

# IALA RECOMMENDATION

## **RNNNN**

# PROVISION OF GNSS AUGMENTATION SERVICES FOR MARITIME NAVIGATION APPLICATIONS

**Edition 1.0**

**June 2021**

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# DOCUMENT REVISION

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Revisions to this document are to be noted in the table prior to the issue of a revised document.

| Date      | Details               | Approval   |
|-----------|-----------------------|------------|
| June 2021 | 1 <sup>st</sup> Issue | Council 73 |
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# THE COUNCIL

**RECALLING** the function of IALA with respect to Safety of Navigation, the efficiency of maritime transport and the protection of the environment,

**RECALLING ALSO** Article 8 of the IALA Constitution regarding the authority, duties and functions of the Council,

## **RECOGNIZING:**

- 1 The need to provide clarity on GNSS augmentation services being offered for maritime navigation use, as noted in IMO Resolution *A.1046 (27)* and IALA Recommendation *R0121(R-121)*.
- 2 The decision of IMO MSC 98 that GNSS augmentation systems do not need to be recognised as components of its World Wide Radio Navigation Service (WWRNS).
- 3 That marine radiobeacon differential services are already captured within the IALA list of DGNSS stations<sup>1</sup> based on the information provided on a voluntary basis by Administrations. In order to go further, Administrations may also capture their radiobeacon DGNSS service information under the approach proposed in this Recommendation should they wish.
- 4 That some GNSS augmentation services (including Satellite Based Augmentation System (SBAS) and Ground Based Augmentation System (GBAS)), while being available to maritime user equipment, may not have been developed for maritime navigation use and may not recognise a maritime user.

**CONSIDERING** the need for a clear understanding of which GNSS Augmentation services are being offered for use by maritime stakeholders<sup>2</sup>,

**ADOPTS** the Recommendation on Provision of Gns Augmentation Services for Maritime Navigation Applications, as described below, which will enable GNSS augmentation service providers to formally declare and capture their service offering, as described below,

**INVITES** members and GNSS Augmentation service providers worldwide to support this Recommendation,

**RECOMMENDS** National members and other appropriate Authorities/Organisations providing GNSS augmentation services for maritime use to submit a formal declaration of their service as being adequate for maritime navigation for collation (in the format of the Annex of this Recommendation); and to update the information provided when any changes occur that modify the characteristics of the service and/or require mariners to update their equipment.

## **REQUESTS:**

- 1 The IALA Secretariat to maintain the register of GNSS augmentation services on the IALA website as a living document.

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<sup>1</sup> <https://www.iala-aism.org/technical/positioning-navigation-and-timing/>

<sup>2</sup> Maritime stakeholders includes mariners, maritime authorities and other relevant parties

- 2 The IALA Engineering and Sustainability Committee (ENG), or such other committee as the Council may direct, to keep the Recommendation under review and to propose amendments as necessary.

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## ANNEX A INTRODUCTION

Mariners are able to receive a number of GNSS augmentation signals, including some that may not be provided for maritime use. It is recommended that service providers offering services in line with maritime specifications or requirements, provide a declaration to maritime stakeholders confirming the service to be expected.

Considering the type of information required, a simple pro-forma template can be used to convey key information about the service. Submitted declarations will be added to the IALA website along with the list of IALA beacons stations for all maritime stakeholders to refer to.

It is noted that Administrations providing DGNSS services in the frequency band 283.5-325 KHz are already encouraged to publish service descriptions, including coverage predictions and system performance statistics, under IALA Guideline G-1112.

### A.1. SERVICE PROVIDER CONSIDERATIONS

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IALA Recommends that GNSS augmentation service providers make available the following information:

- A description of the service being offered.
- Confirmation that the service offered is operational and available for use by maritime stakeholders.
- Confirmation that the service will be provided continuously until further notice.
- Confirmation that any future changes in the GNSS augmentation service should not affect legacy users of the service.
- Expected or planned changes to the services provided are to be notified to maritime stakeholders in advance (two years notice is recommended whenever possible).
- Identification and contact details of the GNSS augmentation service provider.
- Advice on where information relating to the service can be found, along with relevant references to standards and specifications that the service complies with.
- Any terms and conditions to access the Service.

### A.2. SERVICE PROVISION CHARACTERISTICS

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IALA Recommends that GNSS augmentation service providers should provide the following specific details relating to the service being offered:

- Details of which GNSS and frequencies are supported.
- The geographic area within which their GNSS augmentation service can be used (service area).
- The expected performance in terms of accuracy, availability, continuity and integrity along with any applicable performance specifications or requirements (i.e. IMO A.1046)<sup>3</sup>.
- The format in which the GNSS augmentation data is provided to the maritime stakeholders and by what method.
- The format and method used to convey information about GNSS augmentation service outages and planned maintenance periods.

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<sup>3</sup> Recognising that such performance parameters are also affected by the user's receiver and local affects to the antenna.

## ANNEX B PRO-FORMA TEMPLATE

Date: Click or tap to enter a date.

Service name: Click or tap here to enter text.

Brief Service Description: Click or tap here to enter text.

### **Service Provider aspects**

Service provider Name: Click or tap here to enter text.

Service provider Address: Click or tap here to enter text.

Contact number: Click or tap here to enter text.

Contact e-mail: Click or tap here to enter text.

☐ I/we confirm that the service offered is operational and available for use by maritime stakeholders (mariners, maritime authorities and other relevant parties).

☐ I/we confirm that the service is intended to be provided in a continuous way until further notice

☐ I/we confirm that any future changes in the GNSS augmentation service should not affect legacy users of the service.

☐ I/we will confirm my/our commitment to update the information provided should any change occurs that modifies the characteristics of the service and/or requires mariners to update their equipment.

Information relating to the commitment of the service provider (to include the service area and level of availability, accuracy, continuity, integrity etc.) can be found at: Click or tap here to enter text.

Terms and conditions to access the service can be found at: Click or tap here to enter text.

The service complies with the following specifications and/or requirements: Click or tap here to enter text.

### **Service provision characteristics**

GNSS and frequencies supported:

Click or tap here to enter text.

The service is available within the following geographic service area:

Click or tap here to enter text.

The expected performance in terms of accuracy, availability, continuity and integrity along with any applicable performance specifications or requirements (i.e., IMO A.1046):

Click or tap here to enter text.

Augmentation data is provided in the following format(s) and corresponding communication method:

Click or tap here to enter text.

Information regarding service outages, degraded performance or planned maintenance periods will be/is made available to mariners within the service area by the following method(s) (provide details on the communications and/or MSI<sup>4</sup> channels):

Click or tap here to enter text.

### **Any other information relevant to the general use of the service:**

*This part is optional but could be used to provide general advice for safe use of the service.*

Click or tap here to enter text.

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<sup>4</sup> Maritime Safety Information