

**IALA RECOMMENDATION**

R0146 (e-NAV-146)

STRATEGY FOR MAINTAINING RACON SERVICE CAPABILITY

**Edition 2.0**

**Oct, 2024**

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

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| **Date** | **Details** | **Approval** |
| December 2011 | 1st issue |  |
| September 2020 | Edition 1.1 Editorial corrections. |  |
| April 2025 | Edition 2.0 – simplified strategy |  |
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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;

**RECOGNIZING that** radar will continue to have an important role in hazard warning, spatial awareness and confirmation of position;

**RECOGNIZING ALSO** that a racon service assists in position determination by providing a readily identifiable radar target;

**NOTING that** IMO has removed the requirement for S-Band radars to trigger Racons;

**NOTING ALSO** that solid-state S-Band radars offer benefits of improved radar detection performance utilising lower peak power than conventional radar;

**NOTING FURTHER** that solid-state S-Band radars are being fitted on ships;

**NOTING FURTHER** that IALA is supporting the development of the enhanced radar positioning system (ERPS)

**CONSIDERING** that National Members and other appropriate authorities wish to maintain their racon service capability, and the benefits to navigation that accrue from these services;

**ADOPTS** the strategy in the annex to this recommendation; and,

**RECOMMENDS** that Member States and other appropriate Authorities providing marine aids to navigation services continue to consider racons as a key component of their AtoN mix for the foreseeable future.

**ANNEX A STRATEGY FOR MAINTAINING RACON SERVICE CAPABILITY**

**1 INTRODUCTION**



This Strategy is set in the following context:

* radar will continue to be the primary tool for collision avoidance for the foreseeable future;
* radar will continue to have an important role in hazard identification, spatial awareness and confirmation of position;
* anticipated continuing requirement for Racons as an AtoN;
* there is a need to respond to the proliferation of other radar targets such as wind farms and potentially enhance AtoN depiction on a cluttered display;
* racons continue evolving to support solid-state radar, recognizing that solid-state radar may trigger legacy racon at reduced ranges;
* AIS AtoN are also available and can be displayed on shipborne radar:
* racons can support absolute position determination through the enhanced radar positioning systems (ERPS).

**2 THE STRATEGY**

The need for resilient, independent situational awareness remains and therefore IALA recommends that Member States should continue to include racons as part of their mix of AtoN for the foreseeable future.

With the development of solid-state radar, Member States are encouraged to provide S-Band racon services optimised for conventional and solid-state radars to ensure the best overall performance for all mariners.

Recognising the benefits of improved radar detection resulting from pulsed solid-state radar, a universal racon should be considered when planning a replacement or upgrade of equipment to maintain and enhance service capability.

Racons can provide an position determination that is independent of Global Navigation Satellite Systems (GNSS) and therefore contribute to a system of systems approach to resilient positioning and navigation.

Member States are encouraged to follow the development of technology to understand the benefits and any limitations, to ensure they continue to provide the best service for the mariner. This includes the development of the ERPS and known limitations where solid-state racon can trigger existing racon at reduced ranges.

**3. RELATED DOCUMENTATION**



IALA Standard 1030 – Radionavigation Services

IALA Recommendation R0130 Categorisation and Availability Objectives for Short Range Aids to Navigation

IALA Guideline G1010 Racon range performance.

IALA Guideline G1147 The Use of Enhanced Radar Positioning Systems

IALA NAVGUIDE.

IMO Resolution MSC.192(79) – Radar Performance Standards.