

**3RD HYDROGRAPHIC SERVICES & STANDARDS COMMITTEE MEETING
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Proposed Revision of S-52 Presentation Library by UKHO

Submitted by:	UKHO
Executive Summary:	This paper recommends that a new edition of the S-52 Presentation Library edition 3.5 be produced, in order to address certain ECDIS anomalies and standards' ambiguities to the mariner's ultimate benefit.
Related Documents:	<ol style="list-style-type: none"> 1. IHO S-52 Presentation Library e3.4 2. IHO S-64 IHO test data sets for ECDIS
Related Projects:	

1. Introduction / Background

At the joint meeting of TSMAD (22) and DIPWG (3), April 2011 in Seoul, Republic of Korea, UK presented a paper proposing a new edition of S-52. Whilst there was support from the group for the work to commence, it was deemed a substantial piece of work that would require HSSC approval.

In the intervening months, UK has met with a number of IHO Member States, ECDIS manufacturers and respected industry bodies. During technical discussions it has become clear that the proposed full new edition of S-52 is not necessary and that a new edition of the Presentation Library will address the majority of concerns raised to date and thereby significantly improve the usability of ENC in ECDIS.

2. Analysis/Discussion

During 2010 the UK Hydrographic Office (UKHO) prompted the issue of 3 NAVAREA warnings to alert mariners to potentially anomalous behaviour in the operation of ECDIS. Subsequent investigation by UKHO, UK's MCA safety agency and OEMs of the ECDIS anomalies have made it clear that there are a number of improvements to S-52 and S-64 that would reduce the risk of ECDIS implementing irregularities in the future and improve the clarity of the standard.

Based on significant user feedback there are also a number of S-52 Presentation Library display enhancements that will significantly increase the usability of ENC in ECDIS. The following high level examples, presented to DIPWG already are listed to illustrate the proposed enhancements to the current standard.

- Display of Anchor Berths radius
- Display of Anchor Areas names
- Display of major non-sectored Lights with 360 sector
- Display of Fairway names
- Display Fishing Facilities in standard mode
- Display boundaries of M_NPUB Areas
- Assign obstruction objects to base mode
- Use of text weight

3. Recommendation

The work required to produce a new Presentation Library edition 3.5 is central in moving S-52 forward and will support the transition to S-101. It is recommended that this work is set as a high priority within the DIPWG programme and should start with immediate effect. The work for DIPWG comprises the following elements:

1. Conversion of the complex conditional symbology procedures, currently in Nassi-Shneiderman diagrammatic form, to S-100 XML script language. Removing ambiguity from the technical language used within the standard.
2. For the purposes of alarms and indications, provide a detailed mapping from the IMO Performance Standard and IEC 61174; areas for which special conditions exist to S-57 object and attribute combinations.
3. Enhancements to the current display of existing objects and attribute combinations, as detailed in the previous section.
4. Clarifications to definitions, citing examples, and technical language simplification.
5. Inclusion of all current deferred amendments.
6. In support of the proposed changes to S-52, create wider and more detailed test datasets (IHO S-64) to assist ECDIS manufacturers and type approval authorities. Update S-58 to reflect the changes in the presentation library.

7. Conclusion

In order to address the current ECDIS anomalies identified and to prepare the standard for the transition to S-101 it is necessary to improve the readability and clarity of S-52 Presentation Library. In the most part this can be addressed with the production of the complex conditional symbology procedures in a machine readable form. In support of this work it is necessary to include the proposed enhancements within this paper as well as all current deferred amendments.

8. The HSSC is invited to:

- a. Endorse the proposed recommendation.
- b. Include a revision of S-52 (Presentation Library), related modifications to related standard S-64 and any other clarifications necessary in the Work Programme for DIPWG as a high priority item.