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**CIRCULAR LETTER 55/2014
11 August 2014**

APPROVAL OF NEW EDITIONS OF IHO PUBLICATIONS:

S-52 - Specifications for Chart Content and Display Aspects of ECDIS, Edition 6.1.0

S-52, Annex A - IHO Presentation Library for ECDIS, Edition 4.0.0

S-64 - IHO Test Data Sets for ECDIS, Edition 3.0.0

References:

- A. IHO CL 08/2014 dated 20 January - *Outcome of the fifth meeting of the Hydrographic Services and Standards Committee (HSSC)*;
- B. HSSC Letter 01/2014 dated 14 May - *Specifications for Chart Content and Display Aspects of ECDIS (S-52) - HSSC vote to endorse the draft Edition 6.1.0 of S-52 and its accompanying Presentation Library, draft Edition 4.0.0*;
- C. HSSC Letter 02/2014 dated 12 June - *IHO Test Data Sets for ECDIS (S-64) - HSSC vote to endorse the draft Edition 3.0.0 of S-64*.
- D. IHO CL 50/2014 dated 9 July - *Report on the 1st Session of the IMO Sub-Committee on Navigation, Communications and Search and Rescue (NCSR 1)*

Dear Hydrographer,

1. As reported in Reference A (paragraph 10) several updated versions of IHO publications were considered by the 5th meeting of the Hydrographic Services and Standards Committee (HSSC) in November 2013. These included:
 - a. a draft edition 6.1.0 of S-52 - *Specifications for Chart Content and Display Aspects of ECDIS* and a draft edition 4.0.0 of its Annex A - *IHO Presentation Library for ECDIS (PresLib)*, both prepared by the Digital Information Portrayal Working Group (DIPWG),
 - b. a draft edition 3.0.0 of S-64 - *IHO Test Data Sets for ECDIS*, prepared by the Transfer Standard Maintenance and Applications Development Working Group (TSMAD), in liaison with the Data Protection Scheme Working Group (DPSWG).
2. The Committee approved familiarization copies of these drafts to be placed on the IHO web site and then circulated for Committee approval via HSSC letter, followed by seeking Members States approval by IHO Circular Letter.
3. The familiarisation copies were subsequently provided to the IHB by the Chairs of the relevant working groups and posted on the IHO website. The drafts underwent a thorough review by the full membership of the working groups and ECDIS OEMs and were further refined at the joint meeting of the TSMAD and DIPWG in April. As a result, updated drafts, incorporating comments from the

reviews, were posted on the IHO website and HSSC Members were requested to review and endorse the updated drafts by the HSSC letters in References B and C.

4. Thirty-four IHO Member States are currently represented in the HSSC. The required majority of HSSC Members has been reached for both consultations with 19 positive votes. Three Member States (Finland, Italy and Netherlands) provided comments on the draft new edition of S-52 together with their positive vote. These comments and the outcome of their review by the Chair of the DIPWG are given in Annex A (*in English only*). One Member State (Chile) did not endorse the draft new edition of S-64, considering that it did not have the ability to evaluate the test data sets. The UKHO provided a revised encrypted ENC test data set and proposed additional amendments to the draft Instruction Manual for the use of the ENC test data sets.

5. The main changes introduced by the new draft editions are outlined in Annex B.

6. The Directing Committee is now seeking the approval of Member States, in accordance with the instructions of the HSSC (actions HSSC5/16 and HSSC5/42 refer). In accordance with IHO Resolution 2/2007, as amended, Member States are invited to review and consider the updated draft S-52 (Edition 6.1.0), S-52, Annex A (Edition 4.0.0) and S-64 (Edition 3.0.0), which are available for inspection on the IHO website at:

www.iho.int > Standards & Publications > Download > Draft Publications Awaiting Approval by Member States. The texts are available in English only.

7. It is important to note that the timing of this review is constrained to allow the coordinated approval and implementation of new editions of three interdependent documents:

- a) The test standard for ECDIS of the International Electrotechnical Commission, IEC 61174 - *Electronic chart display and information system (ECDIS) - Operational and performance requirements, methods of testing and required test results*;
- b) S-64, to which IEC 61174 makes references; and
- c) S-52, for which S-64 provides tests to ensure proper implementation of chart portrayal in ECDIS.

8. Subject to the successful completion of the relevant approval processes, the new editions of S-52 and S-64 should be published in October 2014 and the new edition of IEC 61174 should be published in September 2015. The following schedule was agreed with the IEC and the Comité International Radio-Maritime (CIRM) and reported to the International Maritime Organization (IMO) (Reference D, paragraph 7):

- a) the date of entry into force of the new editions of the three standards will be aligned with the date of publication of the new edition of IEC 61174. From that date, the new editions will be available for the type approval of new ECDIS.
- b) the previous editions of S-52 and S-64 will remain valid for twelve months beyond the date of entry into force of the new editions. If the date of entry into force of the new edition of IEC-61174 is September 2015, this means that the previous editions of S-52 and S-64 will remain valid until September 2016.

9. This transition interval will allow manufacturers and national authorities the time necessary to type approve new ECDIS products to the revised standards, and to enable ship owners and operators to update existing systems to conform to IMO circular SN.1/Circ.266 as amended about the maintenance of ECDIS software.

10. Member States are requested to consider the adoption of the draft new editions of S-52, S-52, Annex A and S-64 and to provide their reply by returning the Voting Form, provided in Annex B, **no later than 1 October 2014**.

On behalf of the Directing Committee
Yours sincerely,



Gilles BESSERO
Director

Annex A: Comments from HSSC Members on the new draft edition of S-52 and outcome of their review by the Chair of the DIPWG (*in English only*)

Annex B: Summary of Changes to S-52 and to S-64

Annex C: Voting Form

Copy:

- Chair IHO/TSMAD
- Chair IHO/DIPWG
- Chair IHO/DPSWG
- Convenor IEC TC80/MT7 ECDIS

**Comments from HSSC Members
on the draft new edition of S-52 and outcome of their review by the Chair of the DIPWG**

S-52 reference*	HSSC Member Comment	Review by the Chair of the DIPWG
Ed 6.1.0 Page 4 (Figure 1. International Organizations involved in ECDIS Standardization)	Netherlands: Figure 1 needs updating to take into account new structure and naming of IMO working groups.	Agree. The figure [1] will be updated to reflect any organizational changes in the final version of Edition 6.1.0.
PresLib, Ed 4.0.0., Part I Foreword, Section 10.6.1.1	Finland: Minor editorial correction to the table of <i>New Mandatory ECDIS Requirements</i> point 10.6.1.1 in the introduction of PresLib Part I. The attribute acronym "NINFRM" should read "NINFOM".	The recommended correction has been adopted.
PresLib, Ed 4.0.0., Part I Section 2.25, "SENC"	Netherlands: "It is this database that is accessed by ECDIS for the display generation and other navigational functions, and is equivalent to an up-to-date paper chart." I'd like to discuss the reference made to "an up-to-date paper chart". In my view it does not seem to add an important SENC characteristic to the definition. Also it may feed the misconception that an ENC is a derivative from the paper chart. Finally we can discuss whether the PresLib is the document to explain a possible relationship between ENC and PC. Therefore, unless we desire to change the definition of a paper chart likewise as being "equivalent to an up-to-date ENC", suggest to remove this.	The definition was extracted directly from the S-32 definition of a SENC, which was adapted from the IMO ECDIS performance standards, which also states that it is equivalent to an up-to-date paper chart. Agree that the functions of ENCs and SENCs do not need to be described in terms of paper charts, but until the definition in S-32 is modified, DIPWG Chair hesitant to use something different in S-52. The working group debated the merits of including any definitions in S-52 at all, given the existence of S-32, but it was ultimately decided that convenience outweighed any difficulties with maintaining synchronization between the two documents. DIPWG Chair does not want to contribute to any uncertainty by having two different definitions "right out of the starting gate" with this new edition of S-52.
PresLib, Ed 4.0.0., Part I Section 10.4.1	Netherlands: Two minor textual revisions: - To provide the Mariner with effective route planning capabilities and for the look-ahead function during route monitoring ECDIS must display date dependent chart data based on a <u>Mariner selected date</u> or date range. - During route planning and monitoring the Mariner must be able to select a date or date range to display all date <u>dependent chart</u> objects.	The recommended correction has been adopted.
PresLib, Ed 4.0.0., Part I Section 10.1.4 "Gaps", first row	Italy: Correct the edition of S-57 UOC	Removed reference to specific edition.

S-52 reference*	HSSC Member Comment	Review by the Chair of the DIPWG
PresLib, Ed 4.0.0., Part I Section 10.3.4.6, "Viewing groups" third row	Italy: Change 3.5 (section of "Performance Standards for ECDIS" ed 1995) in 5.5 (section of the "Adoption of the revised Performance Standards for ECDIS" edition 2006)	Text has been changed to read: The revised IMO Performance Standards for ECDIS, section 5.5. states, "It should be easy [for the mariner] to add or remove information from the ECDIS display." although, "It should not be possible to remove information in the Display Base."
PresLib, Ed 4.0.0., Part I Section 10.3.4.6 "Viewing groups" and section 14.2 "Viewing Group Layer"	Italy: It is not clear if "Pipeline area (PIP ARE), cable area (CBLARE)" have to be put in point 26230 or 34030	The entire fourth paragraph has been rewritten to read: Viewing group layers in section 14.2 are presented in separate tables for each IMO display category (i.e. Display Base, Standard Display, and All Other Information). Each viewing group is identified by a five digit number. Numbers that are even increments of 10 000 are used to identify general layers, which are subdivided into other layers that have numbers starting with the same first two digits. These are all listed under lettered sections corresponding to INT1 [1] sections. For example, under the heading, "J, K, L Seabed, Obstructions, Pipelines," the table shows 34000, "Seabed Information: rocks, wrecks & obstructions, pipes & cables." This layer is then broken down further, such as 34010, "Nature of seabed (SBDARE)," 34030, "Pipeline area (PIPARE), cable area (CBLARE)," etc. There are separate groups of tables for "Chart Information" and "Mariners' Information."
PresLib, Ed 4.0.0., Part I Section 14.4 "Text Groupings", point 25 "Nature of Seabed":	Italy: We think the attribute NATQUA could be added	The NATQUA attribute is only accessible in ECDIS through a cursor pick report. Unlike NATSUR, NATQUA is not specified for display within the ECDIS chart window by the S-52 look-up tables. Thus, there is no need to include it in a text group to facilitate it being toggled on or off.
PresLib, Ed 4.0.0., Part I Section 14.4 "Text Groupings," point 26 "Geographic Names"	Italy: We think SLCONS, OBJNAM and COALNE, OBJNAM could be added	The OBJNAM attribute is only accessible in ECDIS through a cursor pick report for the SLCONS and COALNE objects. The S-52 look-up tables do not specify the OBJNAM attribute to be displayed in the ECDIS chart window for the SLCONS or COALNE objects. Thus, there is no need to include them in a text group to facilitate them being toggled on or off.
PresLib, Ed 4.0.0., Part I Section 16.2 "ECDIS Chart 1", "Special areas (N)"	Italy: In the images "restricted, other caution available" and "Restricted, other information available", the symbols "!" and "i" next to centred symbol are not visible. It should better to replace the two images with other ones where the centred symbol is in the centre of the restricted area	The graphic for "Special areas (N)" has been corrected as recommended.

S-52 reference*	HSSC Member Comment	Review by the Chair of the DIPWG
PresLib, Ed 4.0.0., Part I Section 16.4 "List of symbol names and meanings"	Italy: The background of SY(OBSTRN02) = "obstruction in the intertidal area" is white but if it is in intertidal area the background should be green	The table entry in section 16.4 for SY(OBSTRN02) shows the symbol colour as CHBLK (chart black). This is the only colour used to portray this symbol. The colour of the underlying intertidal area is drawn independently of the obstruction symbol.
PresLib, Ed 4.0.0., Part I Addendum	Italy: AP (FOULAR01) the meaning is "foul area, not safe for navigation" (see also S-52 PresLib. Part I) but in the table of references in column INTI there is also the symbol K31 that means "foul ground, safe for navigation but not safe for anchoring". We think the symbol K31 should be deleted from the table of references in column INT1.	The reference to K31, "Foul Ground" and the corresponding graphic have been removed from the Addendum page for AP(FOULAR01).

* S-52 reference:

- Ed. 6.1.0: S-52 - Specifications for Chart Content and Display Aspects of ECDIS, Edition 6.1.0,
- PresLib, Ed 4.0.0 : S-52, Annex A - IHO Presentation Library, Edition 4.0.0

Summary of Changes to S-52 and to S-64

1. Changes to S-52, Annex A ó IHO Presentation Library for ECDIS

A list of changes to the Presentation Library, Part I appears after the document's Foreword on page ii. A summary of the most important changes is provided below.

Language within the Presentation Library has been simplified and clarified, and many of the old diagrams and examples have been replaced to bring the document up-to-date. Detailed examples have been added to provide ECDIS developers with clear guidance for implementing the more complex parts of the ECDIS presentation. Look-up and colour tables have been removed from the Presentation Library, Part I and placed into separate files.

In instances where multiple options were specified to perform the same task, sometimes leading to ECDIS inconsistencies, the options have been limited. Redundancies and repeated copies of several tables within the specification have been eliminated, as have elements that have never been implemented, such as raster symbol definitions.

A number of changes have been made to reflect the requirements in the revised performance standards for ECDIS adopted by the International Maritime Organization (IMO) (Resolution MSC.232(82) refers), such as new sections being added for the detection and notification of navigational hazards, detection of areas for which special conditions exist and detection of the safety contour. These new sections now provide clear guidance on the S-57 objects and attributes that must initiate an alert and/or indication within ECDIS. This will reduce the number of extraneous alarms in ECDIS. The Presentation Library also now makes use of the IMO specified viewing groups mandatory.

The complex Nassi-Shneiderman diagrams used to describe the Conditional Symbology Procedures (CSPs) have been converted to Unified Modeling Language (UML). The inconsistent use of some terms within the CSPs has also been eliminated.

The display of text has been added to selected features so that this information is available to the mariner without having to initiate a 'pick-report'. For example, anchorage areas and fairway names may now be shown directly on the ECDIS chart display.

The Addendum to Part I has been renamed 'S-52 ENC Symbol Catalogue'. A summary of changes to the Catalogue appears after the title page. In the Catalogue, the line-weights for symbols depicting conspicuous and non-conspicuous symbols have been standardized to 0.6 mm and 0.3 mm respectively. Also three new symbols have been added, one to mark features that use the date dependent attributes and two to highlight features associated with automatic updates.

Part II of the Presentation Library was also changed. Most of 'mariner objects' in Part II and the corresponding symbols in the Addendum to Part I have been deleted in Edition 4.0.0. In 2004 the IMO published Performance Standards for the Presentation of Navigation-Related Information on Shipborne Navigational Displays (Resolution MSC.191(79) refers). In response to the new IMO Performance Standards, the International Electrotechnical Commission (IEC) published the first edition of the corresponding test standard, IEC 62288 - *Presentation of navigation-related information on shipborne navigational displays ó General requirements, methods of testing and required test results*, in 2008. The IEC standard describes most of the original mariner objects that were specified in Part II, making their inclusion in the Presentation Library redundant. Three of the original mariner objects were retained as they are not available in either the IMO or IEC standards.

2. Changes to the main S-52 document

The changes reflected in S-52 Edition 6.1.0 relate to the colour calibration information contained in its Annexes B and C, much of which referred to obsolescing CRT display technology. The explicit

description of colour calibration methods has been replaced with references to current industry standards and practices.

3. Changes to S-64

Edition 3.0.0 of S-64 provides more explicit tests with accompanying expected output portrayed in a similar way to that used in the IHO *ECDIS Data Presentation and Performance Check in Ships*. Accordingly, graphic plots have been embedded within the expanded instruction manual rather than as separate PDF files, as in the existing edition.

The new edition expands in detail chart related functionalities from IEC 61174 and mirrors the more precise definitions contained within IHO Publication S-52 of ECDIS functionalities required by the ECDIS Performance Standards of the IMO. A comprehensive set of tests, which exhaustively test the various S-57 feature and attribute combinations which portray navigational hazards and which are used in the depiction of the safety contour are provided in new sections. This important safety feature of ECDIS is described more precisely in the revised Presentation Library and the new edition of S-64 now contains datasets which will ensure all required combinations of features and attributes are dealt correctly by the ECDIS under test.

The new edition also standardizes the presentation of tests in a similar way to the revised IHO Publication S-58 - *Recommended ENC Validation Checks*. The presentation describes the setup, data, expected results and any images required in an accessible form for the users of the document when testing ECDIS.

The revised encrypted ENC test data set¹ includes the components required to test that the ENC update status report can be located and executed, in accordance with the relevant functionality required by the new edition of IEC 61174. This functionality will be described in an amendment to S-63 - *IHO Data Protection Scheme* being prepared by the Data Protection Scheme Working Group.

¹ This set was not available for review by the members of HSSC.

VOTING FORM
(to be returned to the IHB by 1 October 2014
E-mail: info@iho.int - Fax: +377 93 10 81 40)

Member State:

Contact: **E-mail:**

ADOPTION OF EDITION 6.1.0 OF S-52

1. Do you approve the adoption of Edition 6.1.0 of S-52 - *Specifications for Chart Content and Display Aspects of ECDIS*?

YES

NO

ADOPTION OF EDITION 4.0.0 OF S-52, Annex A

2. Do you approve the adoption of Edition 4.0.0 of S-52, Annex A - *IHO Presentation Library for ECDIS*?

YES

NO

ADOPTION OF EDITION 3.0.0 OF S-64

3. Do you approve the adoption of Edition 3.0.0 of S-64 - *IHO Test Data Sets for ECDIS*?

YES

NO

Comments (if required)