



Commissioners of
IRISH LIGHTS | *Navigation
and Maritime
Services*

2021/22 Report

on

Local Aids to Navigation Inspections

&

Audits of Local Lighthouse Authorities

in

Ireland



Contents

Contents	2
Executive Summary – All island	4
Legislative Background – Ireland	6
Local Aids to Navigation Inspections - Ireland	7
Unsanctioned Local Aids to Navigation - Ireland	9
Local Lighthouse Authority Audits - Ireland	10
Assistance Provided to Local Lighthouse Authorities - Ireland	12
Conclusion	14
Annexes – For internal use	15
Annex A – Extract from IMO SOLAS	15
Annex B – IALA Categorisation and Availability Objectives for Short Range Aids to Navigation	16
Annex C – Unsanctioned LAtoN Observed Categorised by LLA	Error! Bookmark not defined.
Annex D – List of Local Lighthouse Authorities by Audit Outcome	Error! Bookmark not defined.
Annex E – List of Local Lighthouse Authorities Categorised By Audit & Inspection	Error! Bookmark not defined.
Annex F – Examples of Local AtoN Discrepancies Observed through Audit & Inspection	Error! Bookmark not defined.

Front cover photo: Youghal Lighthouse

Acronyms

AtoN	Aid to Navigation
BIM	Bord Iascaigh Mhara
CAR	Corrective Action Request
DAFM	Department of Agriculture, Food and the Marine
FHC	Fishery Harbour Centre
GLA	General Lighthouse Authority
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities
IMA	Irish Maritime Administration
LAtON	Local Aid to Navigation
LLA	Local Lighthouse Authority
NTM	Notice to Mariners
ORE	Offshore Renewable Energy
RNW	Radio Navigational Warning
SMS	Safety Management System

Executive Summary – All island

This report covers the period April 2021 – March 2022 inclusive. This reporting period saw a gradual easing of COVID restrictions in Ireland, culminating in a near total removal of restrictions in Jan 2022. During the reporting period, these restrictions on travel and accommodation had impacts on LLAs in fulfilling their responsibilities regarding local aids to navigation. These impacts are reflected in an increase in both major and minor discrepancies found on inspection by Irish Lights personnel during 2021/22. At the end of the reporting period, access to port areas and availability of crews for local boat use gradually improved, which enabled more accompanied on-site inspections.

Major Discrepancies have increased by 6% overall when compared with the previous annual report figures. Approximately half of these discrepancies relate to the aquaculture sector. Improvements in Ireland planned by Bord Iascaigh Mhara (BIM) for this sector through the deployment of Special Unified Marking Schemes (SUMS) were not possible due to COVID, resulting in delays in the deployment and maintenance of Aquaculture LAtoN. The challenges of the previous year continue to be a factor in the restoration and maintenance of lower risk LLA LAtoN. This has led to an increased number of major discrepancies recorded against aquaculture AtoN in the year 2021/22.

Over this inspection period, Minor Discrepancies of LAtoN increased by 8% overall compared to the previous period. The restoration of services and maintenance procedures has proved challenging for LLAs. This continued to affect the general maintenance of LAtoN, with LLAs experiencing difficulty in attending to their LAtoN, such as painting and cleaning requirements.

(Financial Year)	2019/20	2020/21	2021/22
As Required	1,450 (89%)	1,232 (76%)	995 (62%)
Minor Discrepancy	45 (3%)	166 (10%)	294 (18%)
Major Discrepancy	132 (8%)	220 (14%)	329 (20%)
Total LAtoN Inspected	1,627 (100%)	1,618 (100%)	1,618 (100%)

Table 1 - Summary of LAtoN Inspected in Ireland plus Northern Ireland

Consenting activity continued during the reporting period, including four Statutory Sanctions for the provision of Aquaculture LAtoN, six Statutory Sanctions for the provision of LAtoN in relation to the OREI sector, and 25 Statutory Sanctions for the provision of LAtoN for Local Lighthouse Authorities. Overall, Irish Lights processed applications for 75 new LAtoN, the disestablishment of 10 LAtoN, and the amendment of 21 existing LAtoN. The low number of Statutory Sanctions for Aquaculture LAtoN in Ireland is due to a change in process within DAFM concerning Appropriate Assessments required under the Birds & Habitats directive.

In addition Irish Lights, as a statutory consultee under the Foreshore Act 1933 in Ireland, reviewed and responded to 29 aquaculture site applications. The Maritime Area Planning (MAP) Act 2021 was passed into law in Ireland in Dec 2021. This ACT and accompanying regulations under development, will set the planning and consenting regime for the maritime area. In the interim, Irish Lights continues to engage with the OREI sector under existing legislation regarding the assessment of potential offshore sites using scientific monitoring buoys. Irish Lights processed 35 such applications during the year relating to 106 LAtoN.

Irish Lights wishes to thank the Local Lighthouse Authorities for their support and accommodation during this challenging year. It is a testament to the help provided by those authorities and to the professionalism of Irish Lights staff that despite the ongoing pandemic challenges, Irish Lights achieved 100% of our intended local AtoN inspections and 92% of intended audits. From these inspections and audits Irish Lights issued three Corrective Action Requests (CAR) to Local Lighthouse Authorities, resulting in an overall improvement in maritime safety for all sectors.

Legislative Background – Ireland

Section 652 (1) of the Merchant Shipping Act 1894¹, empowers the General Lighthouse Authority (GLA) to inspect all lighthouses, buoys and beacons in Local Lighthouse Authority management. In addition, Section 652 (1) of the 1894 Act vests in the GLA the superintendence of all lighthouses, buoys and beacons within their areas. The characteristics of these AtoN must comply with guidelines and recommendations as laid down by the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA). The GLA requires Local Lighthouse Authorities to ensure that any third party AtoN, within their area of responsibility, are also established and maintained to the same standards.²

Before any aid to navigation can be established, altered or disestablished consent as Statutory Sanction under the Merchant Shipping Act must be obtained from the Commissioners of Irish Lights. The applicant must submit this application through a Local Lighthouse Authority.

A Statutory Sanction can be granted for four classes of AtoN (*Table 2*).

AtoN Categorisation	
Permanent AtoN	AtoN established to mark a known navigational hazard. Example—Channel lateral marks.
Aquaculture AtoN	AtoN established to mark licenced aquaculture sites.
Temporary AtoN	AtoN temporarily established for a period not exceeding 12 months. Example—Turbidity buoy deployed for three months dredging campaign.
Seasonal AtoN	AtoN established for a given period each year. Example - Swim zone buoys deployed from May to September.

Table 2 - AtoN Categorisation

The levels of compliance for these AtoN categories are examined below.

¹ [Merchant Shipping Act, 1894, Section 652 \(irishstatutebook.ie\)](http://irishstatutebook.ie)

² [Local Aids to Navigation \(irishlights.ie\)](http://irishlights.ie)

Local Aids to Navigation Inspections - Ireland

Irish Lights' inspection target of 1,618 (100%) LAtoN on the island of Ireland was achieved in 2021/22. Of this target, 1,290 (80%) of the LAtoN inspected were in Ireland. It is important to note that the number of physical inspections which took place exceeded this number as several follow-up inspections were conducted of AtoN which were found with an initial discrepancy.

There are three outcomes which result from an Irish Lights inspection of an AtoN.

Inspection Outcomes	Explanation of Outcomes
As Required	Where the AtoN is as described in the Statutory Sanction.
Major Discrepancy	Where the AtoN is not compliant and considered a risk to navigation.
Minor Discrepancy	Where the AtoN is not fully compliant, but is not at risk to navigation.

Table 3—Categories of Inspection Outcomes

Summary of outcomes for AtoN inspected in Ireland.

Year 2021/22	AtoN Inspected	As Required	Major Discrepancy	Minor Discrepancy
Permanent AtoN	780	570	113	97
Aquaculture AtoN	477	216	108	153
Temporary AtoN	19	16	1	2
Seasonal AtoN	14	14	0	0

Table 4—Result of inspections in Ireland

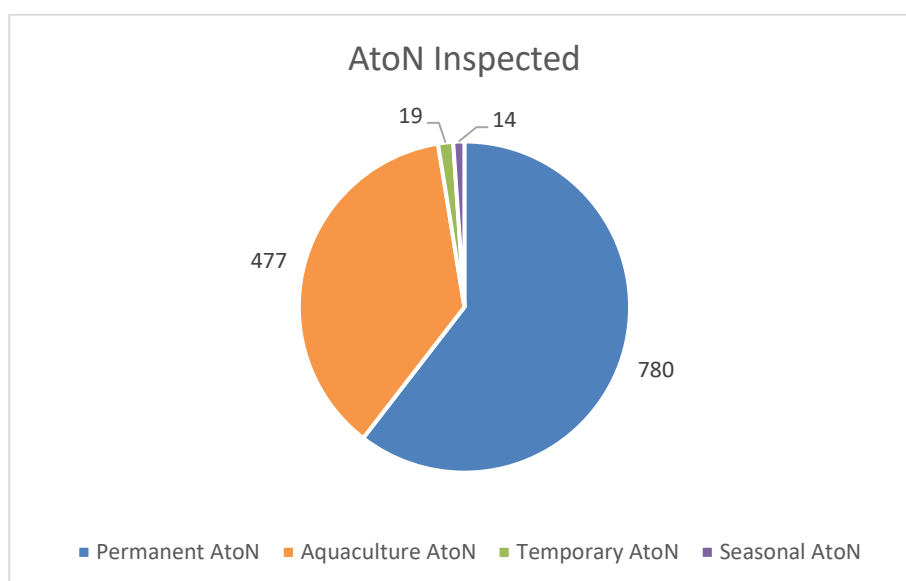


Figure 1

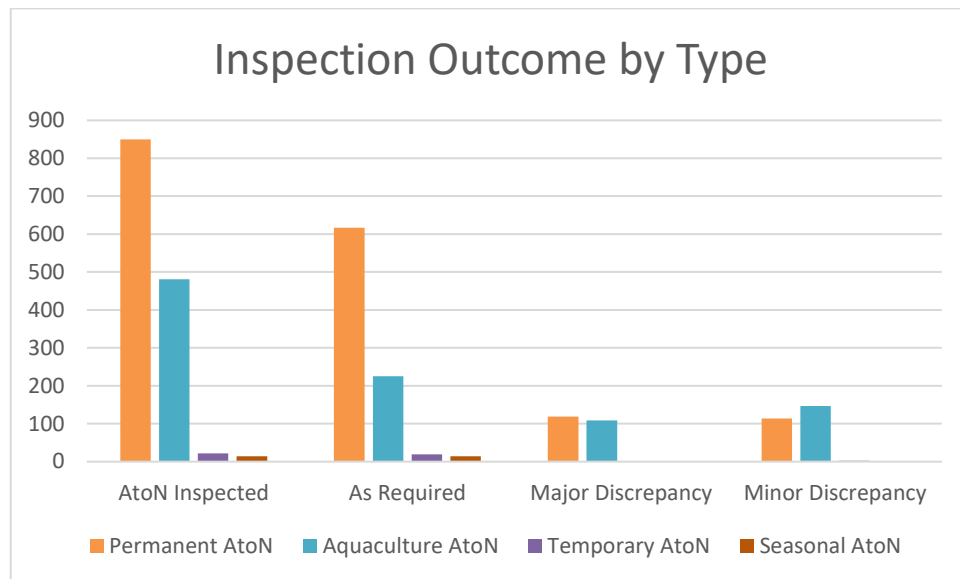


Figure 2

The inspection outcome has several detailed descriptions recorded against it. These descriptions are shown in *Table 5* for the 495 with discrepancies observed.

Outcome detailed descriptions for 2021/22	Discrepancies
Leaning / Not Upright	9
Light Character Incorrect	30
Light Extinguished (Unlit)	38
Light Not Seen	1
Sector lead check fail	6
Name Board Missing	10
Not Seen (Not Found / Not Located)	301 (231 Aquaculture AtoN)
Out of Position	38
Renewal Required (condition deteriorating)	26
Requires Cleaning	11
Requires Painting	21
Top Mark Missing	4

Table 5 - Number and type of discrepancies—Ireland

Unsanctioned Local Aids to Navigation - Ireland

During local AtoN inspections in Ireland, Irish Lights inspectors observed 35 unsanctioned AtoN and reported these to the LLA in whose jurisdiction they were located (Annex C, Figure 5). An unsanctioned AtoN is where Irish Lights has observed a navigation mark through physical inspection, yet had not granted corresponding Statutory Sanction permission for the establishment of these AtoN.

All of these LAtoN have been provided to increase safety of navigation, and with good intent. However, Irish Lights must be engaged in order to ensure the LLA is aware of the LAtoN within their remit, and the relevant Hydrographic Organisations are supplied with the correct information in order to update nautical charts and publications. The detection of these unsanctioned AtoN during physical inspections is therefore a positive indicator of the efficacy of the inspection process, however, it points towards a requirement for wider stakeholder engagement and education of both LLAs and the public on the legal requirements concerning aids to navigation.

These unsanctioned LAtoN were mainly associated with aquaculture, or local user organisations who deployed the LAtoN without the consent or knowledge of the LLA. As a result of these LAtoN being detected, Irish Lights has engaged with the Local Lighthouse Authorities in these areas and requested either removal of the unsanctioned AtoN or the commencement of the Statutory Sanction process.

Local Lighthouse Authority Audits - Ireland

Irish Lights has a duty to superintend and manage the Local Aids to Navigation through the Local Lighthouse Authorities. There are 36 Local Lighthouse Authorities within Ireland, and Irish Lights audited 11 of them in the 2021/22 period (*Table 6*). Typically an LLA is audited every two years, however depending on the result of the audit, the frequency in which Irish Lights audits an LLA may increase. Because of restrictions in the year's commencement, most of these audits were conducted remotely.

The focus areas discussed with an LLA during the audit are shown in *Figure 3*:



Figure 3 – Items covered by the LLA Audit

11 Local Lighthouse Authorities Audited in 2021/22
Codling Wind Park
DAFM - Dunmore East FHC
Drogheda Port Company
Dublin City Council
Irish Water
Kinsale Energy
Louth County Council
RWE Renewable Ireland Ltd
SSE Renewables
Waterford County Council
Wexford County Council

Table 6 - LLAs audited in Ireland

Following an audit, a detailed report is provided to the LLA to assist with maintaining or improving compliance.

There are three outcomes which result from an audit is detailed in Annex D, *Table 9*.

- **Compliant** - Appropriate standards observed in respect of records of inspections and maintenance as evidenced during the audit. The LLA has in place comprehensive policies and procedures for the management of AtoN.
- **Compliant with Advisory** – The LLA partially meets the required standards. Partial records of inspections and maintenance were evidenced during the audit. The audit report will contain advice and guidance on how to improve processes and develop policies to form a more robust management system for AtoN within the LLAs jurisdiction.
- **Corrective Action Request** – The LLA does not meet its obligations in respect of the required standards and urgent action is required on the part of the LLA. Irish Lights provide guidance and assistance on the appropriate improvement measures and required timelines. An intermediate audit is planned for 12-months' time to monitor progress.

Assistance Provided to Local Lighthouse Authorities - Ireland

Irish Lights provide assistance to Local Lighthouse Authorities in many forms. Several examples of this help is detailed below.

Waterford City Sustainable Transport Bridge - This project was in the early design and development stage when the developers approached Irish Lights for input. Irish Lights advised them on the process and guided them on the IALA Maritime Buoyage system, the role of the LLA, and the Statutory Sanction process. We worked closely with Waterford County Council and Roughan & O'Donovan, consulting engineers on the project to guide them to implementing Simplified IALA Risk Assessment (SIRA) method that is based on IALA Guideline 1018 to identify hazards, assess risk and specify appropriate risk control measures.

Dublin Port Channel – As part of their development the first phase of Masterplan 2040, which involved deepening the channel in the Port by dredging down from -7 to -10 metres and widening the channel, Dublin Port worked with Irish Lights to sanction a redesigned Dublin Approach, which saw the relocation of eight LAtoN and the establishment of one LAtoN

Aquaculture – Irish Lights continues to work with the aquaculture industry to sanction LAtoN, as well as participating in the consultation phase of the licence application process for aquaculture sites. The East coast has seen little development in the aquaculture sector, however, in 2021, Irish Lights was involved in the granting the Statutory Sanction for the first mussel seed development in the area. This development is South of Arklow Harbour. We completed this process in consultation with the developer, BIM, and the Marine Survey Office.

The UK Hydrographic Office is subsequently informed of any changes so that they can update navigation charts and publications.

Offshore Renewable Energy Sector - The ORE sector is expected to grow significantly in Ireland within the next decade, as the relevant projects (shown below in Yellow) and Phase 2 projects (shown in blue) advance to their commissioning and operational stages. Each of these projects will require lighting and marking to the relevant maritime and aviation standards.

In the interim, Irish Lights continues to assist the development process in line with the existing Foreshore and Merchant Shipping legislation pending the full introduction of the Maritime Act Planning Act 2021. This activity resulted in six Statutory Sanctions applications for 17 data collection buoys during the reporting period.

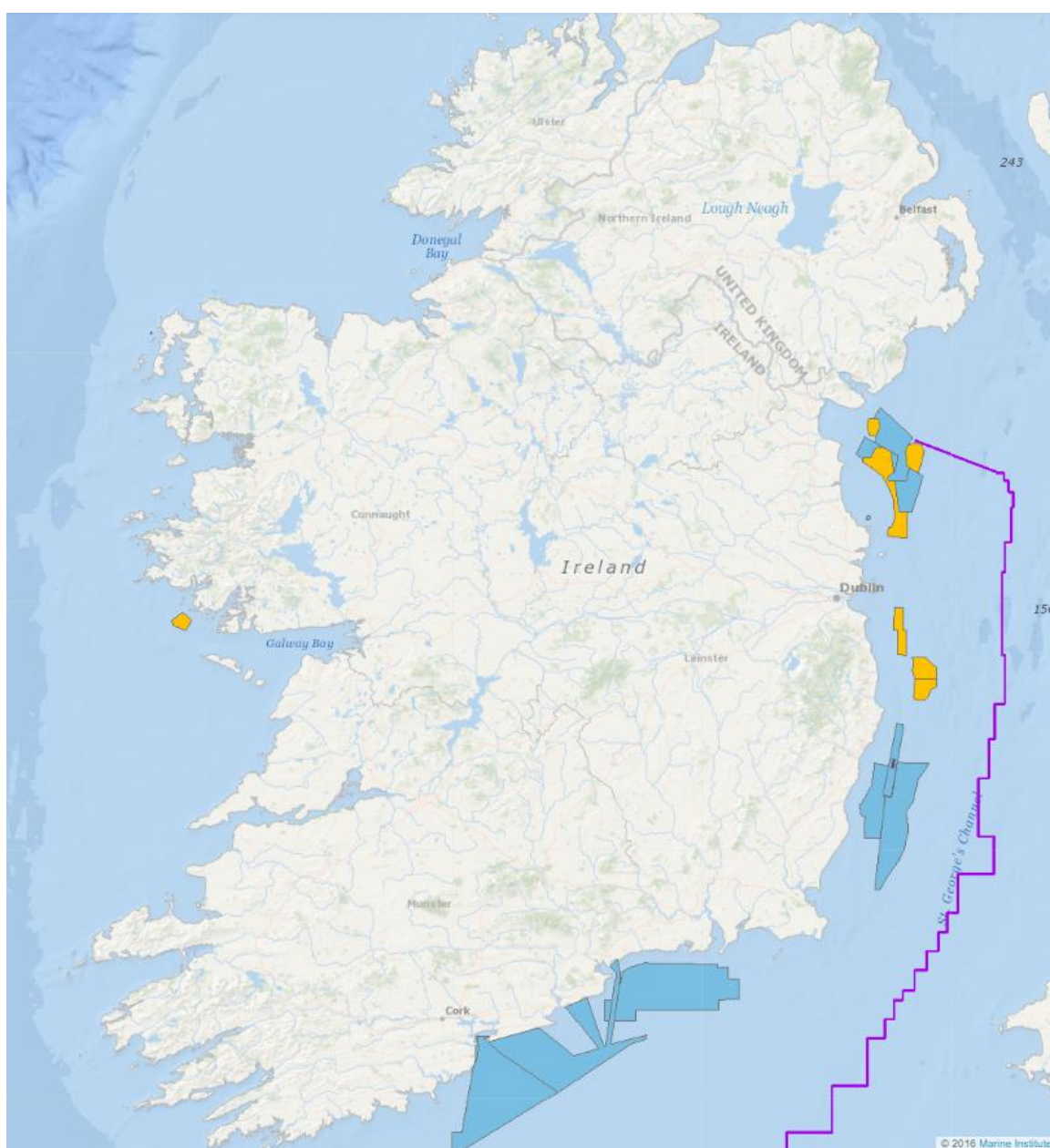


Figure 4 – Windfarms – Foreshore Licencing applications (source <https://atlas.marine.ie/>)

Conclusion

This annual report provides a high-level summary of performance local AtoN within Ireland, under Irish Lights' statutory responsibilities for the superintendence and management of all lighthouses, buoys and beacons managed by Local Lighthouse Authorities. These responsibilities are the cornerstones of Irish Lights' role in ensuring that mariners using the waters around the island of Ireland can do so safely.

2021/22 Summary of AtoN Inspected in Ireland			
AtoN Inspected	As Required	Major Discrepancy	Minor Discrepancy
1290	816 (63%)	222 (17%)	252 (20%)

Table 8

Most local authorities that we attended during this year have weathered the restrictions and difficulties placed upon them by the COVID pandemic, although many reported shortfalls in the availability of their workforce and difficulties including supply chain issues in obtaining spare parts for their AtoN. Irish Lights provide an assurance service through physical inspections and the provision of virtual audits throughout this year, which has assisted Local Lighthouse Authorities in maintaining a focus on the safety of mariners.



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Annexes – For internal use

Annex A – Extract from IMO SOLAS

Available at: [Regulation 13 - Establishment and operation of aids to navigation \(imorules.com\)](http://imorules.com)

REGULATION 13 - Establishment and operation of aids to navigation

1. 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 and the degree of risk requires.
2. In order to maintain the greatest possible uniformity in aids to navigation, Contracting Governments undertake to consider the international recommendations and guidelines* when establishing such aids.
3. Contracting Governments undertake to arrange for information relating to aids to navigation to be made available to all concerned. Changes in the transmissions of position-fixing systems which could adversely affect the performance of receivers fitted in ships shall be avoided as far as possible and only be effected after timely and adequate notice has been promulgated.

* Refer to the recommendations and guidelines of IALA and SN/Circ.107–Maritime Buoyage System.



Annex B – IALA Categorisation and Availability Objectives for Short Range Aids to Navigation

Available at:

[R0130 Categorisation and Availability Objectives for Short Range Aids to Navigation \(O-130\) - IALA AISM \(iala-aism.org\)](https://www.iala-aism.org/)

Within these IALA guidelines, Aids to Navigation are categorized into three types-Cat 1, Cat 2, Cat 3:

- CATEGORY 1 - An AtoN or system of AtoN that is considered by the Competent Authority to be of vital navigational significance. For example, lighted AtoN, AIS AtoN and racons that are essential for marking landfalls, primary routes, channels, waterways, dangers or protecting the marine environment.
- CATEGORY 2 - An AtoN or system of AtoN that is considered by the Competent Authority to be of important navigational significance. For example, it may include any lighted AtoN, AIS AtoN and racons that mark secondary routes and those used to supplement the marking of primary routes.
- CATEGORY 3 - An AtoN or system of AtoN that is considered by the Competent Authority to be of necessary navigational significance.

Table 1 Categories of percentage availability

CATEGORY	AVAILABILITY OBJECTIVE	CALCULATION PERIOD
1	99.8%	Availability Objectives are calculated over a continuous three-year period, unless otherwise specified
2	99.0%	
3	97.0%	

Calculations principles according to IALA Guideline on Availability and Reliability of Aids to Navigation.

The minimum availability of any individual AtoN should be 95.0%.

Where the availability of an individual AtoN consistently falls below 95.0%, consideration should be given to the discontinuance or replacement/modification of that AtoN.

Maximum permissible downtime per AtoN by category to remain IALA compliant:

Category 1–17.3 hours per annum or 52.59 hours over three years

Category 2–3.65 days per annum or 10.95 days over three years

Category 3–10.96 days per annum, or 32.88 days over three years