INTERNATIONAL HYDROGRAPHIC ORGANIZATION

ORGANISATION HYDROGRAPHIQUE INTERNATIONALE

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CIRCULAR LETTER 55/2012
23 May 2012

ADOPTION OF EDITION 2.0.0 OF IHO PUBLICATION S-64
"IHO Test Data Sets for ECDIS"

Reference: IHO CL 09/2012 dated 30 January

Dear Hydrographer,

1 The Directing Committee would like to thank the following 45 Member States who replied to the Reference: Algeria, Argentina, Australia, Bahrain, Belgium, Brazil, Canada, Chile, Colombia, Croatia, Denmark, Ecuador, Finland, France, Germany, Greece, Iceland, Iran, Ireland, Italy, Japan, Korea (Rep. of), Latvia, Malaysia, Mexico, Morocco, Norway, Peru, Poland, Portugal, Qatar, Romania, Russian Federation, Saudi Arabia, Singapore, Slovenia, South Africa, Spain, Suriname, Sweden, Thailand, Turkey, Ukraine, United Kingdom and United States. Of these, 44 Member States supported the proposed new edition 2.0.0 of S-64 *IHO Test Data Sets for ECDIS* with seven States providing specific comments. These comments, together with explanatory responses where appropriate, are provided in Annex A.

2 At the date of the Reference, there were 80 IHO Member States with two States suspended. Therefore in accordance with paragraph 6 of Article VI of the Convention on the IHO, the majority required for adoption of edition 2.0.0 of S-64 is 40. Consequently, edition 2.0.0 of S-64 is adopted and will be posted in the IHO publications download section of the IHO website shortly.

On behalf of the Directing Committee
Yours sincerely,

Robert WARD
Director

Annex A: Comments by Member States (English only)

COMMENTS BY MEMBER STATES
IN RESPONSE TO CL 09/2012

Canada: The review undertaken in CHS has identified a few areas where some details may help improve the guidance document. These are listed below.

1. All data sets, including updates loaded correctly.
2. In the TIM Table of Contents (p. 1), section 5.0 should read "A Word…", not "A World…".
3. Section 4.2 in the TIM should be updated:
    a. Suggest removing Figure 2 as it is not complete and it is not necessary.
    b. Suggest updating the graphic in Figure 3 to more accurately reflect the scheme of the TDS; for example, there are now 6 data sets in that coverage area.
    c. Suggest adding a reference or note to the effect that there is now a separate data set (ENC) for testing and viewing isolated dangers, in Section 7.0.
4. In Section 5.0, the location of the files containing examples of the new S-57 ENC Edition 3.1.1 features should be "6.8.5z S-57 Edition 3.1.1\ENC_ROOT", not "6.8.5.1 S-57 Edition 3.1.1\ENC_ROOT".
5. The table in the document file in folder 6.5.2 of the TDS (and corresponding Section 6.5.2 in the TIM) requires the following updating:
    a. The EDTN numbers for GB4X000.000 and GB5X01NW.000 should equal "2" to correspond to the actual values in those ENCs.
6. The document file in TDS folder 6.8.7e (and corresponding section in the TIM) contains a typo in the second paragraph: "The is…" should be "There is".
7. The document file in TDS folder 6.8.10b (and corresponding section in the TIM) contains a typo in the last sentence: "…the any of these features…" should be "…query each of these feature types…".
8. The document file in the TDS folder 6.8.10g-i (and corresponding section in the TIM) indicates that there are no examples of PERSTA/PEREND in the TDS. Is this still the case in Edition 2 of the TDS? Is such an example required for the IEC 61174 testing? Was this ever an issue with TDS Edition 1?
9. In the TDS there are two 6.8.11* folders. These should be consolidated into just one in a manner that corresponds to Section 6.8.11 in the TIM.
10. TDS folder 6.8.14a does not have a .doc file to for explanation.
11. The table in the document file in the TDS folder 6.8.15.3 (and corresponding section in the TIM) should be updated to reflect the new edition number (ETDN) of "2".
12. In TDS folder 7.1 there are no .PDF plot files available as there are for other tests that require reference to a plot. These are figures in the TIM Section 7.1.
13. TDS folder 7.1 does not have a .doc file to for explanation.
14. If possible, in the TIM Section 7.1, annotate each of the diagrams after Figure 7.1 with the reference numbers relevant for each view.
15. Should the plot files be updated to correspond to the coverage area and possible changes in content, e.g. ASLXIS, of the new ENC editions?
16. The S-63 encrypted ENC Test Data Set was not evaluated.
17. The RNC Test Data Set was not evaluated, as it is not apparent if this data set was changed.

***Comment by IHB**: All suggested amendments that are editorial in nature have been included in the final text. The remaining comments were passed to TSMAD for further consideration.*

Regarding CHS comments at items 16 and 17, it is correct that the encrypted ENC TDS and the RNC TDS were not changed from the previous edition of S-64. The following particular comments have been made by TSMAD:

- *Above item 8: No items with PERSTA/PEREND have been added. This is considered unrealistic, given the timeframe, as it would have required the recompilation of a number of update files. It is suggested to leave that improvement for the next edition of S-64.*
- *Above items 10 and 13: In these cases, it was considered not necessary to repeat the TIM contents in the TDS folders.*
- *Above item 15: Not in scope for this revision; it is suggested to incorporate updated plot files in the next edition of S-64.*

Colombia: We support TSMAD to design the improved edition of the S-64, which favours the inclusion of data collections for additional test data sets on isolated underwater dangers; in partnership with OEMs that facilitates the integration in S-52 that ultimately is responsible for adjusting the display to the ECDIS.

Germany: The attributes for the additional S-64 ECDIS test date sets on isolated underwater dangers do not comply with the usual coding of these objects. For isolated underwater objects the proposed S-64 ECDIS test data only provide the attributes WATLEV (Water effect level) and the respective category (CATWRK, CATOBS). This does not comply with the usual coding of these items. The following is a proposed addition of further usual attribution:

- Technique of sounding measurement- TECSOU
- Quality of sounding measurement - QUASOU
- Exposition of Sounding - EXPSOU
- Nature of construction - NATCON

(Note from IHB: BSH provided an ENC cell - GB400797.000 – reflecting the above additional attribution.)

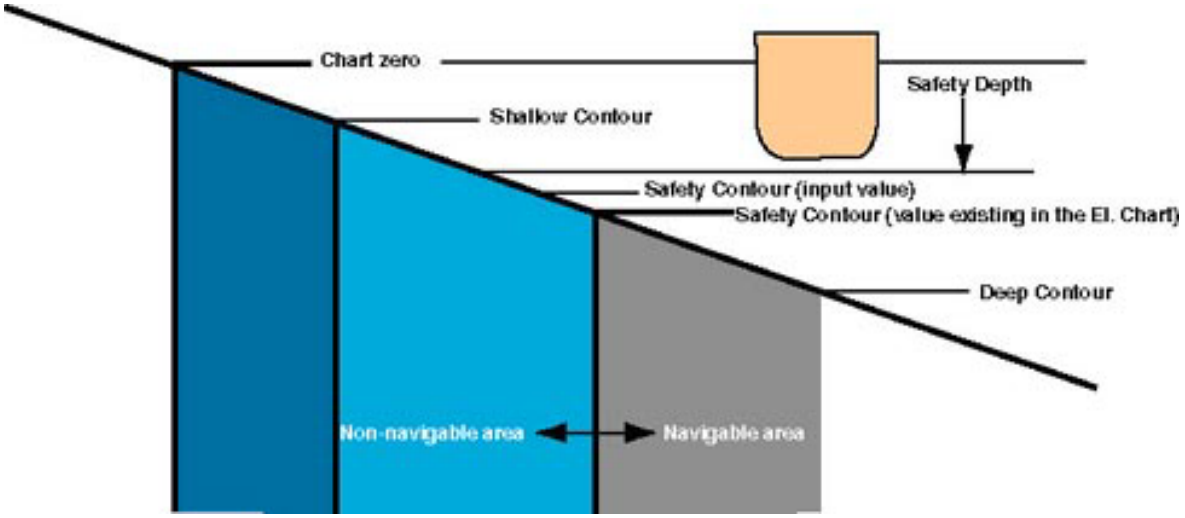
More detailed comments from BSH are provided below.

1. 6.4.3: IEC 61174 quotation not correct (reference to "*Annex E"* instead of "*Annex F"*).
2. 6.5.2a: IEC 61174 quotation not correct ("*Annex A to S-57 appendix A"* instead of "*S-62"*), but it reflects the current reference. → Should not use italic style for "S-62".
3. 6.5.3: Text should be harmonised between TIM and .doc file in TDS.
4. 6.6 b): IEC 61174 quotation not correct (reference to "*Annex I"* instead of "*Annex J"*).
5. 6.7.1: IEC 61174 quotation not correct ("*In addition to the requirements of IEC 62288 for symbols, perform the following checks:"* instead of "*Verify compliance in accordance with IMO resolution MSC.191(79) for chart display (see 6.1, Annex K). The following checks are included:"*)
6. 6.7.1a: IEC 61174 quotation not correct ("*check that the chart symbols conform to the current IHO presentation library and can be displayed correctly. Where an object does not have a defined symbology, check that the ECDIS displays this using the unknown or undefined symbol (ref. D52 Appendix 2 3.1.3)"* instead of "*Check that the chart symbols conform to the IHO presentation library"*)
7. 6.7.1h: is not stated in IEC 61174.
8. 6.7.2a: IEC 61174 quotation not correct ("*In addition to the requirements of IEC 62288 for navigation related terminology and abbreviations, check that the following elements are available in the display of general information:"* instead of "*Verify compliance in accordance with IMO resolution MSC.191(79) requirements for standard units and abbreviations (See 6.1 and Annex K)"*)
9. 6.7.2b: numbers .1 – .12 should be letters a – l.
10. 6.7.4: IEC 61174 quotation not correct ("*Verify compliance in accordance with IEC 62288 for screen resolution"* instead of "*Verify compliance in accordance with IMO resolution MSC.191(79). (See 6.1 and Annex K)"*)
11. 6.7.5: IEC 61174 quotation not correct ("*In addition to the requirements of IEC 62288 for chart display,"* instead of "*Verify compliance in accordance with IMO resolution MSC.191(79). (See 6.1 and Annex K)"*)
12. 6.8: "*[in Section 6.8]"* should not be written in italic because it is no IEC 61174 text.

13. 6.8.1: IEC 61174 quotation not correct ("*Select standard display. Check that the EUT display is the same as the graphical representation of the standard display for the IHO test data set for ECDIS"* instead of "*Verify compliance in accordance with IMO resolution MSC.191(79). (See 6.1 and Annex K)"*). → Reference to the corresponding plot should be made.
14. 6.8.2: "*Verify compliance in accordance with IMO resolution MSC.191(79). (See 6.1 and Annex K)"* should be removed.
15. 6.8.3: "*Verify compliance in accordance with IMO resolution MSC.191(79). (See 6.1 and Annex K)"* should be removed.
    "*Check that the presentation of new chart objects (ESSA, PSSA, ARCSLN, and ASLXIS) as specified in IHO S-57 are as specified"* should be added to quotation and the corresponding tests should be added (see 6.8.5z).
16. 6.8.4: NOTE 2 is a valuable information, but not a quotation from IEC 61174. It should not be written in italic style.
17. 6.8.5: "*Verify compliance in accordance with IMO resolution MSC.191(79). (See 6.1 and Annex K)"* should be removed.
18. 6.8.5z: The data set consisting of a base cell and two cumulative updates should be divided into three separate data sets with appropriate CATALOG.031 files for separate installation. On many ECDIS it is not possible to select single files out of a data set for installation, so that the base cell with all updates is installed and it is not possible to see only e.g. the base cell or update 1.
19. 6.8.10a: Should be deleted. Numbering of the following sub-sections has to be adjusted (6.8.10b → 6.8.10a, 6.8.10c → 6.8.10b, etc.).
20. 6.8.10f (new 6.8.10e): Typos "*TS_PAD*" and "*(Table L.1)*".
21. 6.8.10i (new 6.8.10h): "*(DATSTA, PERSTA)*" should be added.
    As mentioned in item 19, the data set should be split into separate data sets with appropriate CATALOG.031 files otherwise all updates will be installed and the date dependent objects are removed.
    Examples for PERSTA/PEREND should be added.
22. 6.8.10i: Should be added (see also 6.8.5z).
23. IEC 61174 quotation not correct ("In addition to the requirements of IEC 62288 for *navigation tools, verify that at least one EBL and VRM are available*." instead of "*Verify that at least one EBL and VRM is available.*
    Verify compliance in accordance with IMO resolution MSC.191(79). (See [IEC 61174] 6.1 and Annex K)")
24. 6.8.12: "*h) confirm by observation that the EUT indicates discrepancies between positions obtained by continuous positioning systems and positions obtained by manual observations;*
    i) confirm by inspection that the EUT has the means to display the position from at least two positioning methods, to identify which method is being used and provide a means for the operator to select the method he wants to use."
    should be added.
25. 6.8.13: IEC 61174 quotation not correct ("*in addition to the requirements of IEC 62288 for radar displays and presentation of target information, perform the following:"* instead of "*verify compliance in accordance with IMO resolution MSC.191(79). (See 6.1 and Annex K)*")
    Wording of this section is not correct, it should be:
    "*a) observe the display without radar and AIS information, switch on the radar image overlay, the radar tracked target information and the AIS information, as available, and ensure that the SENC information is not degraded, and is clearly distinguished;*
    b) observe the display without radar and AIS information, then switch on the radar image overlay, the radar tracked target information and the AIS information, as available, and ensure that these match in scale, orientation, projection and accuracy, within the ranges defined in IEC 62388. Check that a change of scale of the radar, if it is a separate unit, does not affect the radar image overlay of the EUT in scale, orientation, projection and accuracy;
    c) ensure that the radar image overlay, tracked target information, AIS information and other added navigational information may be removed by single operator action;
    d) set EUT to accept and display transferred radar tracked target and AIS information, as available. Set the simulator to the equivalent of stabilized, north-up mode and to 12-mile range. Check that the target and AIS information is being accepted and displayed correctly;

e) vary the radar antenna offset and confirm that the position of radar image overlay and the radar tracked targets, as available, on the EUT changes accordingly."

26. 6.8.15.1b-c: As mentioned in item 19, to apply only update number 1 the data set should contain only this update with the appropriate CATALOG.031 file, otherwise, on many ECDIS, all updates will be applied.
27. 6.8.15.1f: Typo update should be taken from 6.8.15.1a.
28. 6.8.15.1h: Text of TIM and .doc file should be harmonised.
29. 6.8.15.1i-k: IEC 61174 quotation not correct. Wording of this section should be:
"*i) if the ECDIS supports SENC delivery (accepting a SENC resulting from conversion of ENC to SENC ashore, in accordance with IHO TR A3.11, IHO Miscellaneous Publication M-3), then the manufacturer shall supply a SENC version of the IHO ENC test data subset A and subset B for each SENC format for which SENC delivery is to be approved;*
j) for each SENC test data set supplied, verify compliance with 6.8.15.1 a) through (g) noting that the outcome of each resultant update stage should be identical to that which results from application of the updates supplied in the IHO ENC test data (subset B). Confirm by inspection of submitted documentation which Hydrographic Offices or RENCs have documented their approval of the submitted SENC version test data subsets;
k) if the ECDIS supports SENC delivery, confirm by using the available updates in the ENC test data set (see Annex E) that the ECDIS provides an update mechanism for delivered SENCs that is not inferior to the update mechanism of ENCs.
NOTE: The test data sets should be provided by the SENC producers for each SENC distributor approved for use with the EUT."
30. 6.9.1: IEC 61174 quotation not correct. Wording of this section should be:
"*The EUT shall follow the ergonomic principles in MSC/Circ.982 taking into account the guidance given in IEC 62288*."
31. 6.9.2e.4: This item is deleted in IEC 61174.
32. 6.9.2f: IEC 61174 quotation not correct (reference to "*Annex I"* instead of "*Annex J"*).
33. 6.9.3f: IEC 61174 quotation not correct. Wording of this section should be:
"*verify that an alarm or indication, as selected by the mariner, is released each time the vessel is going to cross the boundary of a prohibited area or safety contour, within the time specified by the mariner*;"
34. 6.9.4c: IEC 61174 quotation not correct. Wording of this section should be:
"*Ensure that the record for the previous 12 h, including all the items defined in 4.10.4 (232/A11.4.14) and 4.10.7 (232/A.11.5.1), is stored and available on demand. Check that chart data according to 4.10.7 (232/A11.5.1) and 4.10.7 (232/A11.5.2) is stored at least initially and for each data change*."
35. 6.9.5: IEC 61174 quotation not correct (reference to "*(See [61174] 6.9.7)"* should be deleted).
36. 6.9.7f: IEC 61174 quotation not correct. Wording of this section should be:
"*confirm by observation that, when a position fix is accepted by the operator, the plotted position is indicated graphically on the display. Confirm by observation that position plots indicate the time, source of data used and the type of plot, in the case of estimated position or dead-reckoned position plot (EP or DR) and comply with IEC 62288 for the presentation of colours and symbols*;"
37. 6.9.7g: IEC 61174 quotation not correct (reference should be "*(See [61174] 6.9.5*)*"*).
38. 6.9.7h+i: IEC 61174 quotation not correct (reference should be "*IEC62288"* instead of "*Annex K"*).
39. 7.1: Object numbering is confusing when performing the tests. Should be more orderly.
40. 7.1: On many ECDIS there is a plausibility check taking into account the relationship between the settings (see picture). Shallow contour and safety depth can not be deeper than safety contour. When Depth Shades = 2 (TWO_SHADES flag is set) there are only two shades used for presentation, i.e. shallow contour and deep contour is not relevant.



41. Picture 7.2: in two shade mode the whole area is coloured DEPDW.
42. Picture 7.3: In addition to the item mentioned before the 2 m depth contour (object 23) is presented as safety contour.
43. Picture 7.4: in addition to that mentioned under item 41 the 5 m depth contours are presented as safety contours.
44. Depth contour values are irritating. It seems to be illogical e.g. to have a 5 m depth contour separating a depth area 5-10 m and a depth area 10-20 m.
45. Picture 7.5: only two depth shades are presented.
46. Picture 7.6: Only two depth shades are presented (area of object 23 will not be visible).
47. Picture 7.7: Only two depth shades are presented (all dark blue areas on medium blue background will not be visible).

***Comment by IHB**: All suggested amendments that are editorial in nature have been included in the final text. The remaining comments and the ENC cell were passed to TSMAD for further correction to S-64 e2.0.0, as appropriate. The following particular comments have been made by TSMAD:*

- *Above item 21: See comment on PERSTA/PEREND under Canada.*
- *Above item 22: A new section 6.8.10i has been included in the TIM and in the unencrypted ENC TDS.*
- *Above items 21 and 26: The data set has been split into separate data sets with appropriate individual CATALOG.031 files.*
- *Above items 39 to 47: The whole test data sets and test descriptions have been redesigned, and the corresponding images have been amended.*

Japan: First we appreciate the extensive effort paid by TSMAD to develop the draft of edition 2.0.0 of S-64. But unfortunately, Japan could not agree to approve the adoption of the draft yet because the draft doesn't include all measurements of the ECDIS anomalies identified recently, which means even once adopted, such S-64 will face the situation to be necessary to be amended very soon. We think such duplicated processes are to be avoided in order not to make the manufacturers imposed more burdens.

***Comment by IHB**: As reported in the Minutes of HSSC-3 (November 2011), the meeting discussed whether the proposed new edition of S-64 should be endorsed for immediate publication, or whether TSMAD should be tasked to expand the standard to improve its usefulness for both OEMs and type approval authorities. Both options were eventually supported. This means that a further revision to S-64 will be undertaken in the near future. See also IHB comment under UK.*

Italy: IIM has checked the paragraph 7.0 "Additional Tests ENC_ROOT" and has the following comments:

1. Images in the document show four depth shades and not two as written in the settings listed;
2. DEPCNT with values 2 m and 5 m are not conformed to adjoining DEPARE;
3. SY(FSHFAC04) should be changed to SY(FSHFAC02) in the sentence for example 33.

Some definitions included in S-64 ed. 2.0.0 (January 2012), Appendix-TIM are not aligned with the last version of IEC 61174 (Edition 3.0, September 2008).

***Comment by IHB**: The comments from IIM were passed to TSMAD for consideration. The following particular comments have been made by TSMAD:*

- *Above item 2: Illogical depth contours/areas have been addressed in the revised version of the section 7.1 TDS.*
- *Above item 3: There seems to be a misinterpretation as, in the relevant test, symbolised boundaries are 'off' (if they were "on" the symbol would be SY(FSHFAC02)); see the LUT entries below:*
    - *Symbolised:"FSHFAC","","SY(FSHFAC02);LC(NAVARE51)","4","S","OTHER","34040 "*
    - *Non-Symbolised: "FSHFAC","","AP(FSHHAV02);LS(DASH,1,CHGRD)","4","S","OTHER","34040"*

Malaysia: Good version of S-64 in providing a guideline to test the ECDIS.

United Kingdom: UK welcomes this new edition and recommends that priority be given to the development of the next edition so that S-64 can be expanded and restructured, as discussed in the recent IHO-sponsored ECDIS issues workshop, to make it even more useful to ECDIS manufacturers and Type Approval authorities.

***Comment by IHB**: A further edition of S-64 is already planned as agreed by HSSC, at its 3rd meeting. TSMAD was tasked "to investigate expanding S-64 to improve its usefulness for both OEMs and type approval agencies". Development of such a revised edition will take into consideration the outcomes of the Workshop on ECDIS Software Issues, held at the IHB in January 2012.*