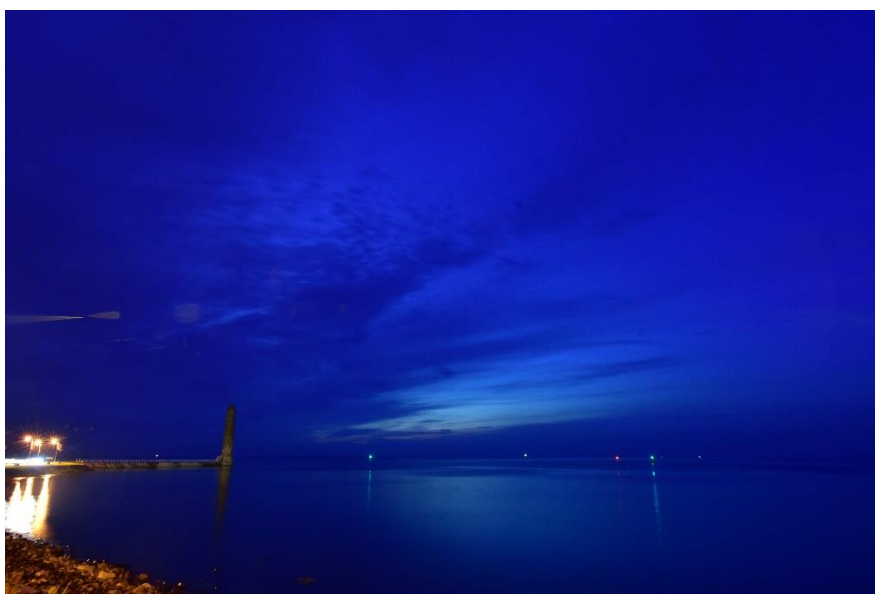




Commissioners of
IRISH LIGHTS | Navigation
and Maritime
Services

2020/21 Report
on
Local Aids to Navigation Inspections
&
Audits of Local Lighthouse Authorities
in
Northern Ireland



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Acronyms

AtoN	Aid to Navigation
DAERA	Department of Agriculture, Environment & Rural Affairs
GLA	General Lighthouse Authority
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities
ILV	Irish Lights Vessel
LAtoN	Local Aid to Navigation
LLA	Local Lighthouse Authority
MCA	Maritime & Coastguard Agency
NIFHA	Northern Ireland Fishery Harbour Authority
NI	Northern Ireland
NTM	Notice to Mariners
PMSC	Port Marine Safety Code
RNW	Radio Navigational Warning
SMS	Safety Management System
SS	Safety Statement
UK	United Kingdom

Executive Summary – All Island

The reporting period April 2020 to March 2021 saw some challenges introduced around face-to-face meetings and travel restrictions for audits and inspections due to the COVID pandemic, although these have been mitigated and resolved using remote meetings. These mitigations have enabled Irish Lights to continue with our inspections of local aids to navigation while adding a renewed emphasis on auditing against the requirements stipulated by the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA).

The year commenced with exceptional Government levied travel restrictions as a result of the global COVID-19 pandemic. Irish Lights was granted 'Essential Movement Status', in order to carry out its statutory functions in line with dynamic Public Health advice. Irish Lights wishes to express our sincere gratitude for the support we received from the Local Lighthouse Authorities in Northern Ireland during the year. It is a testament to the assistance provided by those authorities and to the professionalism of Irish Lights staff that despite the pandemic and the delayed start to local AtoN inspections, Irish Lights achieved 100% of our intended local AtoN inspections and audits. Meaning that for the year 2020/21 Irish Lights inspected a total of 1,618 Local AtoN and audited 28 of the 56 Local lighthouse Authorities on the island of Ireland as well as installations in adjacent seas and islands. As a result of the inspections and audits conducted during the year 2020/21 Irish Lights issued five Corrective Action Requests to Local Lighthouse Authorities. Irish Lights also introduced a new web-based tool for recording inspections and audits allowing for more efficient record keeping and data sharing.

This year has been a busy year in provision of local aids to navigation on the island of Ireland. In the aquaculture sector Irish Lights processed applications for: 110 new LAtoN, the disestablishment of 83 LAtoN and the amendment to 26 existing LAtoN. Irish Lights, as a statutory consultee, reviewed and responded to 29 aquaculture site applications. Working with Local Lighthouse Authorities (LLA), Irish Lights also processed applications for: 47 new permanent LAtoN, disestablishment of 8 LAtoN and approved amendments to 29 existing LAtoN. Irish Lights additionally sanctioned 41 temporary LAtoN. Elevated interest in wind farm site investigations within the Offshore Renewable Sector resulted in the number of statutory sanctions for data collection buoys increase by 9 on the previous year.

Minor Discrepancies of local AtoN increased by 7% when compared with last year's figures. COVID restrictions both in terms of availability of trained personal and in terms of travel restrictions were cited as causes, which affected the general maintenance of local AtoN and lead to these minor discrepancies. Painting of local AtoN was noted to have been particularly affected while many local authorities also reported experiencing logistical

and supply chain issues in the provision of new and replacement parts, with Covid-19 and Brexit cited as leading causes for these issues. These factors combined contributed to an increase of minor discrepancies for local AtoN during 2020/2021.

Across the Irish Lights area of operation, Major Discrepancies have increased by 6% in last year when compared with the previous year's figures. This increase has been partly driven by a particular focus on improving the marking and lighting of licensed aquaculture sites around our shores. This work will continue into 2021/22 and future years.

Separately Irish lights conducted a targeted review and assessed previously sanctioned temporary AtoN. Through this review, Irish Lights also recorded a higher percentage of major discrepancies against temporary AtoN in the year 2020/21.

This year has also been an exciting year in term of progress and development with Irish Lights nearing completion on the delivery of a new LLA online portal. This new portal will provide Geographic Information System (GIS) functionality allowing the user to more easily identify their LAtoN set against a geographical map display. The new portal will also streamline the process of applying for Statuary Sanction approval, allowing more visibility for the LLA on the status of their applications. The new portal has been designed to be more user friendly, allowing for quicker and easier reporting of outages by the LLA. Irish Lights has also been working with IALA and the National Maritime College of Ireland to develop an LLA specific training programme. The aim of this programme is to improve marine and technical knowledge associated with the safe, efficient and effective provision of Local Aids to Navigation.

Annual Summary of AtoN Inspected on the Island of Ireland		
(Financial Year)	2019/20	2020/21
As Required	1,450 (89%)	1,232 (76%)
Minor Discrepancy	45 (3%)	166 (10%)
Major Discrepancy	132 (8%)	220 (14%)
Total AtoN Inspected	1,627	1,618

Table 1 - Summary of AtoN Inspected on the Island of Ireland

Legislative Background – Northern Ireland

Section 198(1) of the Merchant Shipping Act 1995 in Northern Ireland (the Act of 1995), empowers the General Lighthouse Authority (GLA) to inspect all lighthouses, buoys and beacons under Local Lighthouse Authority management. In addition, Section 195(1) of the Act of 1995 vests in the GLA the superintendence and management of all lighthouses, buoys and beacons within their areas.

Under the UK Government's Port Marine Safety Code¹ (revised 2016) all Local Aids to Navigation (LAtoN) maintained by Harbour Authorities and any other existing Local Lighthouse Authorities must be maintained in accordance with the availability criteria laid down by the General Lighthouse Authorities, and must be subject to periodic review². The characteristics of these LAtoN 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 be responsible for ensuring that any third party LAtoN, within their area of responsibility, are also established and maintained to the same standards.

Before any aid to navigation can be established, altered or disestablished consent in the form of Statutory Sanction under the Merchant Shipping Act must be obtained from the Commissioners of Irish Lights. This application is submitted through a Local Lighthouse Authority.

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 month 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 level of compliance for these AtoN categories are examined below by Local Lighthouse Authority.

¹ <https://www.gov.uk/government/publications/port-marine-safety-code>

² <https://www.irishlights.ie/safety-navigation/local-aids-to-navigation.aspx>

Local Aids to Navigation Inspections – Northern Ireland

Irish Lights' inspection target of 1,618 (100%) AtoN on the island of Ireland was achieved in 2020/21. Within this target, 278 (17.2%) of the AtoN inspected were in Northern 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 not a risk to navigation.

Table 3 – Categories of Inspection Outcomes

Summary of outcomes for AtoN inspected in Northern Ireland.

Year 2020/21	AtoN Inspected	As Required	Major Discrepancy	Minor Discrepancy
Permanent AtoN	221	199 (90%)	10 (5%)	12 (5%)
Aquaculture AtoN	30	23 (77%)	7 (27%)	0
Temporary AtoN	27	27 (100%)	0	0
Seasonal AtoN	0	0	0	0

Table 4 – Results of Inspections in Northern Ireland

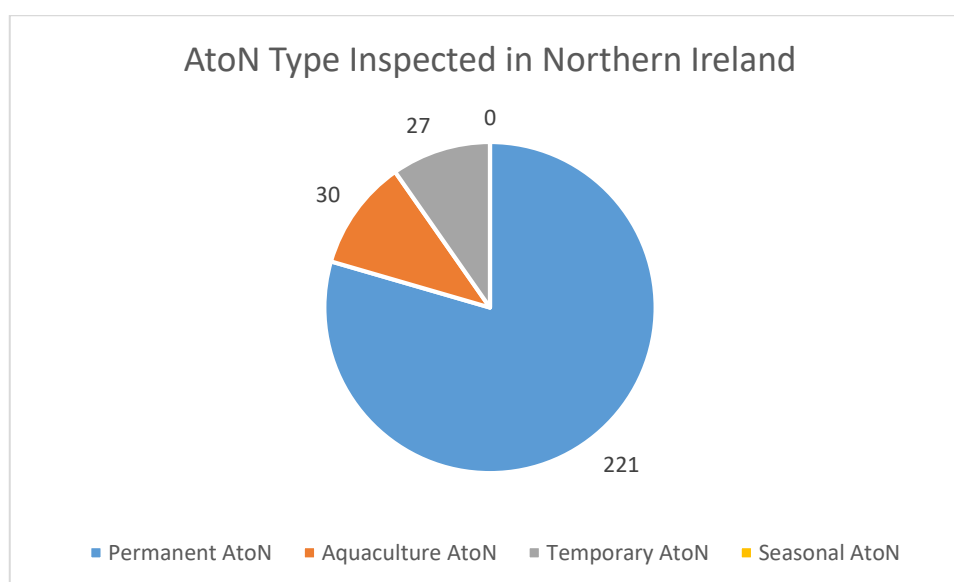


Figure 1

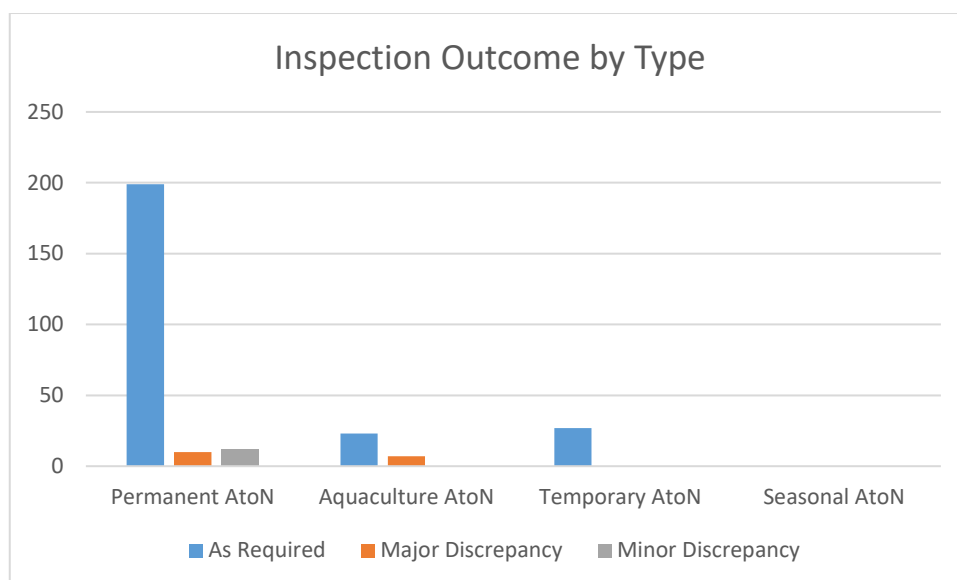


Figure 2

The inspection outcome has a number of detailed descriptions recorded against it. These descriptions are shown in *Table 5* for the 29 discrepancies observed:

Outcome detailed descriptions for 2020/21	Major Discrepancies	Minor Discrepancies
Light Character Incorrect	0	6
Light Extinguished	4	1
Not Seen (Not Found / Not Located)	12 (7 Aquaculture AtoN)	0
Out of Position	0	3
Renewal Required (condition deteriorating)	0	2
Top Mark Missing	1	0
2020/21 Totals	17	12

Table 5 – Number and type of discrepancies – Northern Ireland

Unsanctioned Local Aids to Navigation – Northern Ireland

During the course of local AtoN inspections in Northern Ireland a total of 7 unsanctioned AtoN were observed visually by an inspector and reported to the LLA whose jurisdiction they were located in (Annex C, *Figure 4*). An unsanctioned AtoN is where Irish Lights has observed a navigation mark through physical inspection, however no corresponding Statutory Sanction permission had been granted for the establishment of the AtoN. The detection of these unsanctioned AtoN during physical inspections is a positive indicator of the efficacy of the inspection process, however points towards a requirement for wider stakeholder engagement and education of both LLAs and the general public on the legal requirements concerning aids to navigation.

These 7 unsanctioned AtoN were related to recently completed infrastructure projects within ports plus legacy cable marking AtoN which were compliant with IALA standards but did not follow the correct procedure for deployment at the time. Following the observation of these unsanctioned AtoN, Irish Lights have engaged with the Local Lighthouse Authorities and requested commencement of the statutory sanction process in respect to the establishment of these AtoN.

These kind of unsanctioned AtoN are provided with good intent and aimed at increasing safety of navigation, however the correct process was not followed resulting in a lack of oversight and awareness of these changes on the part of the hydrographic authority tasked with updating nautical charts and publications.

Local Lighthouse Authority Audits – Northern Ireland

Audits of Local Lighthouse Authorities policies and procedures assist in the fulfilment of Irish Lights' duties of superintendence and management of Local Aids to Navigation. There are 20 Local Lighthouse Authorities within Northern Ireland. The Audit cycle conducted by Irish Lights involves auditing each LLA every two years with intermediate audits to resolve any outstanding issues. Irish Lights audited five of the 20 LLAs during 2020/21 (*Table 6*). Due to Government travel restrictions many of the LLA audits took place remotely, via online web services.

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

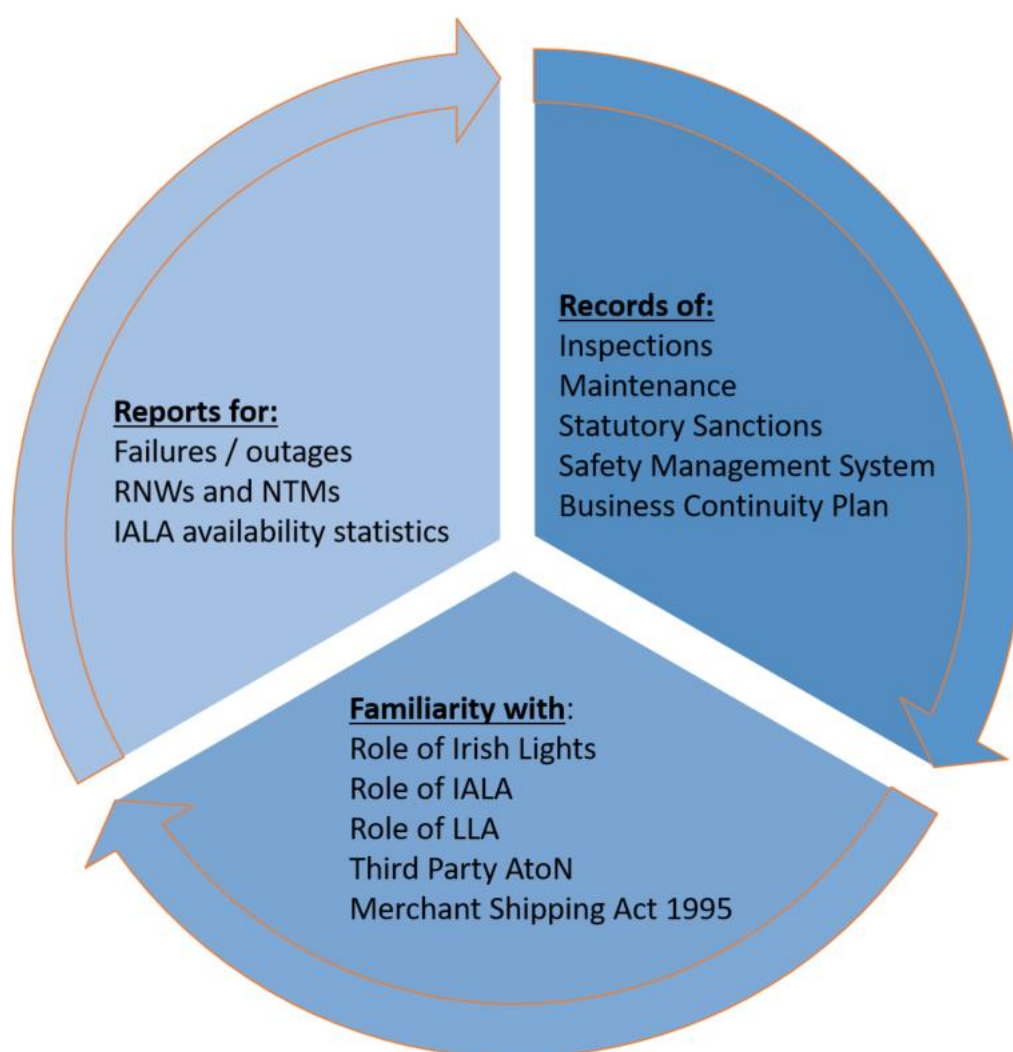


Figure 3 – Items covered by the LLA Audit

5 Local Lighthouse Authorities Audited in 2020/21 (25% of LLAs in Northern Ireland)
Coleraine Harbour Commissioners Londonderry Port & Harbour Commissioners NIFHA – Ardglass NIFHA – Kilkeel NIFHA – Portavogie

Table 6 – LLAs audited in Northern 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 as shown in Annex D, *Table 8*.

- **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 – Northern Ireland

Irish Lights provide assistance to Local Lighthouse Authorities in many forms. Some examples of this assistance are detailed below;

Larne Port is the third largest port in Northern Ireland by freight traffic movements³ (10%), and is wholly owned by P&O Ferries Division Holdings Ltd⁴. Irish Lights provided advice in 2020 on the repositioning and engineering solutions for AtoN marking the channel leading to its five multi-purpose berths.

Strangford Lough contains AtoN from three neighbouring Local Lighthouse Authorities. Irish Lights has developed a plan to assist the LLAs (Ards & North Down Borough Council, Newry, Mourne & Down District Council and the Department for Infrastructure, Northern Ireland) in consolidating and defining third party ownership and maintenance of AtoN within the Lough for all users.

Londonderry Port & Harbour Commissioners established two new AtoN in the form of lighted beacons following consultation with local Pilots and Irish Lights. Both these AtoNs will assist vessels swinging in the vicinity of the berth and outbound vessels departing from Lisahally Terminal.

Coleraine Harbour Commissioners consulted Irish Lights for new AtoN on a replacement pontoon on the River Bann.

³ <https://www.nisra.gov.uk/statistics/other-surveys/ports-traffic>

⁴ <https://uk-ports.org/ukports-a-to-z-listing-edit-listing/larne/>

Conclusion

This annual report provides a high level summary of the performance of AtoN managed by Local Lighthouse Authorities within Northern Ireland in the period April 2020 to Mar 2021 inclusive. This report also documents Irish Lights' statutory responsibilities for the superintendence and management of all lighthouses, buoys and beacons managed by these 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.

2020/21 Summary of AtoN Inspected in Northern Ireland			
AtoN Inspected	As Required	Major Discrepancy	Minor Discrepancy
278	249 (90%)	17 (6%)	12 (4%)

Table 7

The majority of Local Lighthouse Authorities that we attended during this year have managed to weather the restrictions and difficulties placed upon them by the pandemic, although many reported shortfalls in the availability of their workforce and supply chain difficulties included lengthy delays in obtaining spare parts for their AtoN. Irish Lights believes that the continuation of physical inspections and the provision of virtual audits throughout this year has assisted Local Lighthouse Authorities in maintaining a focus on the safety of mariners and that collectively we have all assisted in keeping the island of Ireland running through these difficult and challenging times.



Ronan Boyle

Director of eNavigation and Maritime Services

20 Oct 2021

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Annexes

Annex A – Extract from IMO SOLAS

Available at:

<http://www.imo.org/en/OurWork/facilitation/documents/solas%20v%20on%20safety%20of%20navigation.pdf>

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 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.
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 appropriate 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:

<https://www.iala-aism.org/product/r0130o-130-categorisation-availability-objectives-short-range-aids-navigation/>

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 considered essential for marking landfalls, primary routes, channels, waterways, dangers or the protection of 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