



IALA GUIDELINE

G1004 LEVEL OF SERVICE

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7 December 2005	Entire document reformatted to reflect IALA documentation hierarchy.	Council session 37
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1. INTRODUCTION

This Guideline provides level of service information for services provided by competent authorities including related descriptions, components and benefits. It also provides guidance on how to develop an appropriate level of service and how to calculate availability.

2. LEVEL OF SERVICE

2.1. DESCRIPTION

Level of service is the commitment of service by the competent authority to mariners who are navigating or operating in an area, as well as clients and/or governments responsible for funding the provision of the relevant service.

Level of service may be articulated through a statement that should be clear, easy to understand and available to all concerned.

2.2. BENEFITS

An established level of service is essential to efficient planning and delivery. It provides users with a clear understanding of the expected services. A level of service also contributes to ensuring that services are delivered in a nationally consistent, integrated, predictable, measurable and fair manner.

2.3. COMPONENTS

A level of service statement should include, at minimum, the following components:

- Type
- Extent
- Quality

It may be beneficial to include an overview and description of the competent authority's objectives and mandate in any statement.

2.3.1. TYPE

The type of service should describe what the competent authority will provide. It is a description of the service provided, such as, visual aids to navigation, radionavigation systems, pilotage, vessel traffic service, Maritime Safety Information, etc.

2.3.2. EXTENT

The extent should describe where and why a service will be provided by the competent authority.

Most competent authorities are bound by the *International Convention on the Safety of Life at Sea, 1974 As amended (SOLAS)* Chapter 5, Regulation 13, which states that:

“Each Contracting Government undertakes to provide, as it deems practical and necessary either individually or in co-operation with other Contracting Governments, such aids to navigation as the volume of traffic justifies [where] and the degree of risk requires [why].”



The extent of service provided may also vary by competent authorities for specific areas, category of users, or due to national obligations.

2.3.3. QUALITY

The quality should address to what level the competent authority will provide a service. It is a minimum standard at which clients can expect a service to be performed, also known as a performance standard.

A performance standard is a benchmark against which actual performance of a service can be measured. It may be expressed in the form of a target such as the percentage of availability of a service or service response times.

3. DEVELOPMENT

3.1. DETERMINING THE TYPE

The type of service provided is primarily determined by identifying the variety of users, meteorological and oceanographic conditions, traffic volume, hydrography, etc. in which navigation occurs. Competent authorities may also have national obligations to provide a specific type of service.

Other factors may require evaluation in order to select the appropriate service type, such as offshore energy infrastructure, aquaculture, environmental considerations, etc.

3.2. DETERMINING THE EXTENT

The extent of the service provided can be determined by identifying national obligations of the competent authority. Obligations may be in the form of legislation, international conventions as well as other priorities defined by the competent authority.

Competent authorities bound by *SOLAS* should employ risk assessments and other tools to determine the extent of the service provided based on the volume of traffic and the degree of risk.

3.3. DETERMINING THE QUALITY

Competent authorities must achieve a careful balance between safety of navigation, user requirements and what is reasonably possible given resources and funding when establishing a performance standard to ensure quality. Consideration must also be given to relevant IALA recommendations and guidelines.

3.4. CONSULTATION AND REVIEW

Consultation with stakeholders such as users, partners, and personnel is encouraged and can occur at any stage during the development of a level of service.

Stakeholder feedback is an important element. Nonetheless, the consultation process is just one of many elements to consider when establishing or reviewing a level of service.

A periodic review of an established level of service may be required to address changes to user requirements, national obligations, environmental conditions and when new risks are identified.

It is recommended that competent authorities put in place procedures to monitor the performance of individual components of the service provided to assist in the review of the level of service.



3.5. PROMULGATION

A formal mechanism for promulgating a level of service and changes thereto, accessible by all potential stakeholders, should be established. Publishing a level of service on the competent authority's website may be a useful mechanism to promulgate this information to the appropriate stakeholders.

4. RISK ASSESSMENT AND DESIGN OF FAIRWAYS

Competent authorities should employ risk assessments and other tools to determine the appropriate type, combination, and quantity of services for a fairway.

IALA Guideline *G1018 Risk Management* and Guideline *G1078 The Use of AtoN in the Design of Fairways* provide specific guidance for assessing risks and determining the appropriate mix of services within a given fairway. The IALA Risk Toolbox is useful in assessing the risks involved with vessel traffic in specific geographical areas.

Competent authorities should conduct periodic reviews of fairways to determine the efficiency of the service provided.

5. CALCULATION OF AVAILABILITY

Availability should be calculated using the following equation, with the most accurate time available and is calculated over a continuous three (3) calendar year period and expressed as a percentage:

$$\text{Availability} = \frac{\text{Total Time} - \text{Down Time}}{\text{Total Time}} \quad (1)$$

where:

Total Time is the time that an AtoN or system of AtoN should be performing its specified function.

Down Time is the sum of the periods during which the AtoN or system of AtoN is unable to perform its specific function. It does not include those periods when the mariner has been notified of a discrepancy by prior publications through a Preliminary Notice to Mariners.¹

The IALA Guideline *G1035 Availability and Reliability of Aids to Navigation* should be consulted for further information on calculating availability. A failure is the malfunction of an AtoN or system of AtoN to display its proper characteristics or to be on its assigned position for its intended use by the mariner. As such, a failure of a technical function is not necessarily considered an AtoN discrepancy.

For example, if the main power supply has failed but the light continues to function at normal intensity on standby power, this is not considered a failure, since the AtoN continues to provide its characteristics to the mariner. The failure may be caused by equipment malfunction or scheduled or unscheduled maintenance work.

¹ Two months notification, as defined by the International Hydrographic Organization (IHO) Technical resolution

6. OTHER CONSIDERATIONS

6.1. RESPONSIBILITY

Where the provision of a service is either contracted out or delegated to another level of government, for example to state, territory or local government organisations, or to port, harbour or waterway authorities, or local private groups, responsibility to ensure and enforce a level of service should remain with the competent authority concerned.

6.2. DISCLAIMER

Level of service is generally for planning purposes only. It is intended to communicate the service and performance clients can expect from a competent authority under normal conditions. In some circumstances, due to factors outside of their control (weather, maritime traffic, unanticipated events, etc.), a competent authority may be unable to meet the level of service. A disclaimer to this effect could be included in a level of service statement.

7. EXAMPLE

The Table 1 is intended to illustrate a simple example of a level of service including the recommended components described in this Guideline.

Table 1 Simplified example of a level of service.

Type of Service	
Provision of a short-range Aids to Navigation system	
Extent of Service	Quality of Service
<p>Short-range Aids to Navigation are provided where the volume of traffic justifies and the degree of risk requires as determined by applying the IALA Risk Management toolbox.</p> <p>Short-range Aids to Navigation must be provided:</p> <ul style="list-style-type: none"> to guide mariners to and from harbours and ports supported by federal funds. to allow for re-supply of isolated communities dependent on marine transportation. <p>Short-range Aids to Navigation will not be provided:</p> <ul style="list-style-type: none"> in waters that lack adequate nautical charts or available depth for common use. in waters for which this responsibility has been delegated to other authorities through legislation or signed agreements. exclusively for the benefit of single or a small number of users, or to mark access to private or municipal facilities. 	<p>The overall level for operational availability for the short-range Aids to Navigation system is 99%, calculated over a three-year period.</p> <p>100% of all short-range Aids to Navigation will be monitored for availability.</p> <p>Visual Aids to Navigation are designed to be visible at least 75% of the time during the worst month of the navigation season.</p>



When developing a level of service, the IALA guidelines and recommendations listed in sections 10 and 11 should be consulted.

8. DEFINITIONS

The definitions of terms used in this Guideline can be found in the *International Dictionary of Marine Aids to Navigation* (IALA Dictionary) at <http://www.iala-aism.org/wiki/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.

9. ABBREVIATIONS

AtoN	Marine Aids to Navigation
SOLAS	International Convention on the Safety of Life at Sea, 1974 as amended

10. REFERENCES

- [1] IMO. (1974) International Convention on the Safety of Life at Sea, 1974 as amended (SOLAS)
- [2] IALA. Guideline G1018 Risk Management
- [3] IALA. Guideline G1035 Availability and Reliability of Aids to Navigation
- [4] IALA. Guideline G1078 The Use of Aids to Navigation in the Design of Fairways

11. FURTHER READING

- [1] IALA. Guideline G1052 Quality Management Systems for Aids to Navigation Service Delivery
- [2] IALA. Recommendation R0130 (O-130) Categorisation and Availability Objectives for Short Range Aids to Navigation
- [3] IALA. Recommendation R0132 (O-132) Quality Management for Aids to Navigation Authorities