



IALA RECOMMENDATION (NORMATIVE)

R0146 STRATEGY FOR MAINTAINING RACON SERVICE CAPABILITY

Edition 2.0

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International Organization for Marine Aids to Navigation



DOCUMENT HISTORY

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

Date	Details	Approval
December 2011	1 st issue	Council
December 2020	Edition 1.1 Editorial corrections	Council 72
December 2025	Edition 2.0 – simplified strategy	Council 03

THE COUNCIL

RECALLING the aim and objectives of the International Organization for Marine Aids to Navigation (the Organization hereafter) with respect to the improvement and harmonization of Marine Aids to Navigation worldwide for the benefit of the maritime community and the protection of the marine environment;

RECALLING FURTHER Article 8 of the Convention of the Organization regarding the responsibilities of the Council;

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 the benefits of improved radar detection performance utilizing lower peak power than conventional radar;

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

NOTING FURTHER supporting the development of the enhanced radar positioning system (ERPS)

CONSIDERING that Member States 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 racons at reduced ranges;
- AIS AtoN targets are also available and can be shown on shipborne radar display; and
- 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 optimized for conventional and solid-state radars to ensure the best overall performance for all mariners.

Recognizing 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 a 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 radar can trigger existing racon at reduced ranges.