Authority or on the staff of an AtoN service provided should be achieved by successfully undertaking the complete training syllabus set out in Model Course L1.1¹. This course is normally delivered in one month by an accredited training organisation or through a blended distance learning programme delivered by the IALA World-Wide Academy.

7.3.2 LEVEL 1 ATON MANAGER RISK MANAGEMENT COURSE

The award of an AtoN Level 1 Certificate demonstrating competency in the use of the IALA risk management toolbox should be achieved by successfully undertaking the training syllabus set out in Model Course L1.3. This annual course is only delivered by the IALA World-Wide Academy.

7.3.3 LEVEL 1 ATON MANAGER GNSS AND E-NAVIGATION COURSE

The award of an AtoN Level 1 Certificate demonstrating competency in an understanding of Global Navigation Satellite Systems (GNSS) and the principles of e-Navigation should be achieved by successfully undertaking the training syllabus set out in Model Course L1.4. This occasional course is normally delivered by the IALA World-Wide Academy.

7.3.4 LEVEL 2 ATON TECHNICIAN COURSES

The award of AtoN Level 2 Module Certificates and endorsement to act as an AtoN Technician should be achieved by successfully undertaking the training syllabus for one or more of the modules listed in Model Course Overview L2.0. The training in each of the 31 courses should comprise a theoretical section based on the model course syllabi and subsequent 'on-the-job' training of a duration agreed by the AtoN Competent Authority.

8 ACRONYMS

AtoN	Marine Aid(s) to Navigation
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities
GNSS	Global Navigation Satellite Systems

¹ The earlier Model Course E-141/2 (L1.2) for senior managers was withdrawn in 2017 as being no longer relevant.



IMO International Maritime Organization
SOLAS (International Convention for the Safety of Life at Sea (SOLAS))

9 DEFINITIONS AND CLARIFICATIONS

For the purpose of the Recommendation, the following definitions and clarifications have been used:

Accredited AtoN Training Organisation	An organisation that the Competent Authority, or an authority designated and approved by the by the Competent Authority, grants recognition to a training organisation for demonstrated ability to meet predetermined criteria for established standards.
Approved AtoN Training Course	A course of study in AtoN that has successfully completed the quality assurance process under which a training course is assessed to ensure that IALA standards are met.
AtoN Personnel	Persons trained in AtoN matters and holding appropriate qualifications issued by, or on behalf of, a Government or a Competent Authority. Two levels of skills, knowledge and competence of AtoN Personnel are set out in this Recommendation. These are described as Level 1 for managerial functions and Level 2 for technical functions respectively.
Competence	Having the knowledge, skills, attitude and personal attributes necessary to safely, effectively and efficiently carry out the functions or sub-functions assigned to a specific AtoN position.
Competent Authority	An authority made responsible, in whole or in part, by the Government for the safety (including environmental safety) and efficiency of Marine Aids to Navigation service provision and the protection of the environment.
Level 1 Training	Training given at an Accredited Training Organisation or by the IALA World-Wide Academy to the standards described in Model Course L1.1 for personnel having managerial functions.
Level 2 Training	Training given at an Accredited Training Organisation to the standards described in Model Course L2.0 for personnel having technical functions.
On-the-Job Training	Training and familiarization at an AtoN workplace at which the person will be employed. It includes training on the AtoN services provided, the facilities and equipment used as well as the local geography and appropriate regulations and other procedures.
Qualification	The formal recognition of competence which should be recorded in a course certificate.
Simulator Training	The simulation of operational events, practices and procedures to instruct trainees and assess their ability to demonstrate their levels of competence.

10 REFERENCES

- [1] IALA NAVGUIDE
- [2] IALA Model Courses L1.0; L1.3; L1.4; L2.0
- [3] IALA Guideline G1100
- [4] Chapter V, Regulation 13 (Aids to Navigation) of the Safety of Life at Sea Convention, 1974, as amended