



# IALA GUIDELINE

## G1169 TRAINING AND CERTIFICATION OF MARINE AIDS TO NAVIGATION PERSONNEL

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International Association of Marine Aids to Navigation and Lighthouse Authorities  
Association Internationale de Signalisation Maritime



# DOCUMENT REVISION

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

Date	Details	Approval
June 2022	First issue of new Guideline. Separation of Recommendation R0141 from annex. This Guideline contains the former annex information.	Council 75
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# 1. INTRODUCTION

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## 1.1. GENERAL

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A major factor in the effective delivery of a Marine Aids to Navigation (AtoN) service is the competence and experience of its personnel to provide, manage, and maintain reliable and harmonized AtoN.

Training and certification for AtoN personnel is recognized internationally through the following framework:

- The International Convention for the Safety of Life at Sea (SOLAS) 1974, Chapter V (Safety of Navigation), Regulation 13 provides for the establishment and operation of aids to navigation. Paragraph two of the Regulation 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. “

The footnote to SOLAS Chapter V, Regulation 13 indicated by the \* states that the international recommendations and guidelines referred to are the appropriate recommendations and guidelines of IALA.

- IALA Standard *1050 Training and Certification* specifies the practices associated with the training and assessment of AtoN personnel. The Standard references normative provisions which are contained in IALA recommendations, covering the following scope:
  - Training and assessment
  - Accreditation, competency, certification, and revalidation

## 1.2. DOCUMENT PURPOSE

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The purpose of this document is to provide guidance on implementing practices associated with the recruitment, training, and assessment of AtoN personnel to ensure that it provides the greatest possible uniformity in AtoN in accordance with SOLAS Chapter V Regulation 13 and is developed and harmonized in accordance with the IALA standards, recommendations, guidelines and model courses.

Contracting Governments, competent authorities and AtoN providers are encouraged to take account of this guidance as a basis for mandatory training in a manner consistent with their domestic legal framework. This may include establishing appropriate qualifications and training requirements to ensure that AtoN personnel are certified.

## 1.3. RESPONSIBILITIES

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In implementing practices associated with the recruitment, training, and assessment of AtoN personnel, the competent authority should:

- ensure that the competent authority, and where appropriate other AtoN providers, have sufficient staff who are appropriately qualified, suitably trained and capable of performing the tasks required, taking into consideration the volume of traffic and degree of risk, the type of AtoN, and the services to be provided;
- establish appropriate qualifications and training requirements for AtoN personnel;
- ensure that AtoN training is delivered by accredited training organizations; and

- ensure that the standards set by the competent authority with respect to AtoN training are met by all AtoN providers.

## **2. ATON PERSONNEL**

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AtoN personnel are individuals that are appropriately trained and qualified in either AtoN management or AtoN technician disciplines in accordance with the relevant model course associated with their functions. They actively contribute to the safe and efficient movement of vessel traffic within their area of responsibility. Detailed job descriptions for AtoN personnel should be developed focusing on their functions, objectives and responsibilities with respect to AtoN provision.

### **2.1. ATON MANAGEMENT**

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AtoN managers have responsibility for the strategic and operational establishment and management of AtoN services in accordance with SOLAS Chapter V Regulation 13 and the IALA standards. Depending on the complexity of the coast and waterway(s) AtoN managers may be appointed at a national, regional and/or local level with responsibilities including strategic, operational and risk management.

### **2.2. ATON TECHNICIANS**

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AtoN technicians have responsibility for the control, intervention and maintenance of AtoN in accordance with the IALA standards. AtoN technicians should be qualified in accordance with the type of AtoN and the nature of control, intervention and maintenance required.

## **3. SELECTION AND RECRUITMENT**

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### **3.1. SELECTION PROCESS**

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Policies and processes for the selection and recruitment of AtoN personnel should be available. This may include minimum entry requirements such as:

- prior skills and knowledge;
- maritime experience and education;
- personal suitability characteristics; and
- medical fitness requirements.

#### **3.1.1. PERSONAL ATTRIBUTES**

Personal attributes are an important component of the selection process, and the following elements should be assessed when determining the suitability of a candidate:

- Personality as a prediction of future behaviour
- Behaviour, whereby candidates should at a minimum show an appropriate sense of responsibility, demonstrate independence as well as having a willingness to co-operate with others as part of a team.

### 3.1.2. APTITUDE/PSYCHOMETRIC TESTING

The competent authority or AtoN provider should consider testing for personal aptitude, attributes, and overall suitability requirements, even if candidates have previous maritime experience. Different types of tests and evaluations may be used such as:

- interviews;
- written tests;
- practical tests or exercises; and
- psychometric tests.

To assess the aptitude, attributes and suitability of a candidate, the assistance of specialists may be required to ensure appropriate tests and exercises are in place to complement the interview process conducted by the competent authority or AtoN provider.

### 3.1.3. MEDICAL/PHYSICAL REQUIREMENTS

The competent authority or AtoN provider should establish policies on medical and physical requirements that candidates and AtoN personnel need to meet such as medical, hearing and vision requirements.

## 4. TRAINING

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The training, knowledge and skills needed to undertake the duties associated with AtoN personnel are defined in the suite of IALA model courses and guidelines. These provide:

- a teaching syllabus that is presented as a series of learning objectives which define the required knowledge, understanding and proficiency; and
- guidance for instructors to assess competency.

### 4.1. ENTRY REQUIREMENTS

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Details of the recommended entry requirements for each course are contained in each model course document.

#### 4.1.1. LANGUAGE REQUIREMENTS

If a model course is to be delivered in English, it is expected that participants should have attained the *International English Language Testing System* (IELTS Band 5 or equivalent) prior to commencing the course, i.e.:

“You have a partial command of the language, and cope with overall meaning in most situations, although you are likely to make many mistakes. You should be able to handle basic communication in your own field.”

If a model course is to be delivered in a language other than English the accredited training organization, in conjunction with the competent authority, should determine the minimum language requirements for non-native speakers.

### 4.2. RECOGNITION OF PRIOR LEARNING

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Exemptions from a module or subject elements within a AtoN model course may be considered depending on the qualifications and training that an individual may already have. The accredited training organization delivering the approved model course should assess the prior learning of a candidate.

### 4.3. MODEL COURSES

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Competent authorities and AtoN providers are encouraged to adopt the IALA model courses as part of the basis for mandatory training in a manner consistent with their domestic legal framework.

The training and assessment of AtoN personnel should be undertaken in accordance with IALA model courses. The basis of AtoN training is set out in the following IALA model courses:

Marine Aids to Navigation Management:

- C1001 Marine Aids to Navigation Manager training;
- C1002 Master of Marine Aids to Navigation Management; and
- C1003 The use of the IALA Risk Management Tools.

Marine Aids to Navigation Technicians:

- C2000 – Technician Training Overview

The Aids to Navigation Technicians series consists of 32 individual model courses. These are grouped together by subject matter and full details can be found in Model Course C2000 which provides a general overview.

#### 4.3.1. C1001 MARINE AIDS TO NAVIGATION MANAGER COURSE

The Marine Aids to Navigation Manager course provides details of the subject areas, knowledge and practical competence required to undertake the duties associated with operational AtoN management. In particular, it provides the curriculum to ensure a student has the requisite knowledge, understanding and proficiency to provide, manage and maintain reliable and harmonized AtoN in accordance with SOLAS V/13 and the IALA standards at the operational level.

The course is aimed at those with AtoN management responsibility within competent authorities or AtoN providers as well as those involved in the AtoN sector, including consultants and manufacturers.

This course is designed to be delivered on either a face-to-face residential basis or online distance learning by an accredited training organization or through the IALA World-Wide Academy.

#### 4.3.2. C1002 MASTER OF MARINE AIDS TO NAVIGATION MANAGEMENT

The Master of Marine Aids to Navigation Management course is intended for those with responsibility for the strategic management and implementation of AtoN services. In particular, it provides the curriculum to ensure a student has the requisite knowledge, understanding and proficiency to address key aspects of AtoN governance from a strategic perspective.

The course is aimed at senior management personnel concerned with AtoN service provision or its supervision.

The course is designed to be delivered on either a face-to-face residential basis or online by distance learning by the IALA World-Wide Academy in cooperation with accredited training organizations as appropriate.

#### 4.3.3. C1003 THE USE OF THE IALA RISK MANAGEMENT TOOLS

The use of the IALA Risk Management Tools course is intended for those responsible for ensuring the provision of appropriate and evidence-based safety of navigation risk management as required by SOLAS Chapter V Regulation 12 and 13. In particular, it provides the curriculum to ensure a student has the requisite knowledge, understanding and proficiency of the obligations, theories and principles of risk management, in addition to detailed practical study in the use of each IALA Risk Management tool.

The course is designed to be delivered by means of online distance learning by the IALA World-Wide Academy with regular blended learning options which include a face-to-face residential element.

#### 4.3.4. C2000 MARINE AIDS TO NAVIGATION TECHNICIAN COURSES

The IALA Marine Aids to Navigation Technician series of model courses provides a framework for the training and education of personnel tasked with conducting the installation, servicing, maintenance, or replacement of marine aids to navigation and their components.

There are currently 32 model courses in the C2000 series which cover a range of subject areas:

- introduction to AtoN;
- power supplies;
- lights and marine lanterns;
- sound signals;
- painting and coatings;
- AtoN service craft and buoy tenders;
- radar beacons (RACONS);
- Automatic Identification Systems (AIS);
- radionavigation and Differential Global Navigation Satellite Systems (DGNSS);
- remote monitoring and control; and
- structures, materials and AtoN maintenance.

The courses are designed to be delivered on either a face-to-face residential basis or online by distance learning by accredited training organizations in cooperation with the IALA World-Wide Academy as appropriate.

#### 4.3.5. OTHER COURSES DEVELOPED BY THE IALA WORLD-WIDE ACADEMY

The IALA World-Wide Academy may develop additional courses or draw from existing courses on a modular basis, to respond to specific requirements or needs that may be identified.

### 4.4. ACCREDITATION AND APPROVAL PROCESS FOR ATON TRAINING

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A training organization intending to provide AtoN training should normally apply for accreditation to the competent authority of the country in which it is located. The competent authority should conduct a process of accreditation and approval to ensure that the standards specified in an IALA model course for its implementation, delivery and assessment have been met. The competent authority should conduct an approval process for each individual model course that the accredited training organization seeks to deliver.

IALA Guideline *G1100 Accreditation and Approval Process for AtoN Personnel Training* sets out the process by which a training organization may achieve accreditation and approval to deliver IALA model courses.

### 4.5. SUPPORT FROM THE IALA WORLD-WIDE ACADEMY

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The IALA World-Wide Academy may enter into a Memorandum of Understanding with an accredited training organization delivering an AtoN model course. The provision of a Memorandum of Understanding with the IALA World-Wide Academy, may provide, inter-alia:

- for the accredited training organization to issue international aids to navigation certificates;
- access to course materials and examinations developed by the IALA World-Wide Academy; and
- support in the planning, management and delivery of the course.



## 5. QUALIFICATIONS FOR INSTRUCTORS AND ASSESSORS

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### 5.1. INSTRUCTORS AND COURSE SUPERVISORS

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The competent authority should determine the qualifications and experience required for instructors delivering model courses at an accredited training organization. Competent authorities should ensure that instructors and assessors hold appropriate and recognized teaching qualifications and that they are appropriately qualified and experienced for the training being provided and assessing competence. The requirements for such qualifications and experience should be incorporated within the accredited training organizations quality and/or training management systems.

### 5.2. INSTRUCTORS

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Any person conducting AtoN training should:

- have a detailed understanding of the training programme and objectives of the training being conducted;
- be qualified in the task for which training is being conducted; and
- have practical instructional experience.

### 5.3. ASSESSORS

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Any person assessing the competence of AtoN personnel during training should:

- have a good level of knowledge and understanding of the competence to be assessed;
- be qualified in the task for which the assessment is being made; and
- have received guidance in assessment methods and practices.

## 6. QUALIFICATION AND CERTIFICATION

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### 6.1. QUALIFICATION

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Qualification is the education, knowledge, understanding, proficiency, skill, experience or any other attribute which the competent authority has determined desirable for performing the duties of the position. AtoN qualifications should be based on the principle that satisfactory results are obtained on completion of the IALA AtoN model courses.

### 6.2. CERTIFICATION

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Certification is the award of a document that confirms that a student has met the requirements for the award of a specific qualification.

A AtoN model course certificate is a document awarded by the accredited training organization, to confirm that a student has successfully completed a AtoN training course. The course certificate should include:

- the name of the student;
- the country in which it was awarded;
- authorized signature of the accredited training organization;
- the name of the relevant model course;
- unique identification information;
- the date of award; and
- the unique course certificate number.

AtoN model course certificates should be in the official language or languages of the awarding country. If the language is not English, then a translation should be available.

The use of the IALA logo on a AtoN model course certificate recognizes that the competent authority is a member of IALA and has approved the delivery of that AtoN model course by the accredited training organization in accordance with IALA Guideline *G1100*.

### 6.3. RECOGNITION OF ATON CERTIFICATES

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#### 6.3.1. INTERNATIONAL AIDS TO NAVIGATION CERTIFICATION

Only the IALA World-Wide Academy or accredited training organizations who have signed a Memorandum of Understanding with the IALA World-Wide Academy can use the wording “*International Aids to Navigation Certificate*” on course certificates. It is expected that all IALA National members will recognize international aids to navigation certificates.

#### 6.3.2. NATIONAL AIDS TO NAVIGATION CERTIFICATION

Where an accredited training organization does not have a Memorandum of Understanding with the IALA World-Wide Academy, AtoN certificates will generally only be valid in the country of the accredited training organization.

### 6.4. VALIDITY

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A qualification should remain valid until either:

- an assessment indicates that the holder has fallen below the required competency and proficiency set by the competent authority;
- there is a break in service, for any reason, for a period defined by the competent authority; or
- the maximum time period for undertaking any relevant refresher training specified by the competent authority has been reached.

## 7. CONTINUAL PROFESSIONAL DEVELOPMENT

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Competent authorities or AtoN providers may consider developing an ongoing continual professional development (CPD) programme to ensure that the standard of training is maintained.

CPD may consist of:

- review and analysis of lessons learned from national and/or local AtoN operations;
- regular updates of regulatory, procedural and technological developments;
- continual development through familiarization trips on vessels with pilots or other stakeholders; and

- visits to stakeholders, other AtoN providers or other similar organizations;

Further, AtoN personnel should be encouraged to take responsibility for their own personal continued professional development as a core component of their role.

## 7.1. TRAINING RECORDS

The competent authority should ensure that a proper record of all AtoN certificates issued by accredited training organizations, whether within that country or abroad, is maintained. These records should include details of (but not be limited to):

- AtoN model courses successfully completed, including the name of the accredited training organization where the course was undertaken and copies of the course certification;
- records of CPD undertaken; and
- any other relevant course or training successfully completed (e.g., first aid training).

## 8. DEFINITIONS AND CLARIFICATIONS

The definitions of terms used in this Guideline can be found in the *International Dictionary of Marine Aids to Navigation* (IALA Dictionary) and were checked as correct at the time of going to print. Where conflict arises, the IALA Dictionary should be considered as the authoritative source of definitions used in IALA documents.

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

*Accredited training organization* is an organization that the competent authority or an authority designated and approved by the competent authority, grants recognition to for demonstrated ability to meet predetermined criteria for established standards.

*Approved AtoN training course* is the result of an accredited training organization successfully demonstrating that the standards specified in an IALA model course for its implementation, delivery and assessment have been met.

*AtoN model course certificate* is a document awarded by the accredited training organization, to confirm that a student has successfully completed a AtoN training course.

*AtoN personnel* are individuals that are appropriately trained and qualified in either AtoN management or AtoN technician disciplines in accordance with the relevant model course associated with their functions.

*AtoN provider* is the entity with responsibility for the management, operation, and co-ordination of the provision of AtoN in an area determined by a competent authority and the safe and effective provision of the service.

*Competence* is 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* is an authority made responsible, in whole or in part, by the Government for the safety, including environmental safety, and efficiency of vessel traffic and the protection of the environment.

*Qualification* is the education, knowledge, understanding, proficiency, skill, experience, or any other attribute which the competent authority and/or the AtoN provider has determined desirable for performing the duties of the relevant position. AtoN qualifications should be based on the principle that satisfactory results are obtained on completion of the IALA AtoN model courses.



## 9. ABBREVIATIONS

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AtoN	Marine Aid(s) to Navigation
CPD	Continual professional development
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities
IELTS	International English Language Testing System
IMO	International Maritime Organization
SOLAS	International Convention for the Safety of Life at Sea