

**1<sup>st</sup> IHO-HSSC Meeting**  
**The Regent Hotel, Singapore, 22-24 October 2009**

**Status Report on IHO Publications on Standards, Specifications and Guidelines**  
*(IHB - September 2009)*

**SUMMARY**

<b>Executive summary:</b>	This document provides a brief description of the status of all IHO publications on standards, specifications and guidelines, as of September 2009.
<b>Actions to be taken:</b>	The meeting is invited to take note of this paper.
<b>Related documents:</b>	HSSC1-06.1A, HSSC1-06.1H, HSSC1-06.3A, HSSC1-INF2

**1. S-4 REGULATIONS FOR INT CHARTS AND IHO CHART SPECIFICATIONS**

S-4 (formerly, M-4) gives chart specifications of the IHO for compiling nautical charts, together with agreed symbols and abbreviations adopted for general use by Member States. It provides also Regulations for INT Charts. Supplemented by INT 1, INT 2 and INT 3.

Current edition: Edition 3.006, April 2009, English (French and Spanish versions under preparation)

- INT1 *Symbols, Abbreviations and Terms used on Charts*:
  - English: Edition 6, 2008
  - French: Edition 4, 2006
  - Spanish: Edition 3, 2007
- INT2 *Borders, Graduations, Grids and Linear Scales*:
  - Edition 4, 2007, trilingual English/French/Spanish
- INT3 *Use of Symbols and Abbreviations*:
  - Edition 4, 2005, English

Responsible body: CSPCWG

**2. S-11 PART A GUIDANCE FOR THE PREPARATION AND MAINTENANCE OF INTERNATIONAL CHART SCHEMES**

S-11 (formerly, M-11) provides directions to assist coordinators in following the principles established for INT Chart schemes.

Current edition: Edition 2.002, 2008, bilingual English/French

Responsible body: CSPCWG

**3. S-32 HYDROGRAPHIC DICTIONARY**

Provides definitions of words and terms used in hydrography and associated activities.

Current edition: 5<sup>th</sup> edition, English (1994), French (1998) and Spanish (1996)

An on-line version of the Hydrographic Dictionary (English, French and Spanish) is also available on the IHO website. A totally new on-line version is currently under development.

Responsible body: HDWG.

#### **A. Appendix 1 Glossary of ECDIS-Related Terms**

As part of S-32, Appendix 1 provides a list of all ECDIS-related terms in use, with specific definitions. It has replaced the former S-52 Appendix 3.

Current edition: September 2007; English and Spanish (French version in preparation).

Responsible body: HDWG.

### **4. S-49 STANDARDIZATION OF MARINERS' ROUTEING GUIDES**

S-49 provides a standardized structure for the preparation and publication of Mariners' Routeing Guides.

A first edition of S-49 was published in 1985 and is largely out of date. Following CHRIS20 decision, a Sub-WG of CSPCWG has developed a draft new edition of S-49 which is currently under review by CSPCWG. Edition 2 of S-49 should be published during 2010.

Responsible body: CSPCWG

### **5. S-52 SPECIFICATIONS FOR CHART CONTENT AND DISPLAY ASPECTS OF ECDIS**

S-52 provides specifications and guidance regarding the issuing of ENCs, their display in an ECDIS and their updating. It includes a main document and 2 appendices.

#### **A. Main document**

Current edition: 5<sup>th</sup> edition, December 1996 updated to March 2001; English and French.

A draft new edition 6 has been prepared, which amalgamates the main document and Annex 2 (display specifications), but not Appendix 3 (guidance on ENC updating). The draft edition 6 takes into consideration the adoption by IMO/MSC 82 of revised Performance Standards for ECDIS in December 2006 [Res. MSC.232(82)] and the release by IEC of edition 3 of its ECDIS test standard IEC61174 in 2008. See HSSC1-06.3A for more details.

Responsible body: DIPWG.

#### **B. Appendix 1 - Guidance on Updating the ENC**

Current edition: 3<sup>rd</sup> edition, December 1996; English and French.

Since Appendix 1 was drafted, much practical experience with ECDIS and its updating mechanisms have been gained and advanced requirements for operational behaviour of ECDIS updating mechanisms contained in IEC 61174 may supersede the guidance given in this document.

Responsible body: EUWG.

### **C. Appendix 2 - Colour and Symbol Specifications for ECDIS**

Current edition: Edition 4.3, January 2008; English.

Appendix 2 has been combined with the main document to form a draft edition 6 of S-52. See 1.1 above.

Responsible body: DIPWG.

### **D. Appendix 2, Annex A - IHO ECDIS Presentation Library (PresLib)**

S-52 Appendix 2 includes the IHO Presentation Library for ECDIS (PresLib), as Annex A, which is published separately on CD-Rom. The PresLib provides details and procedures for implementing the display specifications contained in S-52 Appendix 2, by decoding and symbolizing the elements of the SENC. It includes a full description of the symbol library for use in ECDIS.

Current edition: Edition 3.4, January 2008; English.

Ed. 3.4 of the PresLib comprises Part I (users' manual, tables and symbolisation procedures, ECDIS Chart 1, symbol plots, etc.); Part II (mariners' navigational objects); an Addendum containing a detailed description of the symbol library; and an optional digital version of the PresLib (.dai file). It is on sale on CD-Rom from the IHB.

S-52 Appendix 2 and the PresLib are maintained by means of Maintenance Documents (MDs) which are produced from time to time under the authority of the DIPWG and placed on the IHO website ([www.iho.int](http://www.iho.int)). MDs contain amendments to S-52 Ap.2 and/or the PresLib, which are classified as "immediate" or "deferred" depending on their importance for the safety of navigation.

Responsible body: DIPWG.

## **6. S-57 IHO TRANSFER STANDARD FOR DIGITAL HYDROGRAPHIC DATA**

S-57 describes the data standard to be used for the exchange of digital hydrographic data, and for the distribution of digital hydrographic products to manufacturers, mariners, and other data users. Presently, the only product being delivered in the S-57 format is the ENC.

Current edition: Edition 3.1.2, i.e. Ed. 3.1 (November 2000) plus Supplement 2 (June 2009); English.

S-57 Supplement 2 "*Supplementary Information for the Encoding of S-57 Edition 3.1 ENC Data*" contains agreed changes to CATZOC definitions and the addition of temporal attribution on certain feature objects. Supplement 2 includes the contents of Supplement 1 "*Enhancements Required to Encode S-57 Edition 3.1.1 ENC Data*", published in January 2007. Supplement 1 contained the S-57 objects and attributes required to encode new IMO features, e.g. PSSAs or ASLs, and also made provision for undefined "placeholders".

Responsible body: TSMAD

## **7. S-58 RECOMMENDED ENC VALIDATION CHECKS**

S-58 specifies a minimum set of checks that producers of ENC validation tools need to include in their validation software. These software are used to ensure that ENC data are compliant with the S-57 Product Specification for ENC.

Current edition: Edition 3.0, February 2007; English

Responsible body: TSMAD

**8. S-61 PRODUCT SPECIFICATION FOR RASTER NAVIGATIONAL CHARTS (RNC)**

S-61 defines the minimum requirements of a Raster Navigational Chart (RNC) intended to fulfill the requirements of the Raster Chart Display System (RCDS) Mode of Operation, as described in the IMO Performance Standards for ECDIS.

Current edition: 1<sup>st</sup> edition, January 1999; English.

Responsible body: TSMAD.

**9. S-62 ENC PRODUCER CODES**

S-62 provides a list of Agency Codes for all ENC producers, mainly Hydrographic Offices.

Current edition: Edition 2.4, November 2007; English.

Responsible body: IHB

**10. S-63 IHO ENC DATA PROTECTION SCHEME**

S-63 describes the IHO recommended standard for the protection of ENC information. It defines security constructs and operating procedures that must be followed to ensure the data protection scheme is operated correctly and to provide specifications that allow participants to build compliant systems. It is intended for use by all those ECDIS manufacturers and data distributors participating in an ENC service supplying encrypted data. The IHB acts as Scheme Administrator for S-63.

Current edition: Edition 1.1, March 2008 (CL 36/2008 refers); English (French version under preparation).

Technical issues related to S-63 are addressed through a discussion group on the Open ECDIS Forum ([www.openecdiss.org](http://www.openecdiss.org)) and Frequently Asked Questions (FAQ) are answered on the IHO website ([www.iho.int](http://www.iho.int)).

Responsible body: DPSWG

**11. S-64 IHO TEST DATA SETS FOR ECDIS**

S-64 contains sample ENC data and updates, as well as the associated graphical representations of the ECDIS display. S-64 also includes sample RNC data in the two formats in use by Member States, i.e. HCRF (ARCS) and BSB. These test data are intended for use in conjunction with the IEC 61174 – the test specifications for ECDIS certification/type approval.

Current edition: Edition 1.1, December 2008; English.

Responsible body: TSMAD, DPSWG and DIPWG.

**12. S-65 ENC PRODUCTION GUIDANCE**

S-65 provides a high level guide to the production, maintenance and distribution of ENCs. It offers a framework to inform HOs of the processes and requirements necessary to produce, maintain and distribute ENCs. It provides references to documentation which can support each stage of the process. S-65 has been developed through UKHO-IHB collaboration

Current edition: Edition 1.1, April 2008; English and French (Spanish version under preparation).

Ed. 1.1 includes, as Annex A, a list of “*Recommendations for Consistent ENC Encoding*”.

Responsible body: TSMAD.

**13. S-66 FACTS ABOUT ELECTRONIC CHARTS AND CARRIAGE REQUIREMENTS**

S-66 is intended to inform both Maritime Administrations and mariners on the practical implementation of the IMO carriage requirements regarding ENCs and ECDIS.

S-66 is a new publication based on the information booklet “Facts about Electronic Charts and Carriage Requirements” which was developed by IC-ENC and Primar, and has been available on the internet for some time. It is intended to make it a joint IMO-IHO publication.

A draft 1<sup>st</sup> edition has been prepared by the PRIMAR & IC-ENC Joint Information WG (JIWG) and is under review at the IHB. Edition 1 of S-66 should be published during 2010. It will be made available in English and French versions. Spanish and Japanese versions of the original (RENC) document exist and will be referenced on the IHO website.

Responsible body: JIWG on behalf of HSSC

**14. S-100 IHO GEOSPATIAL STANDARD FOR MARINE DATA AND INFORMATION**

S-100 is a new ISO-compliant transfer standard which has been developed by TSMAD. S-100 provides a contemporary hydrographic geospatial data standard that can support a wide variety of hydrographic-related digital data sources, and is fully aligned with mainstream international geospatial standards, in particular the ISO 19100 series of geographic standards, thereby enabling the easier integration of hydrographic data and applications into geospatial solutions.

A final version is available from the IHO website and has been proposed for endorsement by HSSC1. It is intended that S-100 be adopted by the IHO as an active standard effective from 1 January 2010.

Responsible body: TSMAD

**15. S-101 ENC PRODUCT SPECIFICATION**

S-101 is the new Electronic Navigational Chart product specification that is based on S-100 and which is being developed by TSMAD. S-101 will include machine readable feature catalogues and portrayal catalogues that will facilitate updating of changes to shipboard systems.

Publication of S-101 is planned from 2012.

Responsible body: TSMAD

**Action Required of HSSC**

The HSSC is invited to *note this report*.

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