



# Standard 102:1:2015

## Visual Aids to Navigation

### Signalling

#### The IALA Document Structure

*[Preface common to all Standards]*

IALA brings together governments, services and organisations concerned with the provision, maintenance or operations of marine aids to navigation and allied activities, at sea and on inland waterways, to develop international cooperation by promoting close working relationships and assistance between members, to communicate recent developments and to facilitate mutual exchange of information with organisations representing the users of aids to navigation.

The aim of IALA is to foster the safe, economic and efficient movement of vessels, through improvement and harmonisation of aids to navigation worldwide and other appropriate means, for the benefit of the maritime community and the protection of the environment.

IALA Standards, Recommendations, and Guidelines are the documents which IALA formulates and publishes for the purpose of global harmonisation of the provision, maintenance, and operation of marine aids to navigation. They are defined as follows.

Document	Definition
IALA Standard	IALA Standards form a framework, implementation of which by all coastal states will harmonize marine aids to navigation worldwide. IALA standards cover technology and services and are non-mandatory.
IALA Recommendation	IALA Recommendations describe how to plan, design, operate, and manage marine aids to navigation in order to comply with IALA Standards. Each Recommendation is related to an IALA Standard.
IALA Guideline	IALA Guidelines provide information on aspects of IALA Recommendations, indicating best practices for implementation. Each Guideline is related to an IALA Recommendation.

Each IALA Standard has been established by consensus and is based on the consolidated results of science, technology and experience. It is aimed at fostering the safe and efficient movement of vessels for the benefit of the maritime community.

Choosing to adopt an IALA standard is voluntary but, having done so, achieving conformity with that standard necessitates full compliance with its mandatory requirements. All aids to navigation

authorities and those responsible for the regulation, provision, maintenance or operation of marine aids to navigation are strongly encouraged to comply with them in full.  
IALA also creates manuals and Model Courses, as follows.

Document	Definition
IALA Manual	IALA Manuals provide an overall view of a wide subject area. These include the IALA Dictionary.
IALA Model Course	IALA Model Courses are training documents which define the level of training and knowledge needed to reach levels of competence defined by IALA.

IALA Standards, Recommendations, and Guidelines may be downloaded from the IALA website.

# IALA Standard 102.1.2015

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## 1. Introduction

*[Provide the background to and context of the Standard. This may include the principles behind the Standard and the reasons prompting its preparation.]*

The object of this Standard is the harmonisation of the visual signals issued by maritime aids to navigation.

The Standard and its Referenced Documents are concerned with:

- a) The meaning and purpose of visual signals, and
- b) Their characteristics, performance, and measurement.

Implementation of this standard by all AtoN Competent Authorities will ensure that a harmonised system of visual aids to navigation signalling is achieved.

## 2. Scope

*[Defines the subject of the document and the extent and limitations of the matter covered by the Standard or particular parts of it.]*

The scope of this Standard is:

- c) To define the meaning to the mariner of visual maritime aids to navigation signals such as buoys, beacons, and other visual signals in the IALA Maritime Buoyage Scheme,
- d) To define the meaning to the mariner of other visual maritime aids to navigation signals such as those on offshore man-made structures,
- e) To describe how measurements and calculations should be carried out, and
- f) To xxxxxxxx.

[Exclusions?]

## 3. Provisions

IALA Standards may contain three types of provisions:

- mandatory
- normative
- informative

**Mandatory provisions** are those with which it is necessary to conform in order to claim compliance with the Standard. These may be, for examples, actions to be taken, test requirements, records to be kept, dimensions or tolerances.

**Normative provisions** are similar to mandatory provisions however where mandatory provisions apply to individual requirements normative provisions apply to a requirement to conform with a whole element (a part, a section or an annex of the standard) which may contain mandatory or informative elements.

**Informative provisions** are those which give additional information or guidelines.

In this Standard the word 'shall' is used to state that a requirement is strictly to be followed in order to comply with the standard. The word 'should' introduces non-mandatory but preferred options and 'may' indicates a suggestion. Compliance with 'should' and 'may' alternatives is not necessary to comply with the standard.

4. Application

*[Covers the application of the Standard itself-not the subject. It is used where it is necessary to define the use of the Standard; for example, intended users, parts or sections that are to be used in different circumstances or limitations in the use of the Standard.]*

This Standard is intended for use by Competent Authorities, services, and organisations concerned with the provision or maintenance of marine aids to navigation and allied activities, at sea and on inland waterways.

5. Referenced Documents

*[Referenced documents are those documents, usually other Standards, but may also include special reference texts, that have been referenced in the main body of the Standard and in Appendices.]*

*IALA Recommendations or Guidelines could be listed here then be used in the Requirement provisions of the standard].*

5.1. IALA Recommendations

IALA Recommendation E-200	
IALA Recommendation E-108.	
“IALA-AISM Maritime Buoyage System and other Aids to Navigation”, second edition March 2010	
IALA Recommendation E-110	
IALA Recommendation E-106	
IALA Recommendation E-111	
IALA Recommendation XYZ123	
IALA Recommendation PQR456	

5.2. IALA Guidelines

IALA Guideline 1069	
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6. Definitions

*[Define all terms in one place, the IALA Dictionary. Remove existing definitions from guidance document and manuals to avoid potential conflict.]*

Terms used in this Standard are defined in the IALA Dictionary.

7. Requirements

*[This is the main text of the standard.*

*For large or complex Standards the requirements may be divided into Sections, each Section dealing with a specific aspect of the subject.*

*Each of the ‘white text’ areas identified under the six blue IALA Standards could be addressed in a separate section. The text in the elements covered by the earlier headings would refer to the general subject area of the Standard, as would the introduction to the requirement.*

*The requirements could then be addressed in terms of the subject areas of the existing recommendations, with normative statements that refer to those recommendations, or informative statements that refer to the recommendations or guidelines.*

*The use of numbered clauses and lists allows the unambiguous reference to a particular requirement, clause or item. Would need to select a style and to use consistently across all standards, but may be covered by pending IALA Style Guide?]*

### 7.1. Vision, Colour, Conspicuity

Light signal colours **shall** comply with the provisions of IALA Recommendation E-200 Part 1.

### 7.2. Calculation and Measurement

The calculation, definition and notation of Luminous Range **shall** be carried out in accordance with IALA Recommendation E-200 Part 2.

Measurement **shall** be carried out in accordance with IALA Recommendation E-200 Part 3.

Determination and calculation of Effective Intensity **shall** be carried out in accordance with IALA Recommendation E-200 Part 4.

Estimation of the performance of optical apparatus **shall** be carried out in accordance with IALA Recommendation E-200 Part 5.

The surface colours used as visual signals on aids to navigation **shall** comply with IALA Recommendation E-108.

### 7.3. IALA Maritime Buoyage System

Visual signals **shall** be in accordance with the provisions of the IALA Maritime Buoyage System, as described in “IALA-AISM Maritime Buoyage System and other Aids to Navigation”, second edition March 2010.

The rhythmic characters of lights on aids to navigation shall comply with IALA Recommendation E-110.

The use of retro-reflecting material on aids to navigation marks within the IALA Maritime Buoyage System **shall** comply with IALA Recommendation E-106.

Synchronised lights **should** comply with the guidance in IALA Guideline 1069.

### 7.4. Signals on bridges over waterways

[To be added.]

### 7.5. Port traffic signals

Unless the Competent Authority requires otherwise, port traffic signals **shall** comply with IALA Recommendation E-111.

### 7.6. Offshore structures

Visual aids to navigation to mark offshore structures such as oil and gas production platforms **shall** comply with the requirements of the local Competent Authority for the area. If no such requirements exist then they should comply with IALA Recommendation XYZ123.

Visual aids to navigation to mark wind driven turbines for energy production **shall** comply with IALA Recommendation PQR456.

8. Supplementary elements

*[This includes Appendices and Bibliography (where present)].*

There are no supplementary elements for this Standard.

9. Document History

Date	Amendment Details	Approval
2018-06-01	First issue	General Assembly [Resolution] 1234