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Author(s) / Submitter(s) Kevin Gregory & Barry Goldman on behalf of IHMA……

IALA Guideline 1111 – Operational Requirement Aspects

# Summary

The new Guideline that supports the update to V-128 on Operational and Technical Performance of VTS Systems Ed 4 May 2015 [1] carried forward capability definitions in a form that now have the potential to confuse. An amendment to update IALA Guideline 1111 is offered for consideration.

## Purpose of the document

To propose an amendment to IALA Guideline 1111 - Preparation of Operational and Technical Performance Requirements for VTS Systems Ed 1 May 2015 [2]

## Related documents

V-128 - Op and Tech Performance Requirements for VTS Equipment Ed 3 Jun 2007.

# Background

IHMA welcomes the update to V-128 and the issue of the new supporting Guideline 1111 on the Preparation of Operational and Technical Performance Requirements for VTS Systems as a considerable improvement on the technical specifications for VTS equipment. It has been noted, however that, while the new Guideline has carried forward the capability levels of “Basic”, “Standard” and “Advanced” in the tables of the radar section, the explanation for the inclusion of these terms under the “Definitions” sub-paragraph only serves to confuse and would be better linked more directly to the tables to which they refer.

# Discussion

The previous version (Edition 3) of IALA Recommendation V-128 made reference to three capability levels in the introductory section. The text and the way it was set out effectively acted as a definition even though it was not formally documented as such. These definitions were, arguably, far too simplistic in that they linked capability to just three factors, namely: type of service, traffic density and navigational hazards. These definitions appeared in the recommendation’s introductory section giving the impression that they related to all equipment requirements; this had the potential to cause confusion as they were only used in the section relating to radar.

The new version (Edition 4) of V-128 appropriately relegates detailed guidance of performance requirements to a guideline, Guideline 1111 [1]. This guideline introduces the important link between the development of operational requirements in the needs analysis process of IALA Recommendation V-119 [3] and the technical requirements set out in this new guideline; something that was missing from the earlier version of V-128 (Ed 3). V-119, in turn, cross-references to Risk Assessment processes. These links provide a necessary and welcome improvement, although it is suggested that the wording could be strengthened further and that the bullet point list of considerations that follow should not be presented as an exhaustive one. Minor amendments to correct this are proposed at annex A

Of much greater concern is the perpetuation of the confusion caused by attempting to define capability levels, Basic, Standard and Advanced, in sub-section 1.2.1 which firmly identifies them as “Definitions”. The simplistic definitions of the previous document have been reworded but the new text is now more in the form of processes, duplicating the Needs Analysis processes that are much better described in their broader applicability in section 1.3 that follows. The current reference at the beginning of the document in the form of a definition gives these terms a prominence that is both unnecessary and misleading. It is recommended that the final paragraph of sub-section 1.2.1 that attempts to define Basic, Standard and Advanced be deleted. In its place, an explanation of the use of these terms as table headings should be given in the introductory paragraphs of the radar section where the reader will be better able to link them to the tables where they are used. Proposed amendments to achieve this with suggested text are at Annex A. These changes should remove the potential for confusion that currently exists.

It is noted that the old definitions for these capability levels are contained in IALA Guideline 1056 [4], at its section 4 where it also has an out-of-date reference to the old version of V-128. A similar amendment may be considered, however, the new Guideline 1111 now duplicates so much of the older Guideline 1056 that the committee may consider it more appropriate to withdraw the older guideline as superseded.

# References

1. V-128 on Operational and Technical Performance of VTS Systems Ed 4 May 2015
2. IALA Guideline 1111 - Preparation of Operational and Technical Performance Requirements for VTS Systems Ed 1 May 2015
3. V 119 - Implementation of Vessel Traffic Services Ed 2 Dec 2009
4. IALA Guideline 1056 – Establishment of VTS Radar Services Ed 1 June 2007

# Action requested of the Committee

The Committee is requested to:

1. Consider the proposed minor amendments to IALA Guideline 1111 and, if agreed, forward an amended version of the Guideline to Council for approval.
2. Consider whether a revision to the capability level definitions in Guideline 1056 is necessary or to recommend to council that this guideline be withdrawn as superseded by Guideline 1111.
3. Proposed Amendments to Guideline 1111
   1. The following amendments to IALA Guideline 1111 are proposed:
      1. Section 1.3 and subsection 1.3.1 amend text as shown in red below. Rationale: to enhance cross-reference to V-119 in introductory paragraphs and to ensure that the bullets under sub-paragraph 1.3.1 “Operational Requirements” are not seen to be all-inclusive, thus requiring reference back to V-119.

## Establishing the Requirements for a VTS System

The Operational requirements should form the basis for the entire system lifecycle, its definition and its verification and validation following implementation.

Detailed guidance on the development of the Operational requirements may be found in IALA Recommendation V119 [5] (Implementation of Vessel Traffic Services) which describes how these are used to derive the technical requirements as part of the needs analysis process.

1.3.1 Operational Requirements

The operational requirements needed to derive the system concept and technical requirements should include:

* + - Delineating the VTS area and, if appropriate, VTS sub-areas or sectors;
    - …………etc

1.1.2. Section 1.2.1 “Definitions”: delete final paragraph that reads “*within this document, reference ………parts of the VTS area.*” in toto. Rationale: confusing reference that is not a definition and refers to processes that are not limited to capability levels and are better and more fully described in Section 1.3 that follows.

1.1.3 Section 2.1 “Radar” Sub Section 2.1 “Introduction”: add new third paragraph as in red text below. Rationale: explanation of capability levels relates only to radar and is more appropriate addressed in this section.

## Introduction

The purpose of this section is to support Competent and VTS authorities in the understanding of radar performance, supporting the design of radar service and its contribution to the VTS traffic image (situational awareness).

The VTS Authority should specify the Operational and associated Validation Requirements, (e.g. coverage, targets to be detected and target separation) rather than Technical Specifications, (e.g. Transmitted power, pulse characteristics and antenna data) of radar sensor(s). Weather, sea conditions and geographical constraints pose challenges to the detection capability of radar sensors in VTS. The use of multi-sensor integration, including radar, AIS and other sensors also needs to be taken into account.

Tables in this section make reference to three different levels of radar capability, Basic, Standard or Advanced, as a means of cross-linking detection and accuracy with environmental conditions and type of target to be detected. Selection of the appropriate capability and performance standards in these tables will flow from the operational requirements and needs analysis process, which may vary in different parts of the VTS area. For equipments addressed in other sections, the level of capability is more incremental in nature and the needs analysis process will determine whether a specific equipment is required and, if so, the appropriate capability, without the need for defined capability levels.

Specific security requirements may introduce particular challenges to the radar sensor where there could be a need to detect small targets in heavy clutter conditions or where small versus large target discrimination is essential.