



Commissioners of
IRISH LIGHTS | Navigation
and Maritime
Services

2022/23

Irish Lights report

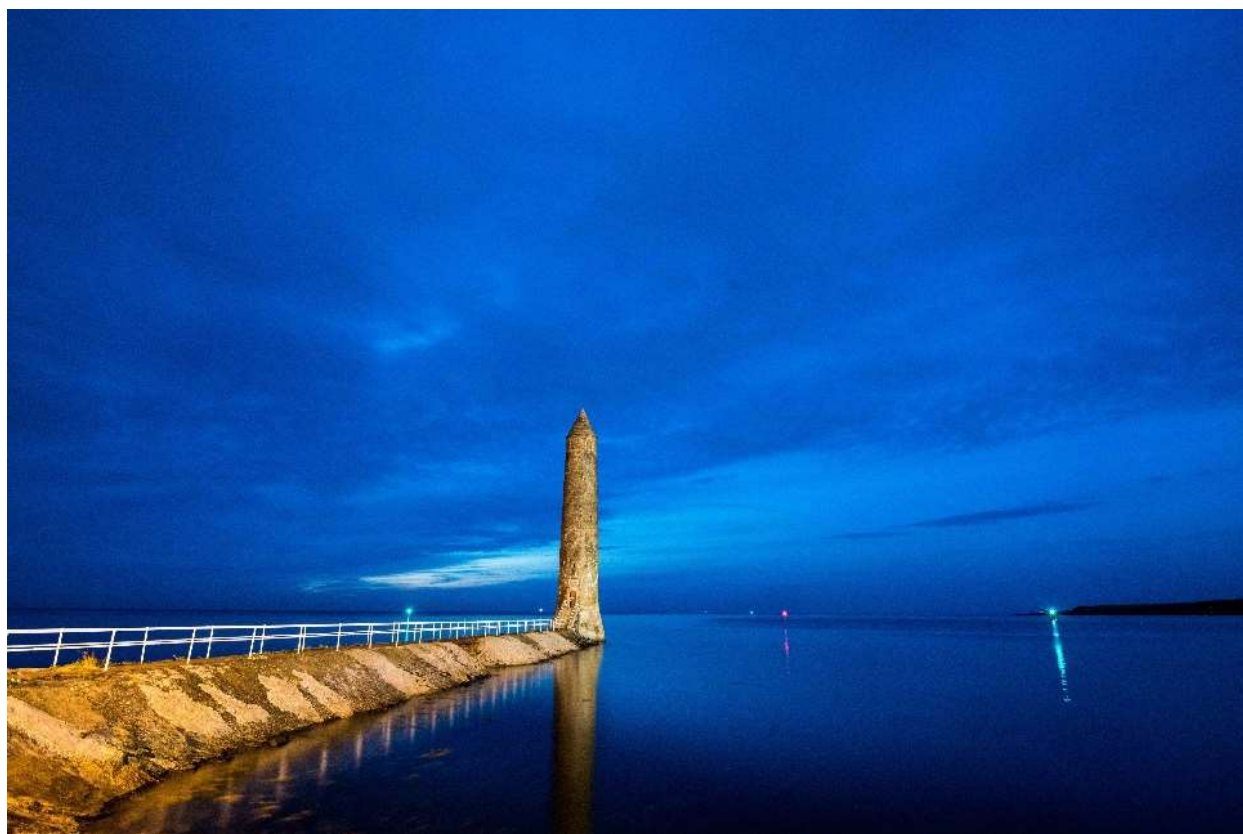
on

Quality Assurance

of the

Local Aids to Navigation service for

Northern Ireland



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Acronyms

AtoN	Aid to Navigation
GLA	General Lighthouse Authority
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities
LLA	Local Lighthouse Authority
NIFHA	Northern Ireland Fishery Harbour Authority
UK	United Kingdom

Executive Summary – All Island

Irish Lights is the General Lighthouse Authority for Ireland and Northern Ireland under legislation laid down in each jurisdiction. In addition to the provision of landfall and other significant general aids to navigation around the coast of Ireland and Northern Ireland to meet Ireland's and the UK's obligations under the Safety of Life at Sea (SOLAS) Convention, Irish Lights provides a superintendence and management service for Local Lighthouse Authorities (LLA) to provide an assurance that SOLAS requirements and IALA standards are adhered to. Under the Merchant Shipping Acts, Irish Lights is tasked with reporting annually to the respective Minister/Secretary of State on the performance of the Local Aids to Navigation service provided by these LLA. This report follows the Irish Lights fiscal year of 1st April 2022 to 31st March 2023.

Irish Lights has developed a quality management system for marine aids to navigation service delivery in line with SOLAS criteria of assessing the volume of traffic and the degree of risk. The methodology used is consistent with international best practice approved by the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA). Irish Lights continuously reviews its process in relation to ensuring the safety of marine aids to navigation, resulting in the introduction of an enhanced inspection and audit regime for the 2022/23 reporting period. This risk-based approach to inspections increased the number of local AtoN to be inspected from 1,618 in 2021/22 to 2,640 in 2022/23, an increase of 63% (1,022 inspections) on the previous year. In practice Irish Lights attained 2,500 inspections (95% of target), of which all local AtoN deemed to be higher risk were inspected. (Table 1).

Due to this change in inspection regime, it is difficult to compare the results from the current year with previous years on a like-for-like basis, however a small improvement (7%) in the number of "As required" inspection results is evident compared to the previous year. Similarly, the 'Minor discrepancies' results have reduced by 4% and the 'major discrepancies' results have reduced by 3%.

(Financial Year)	2020/21	2021/22	2022/23
As Required	1,232 (76%)	995 (62%)	1,728 (69%)
Minor Discrepancy	166 (10%)	294 (18%)	341 (14%)
Major Discrepancy	220 (14%)	329 (20%)	431 (17%)
Total AtoN Inspected	1,618	1,618	2,500

Table 1 - Summary of Local AtoN Inspected – Ireland & Northern Ireland

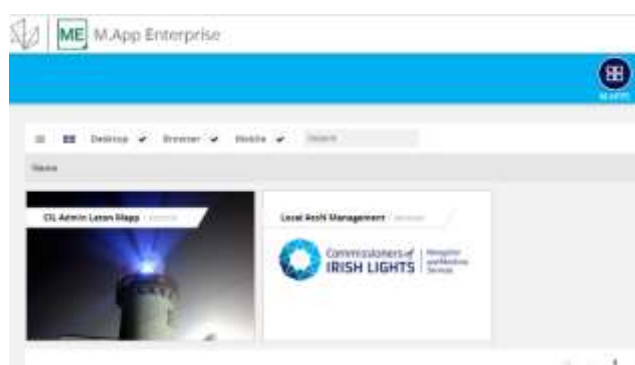
The Merchant Shipping Acts requires an LLA to seek a consent from Irish Lights, known as a Statutory Sanction, prior to deploying, changing, or removing any marine aid to navigation. This activity represents a major component of the workload of the Local Aton team within Irish Lights, when not engaged in physical inspections of local AtoN and/or on-site auditing of LLA procedures and records. In the period 2022/23, Irish Lights processed applications for 148 new AtoN, the disestablishment of 38 AtoN, and the amendment of 49 existing AtoN.

The Merchant Shipping Acts also require each LLA to provide access to records and information concerning the local lighthouses, buoys, and beacons under their management to Irish Lights. This takes the form of a standard audit conducted by Irish Lights on a bi-annual basis (50% of the LLA are audited each year). During this reporting period, Irish Lights achieved 100% of this target, completing 29 audits of LLAs (Local Lighthouse Authorities) across both Ireland (21) and Northern Ireland (8). The majority of LLAs in Northern Ireland achieved a “compliant” result in this audit, while a small number of “compliant with advisory” results were noted. These ‘compliant with advisory’ results typically indicates an increased willingness on the part of the LLA to improve their processes and procedures, but a lack of knowledge on how best to proceed. This lack of maritime specific knowledge concerning the provision of aids to navigation has been addressed by the planned introduction of a specific online LLA training course to assist LLA to meet their legal obligations in this regard.

New developments

In collaboration with Bord Iascaigh Mhara (BIM) in Ireland, who have kindly provided access to their existing Learning Management System, Irish Lights has developed an online training programme which is specifically aimed at educating LLA in IALA best practice for the provision, maintenance, and management of local Aids to Navigation. Additionally Irish Lights has developed a companion LLA guidance document which gives practical guidance on IALA recommendations, standards, and guidelines to assist the LLA with the management of Aids to Navigation in their area of responsibility.

During the period 2022/23 Irish Lights worked with the LLA stakeholders to develop a new Local AtoN Management portal, based on a Geographical Information System (GIS) interface. Roll-out of this upgraded reporting and management tool commenced in 2022/23 and will be completed in the 2023/24 reporting period. This GIS functionality has been welcomed by the LLA as it allows them to more easily identify their AtoN set against a nautical chart display. The new portal streamlines the process of applying for Statutory Sanction approval, allowing more visibility and transparency for the LLA on the status of their applications, in addition to allowing for quicker and easier reporting of AtoN outages by the LLA.



Portal home page and user guide

Legislative Background – Northern Ireland

Section 198 (1) of the UK Merchant Shipping Act 1995¹ empowers Irish Lights as the General Lighthouse Authority (GLA) for Northern Ireland to inspect all lighthouses, buoys, and beacons in Local Lighthouse Authority management. In accordance with Section 198 (4) (a) of the UK Merchant Shipping Act 1995, the GLA shall make a general report of the results of the inspections of the local lighthouses, buoys, and beacons to the Secretary of State for Transport.

In addition, Section 195 (1) of the 1995 Act vests in the GLA the superintendence and management 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).

Under the UK government's Port Marine Safety Code (revised 2016) all Local Aids to Navigation maintained by Harbour Authorities and any other existing Local Lighthouse Authorities must be maintained under the availability criteria laid down by the General Lighthouse Authorities and must be subject to periodic review. 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.

Consequently, before any aid to navigation can be established, altered, or disestablished consent in the form of a 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 particular 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 [Merchant Shipping Act 1995 \(legislation.gov.uk\)](https://www.legislation.gov.uk/ukpga/1995/17/section/198)

Local Aids to Navigation Inspections – Northern Ireland

For the reporting period 2022/23 there were 2,500 local AtoN inspected across Ireland and Northern Ireland, of which 2,089 (83%) were in Ireland and 411 (17%) were in Northern Ireland. Comparing the 411 AtoN inspections conducted in Northern Ireland for the period 2022/23 with the 278 AtoN Inspections conducted for the same period in the previous year, this shows an increase in the quantity of inspections by 133 (31%).

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 2022/23	AtoN Inspected	As Required	Minor Discrepancy	Major Discrepancy
Permanent AtoN	384	329 (86%)	31 (8%)	24 (6%)
Aquaculture AtoN	25	21 (84%)	0	4 (16%)
Temporary AtoN	2	2 (100%)	0	0
Total	411	352	31	28

Table 4 – Results of Inspections in Northern Ireland

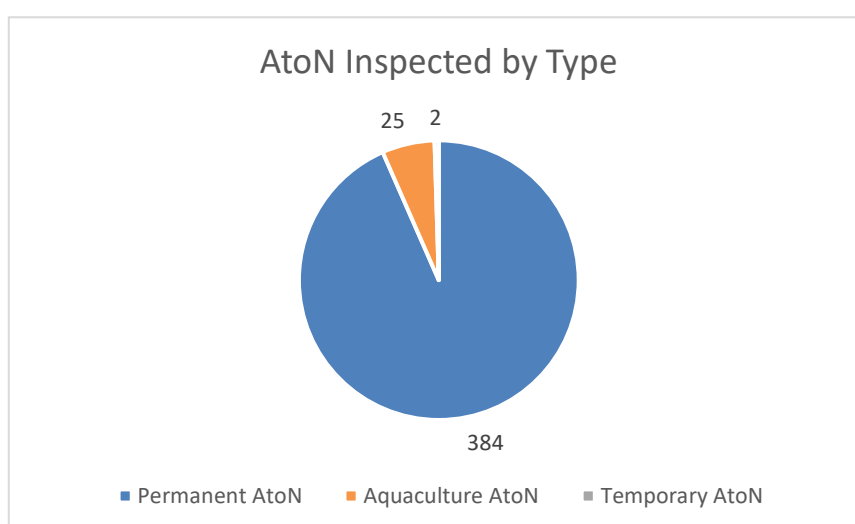


Figure 1– Aton inspected by type

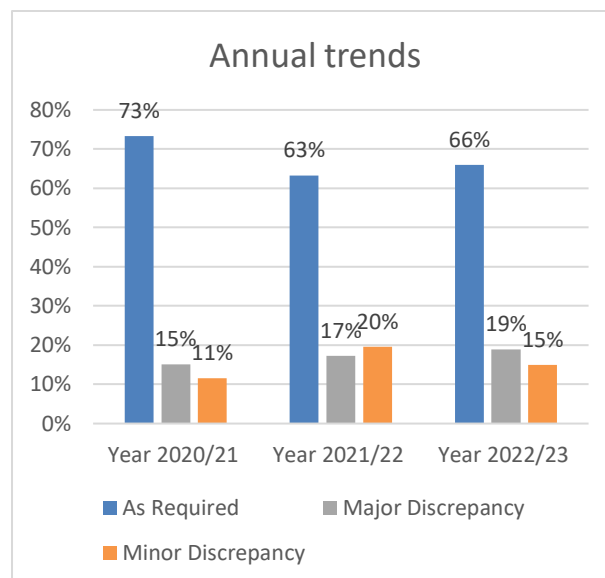
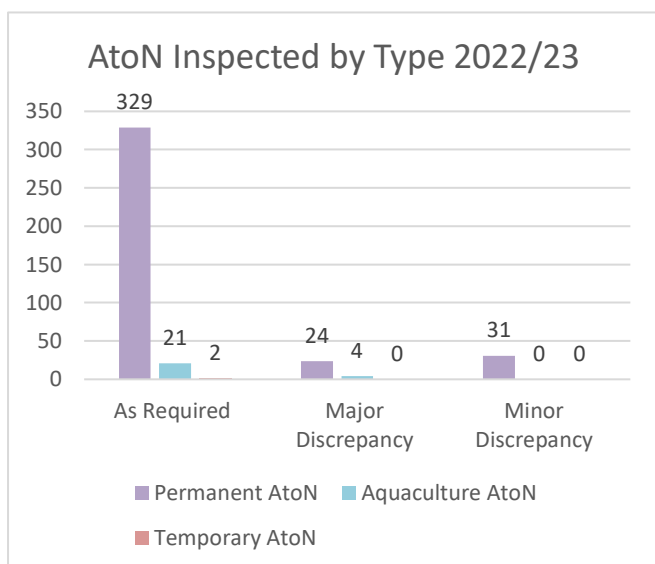


Figure 2 - Outcome of AtoN inspection by type (left) - Comparison of year-on-year inspections all types (right)

In Northern Ireland the ‘major discrepancies’ have reduced by 5%, with the ‘as required’ result increasing by 3% and the ‘minor discrepancies’ increased by 2%. These figures would indicate a small improvement in the general condition of Local AtoN in Ireland for the year 2022/23.

The inspection outcome for an AtoN can have several descriptions recorded against it. Taken together these allow the Irish Lights team to form a judgement of whether an Aton is “as required” or has a minor or major discrepancy. Several simultaneous minor discrepancies can result in the categorisation of a major discrepancy if the Aton is judged to be below IALA requirements overall. Table 5 below details some of the main descriptions which were recorded against AtoN during an inspection. These are shaded grey for typical minor discrepancies and amber for typical major discrepancies. The red/green arrow to the right of the number shows an increase or decrease on the results from the previous year.

Outcome detailed descriptions	2022/23 Discrepancies	2021/22 Discrepancies
Requires Cleaning	1 →	1
Requires Painting	6 ↑	5
Leaning / Not Upright	0 ↓	3
Top Mark Missing	2 ↓	5
Renewal Required (condition deteriorating)	6 ↓	20
Light Character Incorrect	6 ↓	9
Out of Position	0 ↓	4
Light Extinguished (Unlit)	15 ↑	9
Not Seen (Not Found / Not Located)	26 ↓	82

Table 5 - Number and type of discrepancies– Northern Ireland

Unsanctioned Aids to Navigation – Northern Ireland

During local Aid to Navigation (AtoN) inspections in Ireland for the year 2022/23, Irish Lights identified 9 unsanctioned AtoN, which were not granted corresponding Statutory Sanction permission for their establishment by Irish Lights (Annex C, figure 5). Although these unsanctioned AtoN were installed with good intent to increase navigation safety, Irish Lights reported them to the relevant Local Lighthouse Authorities (LLA) to ensure proper awareness of the AtoN within the LLA areas, and so that the AtoN can be correctly marked on the appropriate charts and nautical publications published by the UK Hydrographic Office. The detection of these unsanctioned AtoN during physical inspections is viewed positively as an indication of the effectiveness of the inspection process. However, it highlights a need for wider stakeholder engagement and education, both among LLA stakeholders and the public, on the legal requirements related to aids to navigation. Irish Lights has since engaged with the relevant LLA and requested the removal of the unsanctioned AtoN or the commencement of the Statutory Sanction process. Adherence to the statutory sanction process and oversight of the placement of AtoN by Irish Lights ensures Ireland continues to meet its SOLAS obligations to the internationally recognised standards set down by IALA.

Risk based Inspections.

During the 2022/23 reporting period, Irish Lights implemented a policy for local Aid to Navigation (AtoN) inspections and Local Lighthouse Authority (LLA) audits. This policy adopted a risk-based approach, in compliance with the Safety of Life at Sea (SOLAS) Convention Chapter V, Regulation 13, which requires aids to navigation to be provided based on the volume of traffic and degree of risk. The implementation of the new policy resulted in an increase of the number of inspections from 1,618 per annum to 2,640 (an increase of 1,022 or 63%). These inspections are conducted by a small team of two people operating individually and dividing the coast East/West. Irish Lights successfully inspected 2,500 (95%) of the local AtoN target during the 2022/23 reporting period. The implementation of the risk-based policy will be reviewed and refined going forward to account for changes in localised traffic volumes and other factors affecting the safety of navigation ensuring the effective planning of inspections.

Local Lighthouse Authority Audits – Northern Ireland

In line with the provisions contained in the Merchant Shipping Acts, audits of LLA policies and procedures regarding the provision, management, and maintenance of their local AtoN were conducted with 10 of the 20 LLA in Northern Ireland during the reporting period (detailed in Table 6). These audits are generally welcomed by the LLAs as they assist them in understanding their responsibility for AtoN provision and management. Audits are conducted on a rolling two-year interval.

Local Lighthouse Authorities audited in 2022/23
Carlingford Lough Commissioners
Coleraine Harbour
Foyle Port
Defence Estates
Department for Infrastructure
NIFHA Ardglass
NIFHA Kilkeel
NIFHA Portavogie
Warrenpoint Port
UK Meteorological Office

Table 6 – LLA audited in Northern Ireland

The focus areas audited include:

<u>Policy & Procedures such as:</u>	<u>Records of:</u>
<ul style="list-style-type: none">• Safety Management System• Business Continuity Plan• Management of third party AtoN• Statutory Sanction application	<ul style="list-style-type: none">• AtoN failures (outages)• RNW (Radio Navigation Warning) broadcast• IALA availability statistics (quarterly reports)• AtoN inspections• AtoN planned maintenance
<u>Familiarity with the:</u>	
<ul style="list-style-type: none">• Role of Irish Lights• Role of IALA• Role of LLA (own responsibilities)• Merchant Shipping Act 1995	

Table 7– Areas covered by audit of the LLA

Following an audit, a detailed report (example in figure 4) is provided to the LLA to assist with maintaining or improving compliance. An outcome will be derived from the audit.


 Commissioners of IRISH LIGHTS <small>Navigation and Maritime Services</small>		Local Lighthouse Authority Audit		GP ID
Local Lighthouse Authority	[Redacted] Company			
Irish Lights Inspector	[Redacted]	Date of Audit	[Redacted]	
Auditee	[Redacted]			
Introduction	<p>The purpose of this document is to audit the obligations of a Local Lighthouse Authority (LLA), in terms of documentation requirements relating to the provision, inspection and maintenance of Aids to Navigation (AtoN) within their jurisdiction.</p> <p>As part of Irish Lights' duties of Superintendence and Management of Local Aids to Navigation, Irish Lights carry out regular audits of LLAs for compliance of these obligations.</p>			
Are all contact lists up to date with Irish Lights Records?		Yes		
Comments				

Figure 3— Sample audit report provided to the LLA on completion

There are three outcomes which result from an audit as shown in Annex D, Table 11.

- **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 LLA area.
- **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.

Assistance Provided to Local Lighthouse Authorities – Northern Ireland

In addition to the inspection and audit process, plus the consenting process for local AtoN, Irish Lights provides advice and guidance to LLA on safety of navigation matters connected with their activities. For example, during the reporting period, Irish Lights engaged with the **Strangford Lough** Marine Protected Area Research & Development Working Group to assist with the provision of a structure for collaborative management of the Marine Protected Area in the Lough and coordination between regulatory bodies and stakeholders. Irish Lights attended the monthly meetings to engage with the working group members in relation to Aids to Navigation established in the Lough, to assist the three LLA concerned - Ards & North Down Borough Council, the Department for Infrastructure and Newry, Mourne & Down District Council. The local councils have commissioned a consultant to carry out a survey of the Lough in 2023 and report back to the working group.

Offshore Renewable Energy Sector

Irish Lights attends the Offshore Renewable Energy Forum organised by the Department of Economy Northern Ireland. Northern Ireland under the energy strategy action plan has a target to deliver 1GW of offshore wind from 2030. The working group was established to consider key issues and develop actions to address barriers. Irish Lights supports and contributes to ensure matters in relation to maritime safety elements are highlighted.

Conclusion

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

Summary of AtoN Inspected in Northern Ireland				
Year	Total AtoN Inspected	As Required	Major Discrepancy	Minor Discrepancy
2022/23	411	352 (85%)	28 (7%)	31 (8%)
2021/22	328	179 (55%)	72 (22%)	77 (23%)

Table 8 Summary of AtoN Inspected in Northern Ireland

Irish Lights is engaged in continual improvement of our quality assurance service for local AtoN. Various improvements have been actioned during the reporting period including a risk-based approach to local AtoN inspections, improved management tools for use by the LLAs including a GIS interface, development of an online training tool for LLA to increase compliance with IALA best practice. Irish Lights remains committed to ensuring that Northern Ireland meets the UK obligations under the SOLAS Convention.



Ronan Boyle

Director of eNavigation and Maritime Services

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Maritime & Coastguard Agency – Northern Ireland

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Annexes

Annex A – Extract from IMO SOLAS

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

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:

[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 categorised 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.

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%	

Table 9

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 – 17.5 hours per annum or 52.59 hours over three years

Category 2 – 3.65 days per annum or 10.96 days over three years

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