In this document, mistakes we have noticed in S-64, Edition 3.0.1 (June 2015) are listed. Numbering corresponds to the test numbers in S-64.

# 1 General remarks

1.1 Setup settings

In many cases (to conform to the presentation given in test plots) it is necessary to switch OFF independent selectors ‘Accuracy’, ‘Highlight Info’,’ Highlight doc’ and ‘Scale min’. But such settings are absent in Setup for the corresponding tests.

**Suggestion:**

Setup information should be carefully checked. Missing independent selectors should be added.

1.2 Quality of screen plots

Unfortunately, the quality of screen plots attached in S-64 is very low and sometimes not readable.

# 2 Chart Loading and Updating

## 2.1 Chart Loading of Unencrypted ENCs

### 2.1.1 Preparation and Power Up

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| **Test Reference 2.1.1** | **IHO Reference IEC 61174/ 4.4.1** |
| **Test description** | |
| *Loading of initial datasets and indication of own ship stationary position* | |
| **Setup** | |
| *Load cells*  *2.1.1 Power Up\ENC\_ROOT\GB4X0000.000*  *2.1.1 Power Up\ENC\_ROOT\GB5X01NW.000 with the following settings:*  *Select Viewing group layer Other*  *Set the safety contour value to 8 m*  *Set the safety depth value to 8 m*  *Select Symbolized Boundaries*  *Select Paper chart symbols*  *Ship position 32°29.66’S, 060°55.86’E*  *Heading 234.0 degrees* | |
| **Action** | |
| Load cells and view the chart display.   1. Set display scale 1:50000 2. Set display scale 1:20000 – Datasets GB5X01NW.000 and GB4X0000.000 should be displayed | |
| Execution steps | |
|  | |
| **Results** | |
| 1. Dataset GB4X0000.000 should be displayed 2. Datasets GB5X01NW.000 and GB4X0000.000 should be displayed | |
| **Remarks** | |
| **See plot ‘*After loading of GB5X01NW.000, displayed scale 1:20 000*’**  Chart scale boundary (LS(SOLD,1,CHGRD) or LC(SCLBDYnn)) is not shown on the corresponding (third) screen plot for TEST 2.1.1.  Chart scale boundary (VG={21030}) is a member of the Viewing Group layer *Standard* and therefore it should be shown because viewing group layer *Other* is selected in Setup.  **Suggestion**  The corresponding screen plot should be fixed | |

## 2.2 Automatic updates of Unencrypted ENCs

### 2.2.2 Loading sequential update

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| **Test Reference 2.2.2** | **IHO Reference S-52 appendix 1/ 3.4.2f**  **and IEC 61174/ 4.4.2** |
| **Test description** | |
| *Loading correct sequential update files.* | |
| **Setup** | |
| *As for test 2.1.2* | |
| **Action** | |
| *Load the following five updates:*  *2.2.2 Loading of Updates\ENC\_ROOT\* | |
| **Results** | |
| *The update process shall install all updates (up to update no. 5) and indicate it in an appropriate*  *summary report which shall contain the following information:*  *- identification of issuing authority;*  *- update numbers of the update files;*  *- cell identifiers of cells affected;*  *- edition number and date of cell involved;*  *- number of updates in the affected cells.*  *Review of updates shall be performed after the update process is completed and the updates have been*  *applied to the SENC. Review the updates by selecting the given date range and confirm that display is as*  *available in the corresponding screen plot.* | |
| **Remarks** | |
| See remarks in the NAVTOR AS letter: **Navtor Identifying Automatic Chart Corrections.docx** | |

### 2.2.4 Loading update of newer edition

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| **Test Reference 2.2.4** | **IHO Reference S-52 appendix 1/ 3.4.2c**  **and IEC 61174/6.8.16.1** |
| **Test description** | |
| *Loading update file of a newer edition than base cell installed.* | |
| **Setup** | |
| *As result of test 2.2.2*  *Load the following cell:*  *2.1.1 Power Up\ENC\_ROOT\GB5X01SW.000* | |
| **Action** | |
| *1. Load the following update:*  *2.2.4 Loading of New Update\ENC\_ROOT|GB5X01SW.001 (edition 2)*  *2. Display installed chart.*  *3. Install the following base cell:*  *2.2.5 Good Base Cells\ENC\_ROOT\GB5X01SW.000 (edition 2); and load the following update:*  *2.2.4 Loading of New Update\ENC\_ROOT|GB5X01SW.001 (edition 2)*  *4. Display installed chart.* | |
| **Results** | |
| *1. The update process shall refuse to install the update and inform the user that chart data of a newer*  *edition are available.*  *2. A permanent indication “Chart information not up to date” shall be available in the chart display area*  *when such a chart is in use (either displayed on chart area or used as largest scale available for*  *chart related alerts and indications).*  *3. Base cell and update shall be installed without any warning or error.*  *4. The “Chart information not up to date” message no longer displayed.* | |
| **Remark** | |
| See remarks in the NAVTOR AS letter: **Navtor Identifying Automatic Chart Corrections.docx** | |

### 2.2.8 Rejection of automatic update

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| **Test Reference 2.2.8** | **IHO Reference S-52 appendix 1/ 3.4.2h**  **and IEC 61174/ 4.4.2** |
| **Test description** | |
| *Manual rejection of an automatic update.* | |
| **Setup** | |
| *As result of test 2.1.1*  *Load the following cell:*  *2.1.1 Power Up\ENC\_ROOT\GB5X01SW.000 (edition 1)* | |
| **Action** | |
| *Load the following update:*  *2.2.2 Loading of Updates\ENC\_ROOT\GB5X01SW.001 (edition 1, update 1)*  *After loading of the update, manually annotate the objects of the update as rejected using the deletion available in the manual update method* | |
| **Results** | |
| *The objects from the update shall remain in display as annotated by the deletion mark of the manual update method.*  *Before loading of update, displayed scale 1:20 000*  *Note: Screen plot are based on the full text NATSUR attribute. To reduce undue clutter in the ECDIS*  *chart display, the use of the abbreviations of the NATSUR attribute is recommended*  *After loading of GB5X01SW.001, displayed scale 1:20 000*  *After update 1 has been manually annotated as rejected by the Mariner, displayed scale 1:20 000* | |
| **Remark** | |
| In the update GB5X01SW.001 there are the following instructions:   * Insert a dangerous wreck * Insert an East and West Cardinal buoy * Insert an East and West Cardinal buoy   At the screen plot for manual rejection of automatic update, the whole update (three instructions) is rejected.  **Questions:**   1. Should it be possible to reject a single instruction, e.g., only one *dangerous wreck*? 2. For *Moved feature* there will be a sequence of *delete* and *add* instructions. After rejecting such update all symbols will be marked as *deleted*. In our opinion, such presentation may be confusing for the mariner. 3. Should rejected updates detected as Navigational hazards, dangers, etc., be highlighted (according to clauses 10.5.9, 10.5.10. 10.5.11 of PL)? If yes, what should be highlighted in the case described in p.2?   **Suggestion**  Such situations should be explicitly described in corresponding clauses of Presentation Library. At present, both PL and IEC 61174 lack such description. | |

# 3 Chart Display

## 3.1 Display of ENC data

### 3.1.2 Standard Display category

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| --- | --- |
| **Test Reference 3.1.2 (part 1)** | **IHO Reference S-52 14.3** |
| **Test description** | |
| *The purpose of the test is to verify by observation that ECDIS correctly displays all ENC objects included in the IMO Standard Display category. The test is performed by loading to ECDIS test S-57 cell and checking display against graphical plots.*  *The test ENC cell AA5STNDR.000 contains depth and land areas from Display Base plus all ENC objects belonging to Standard Display according to the IHO S-52 Presentation Library. The objects belonging to Standard Display are to be shown if Standard Display is selected in ECDIS HMI and should be disappearing in the Display Base mode.* | |
| **Setup** | |
| *Load cell AA5STNDR.000 from 3.1 ENC Display\Standard\ENC\_ROOT with the following settings:*  *Select Viewing group layer Standard Display*  *Set the safety contour value to 10 m*  *Set the safety depth value to 10 m*  *Select Symbolized Boundaries*  *Select Simplified Points*  *Select Text Display Off*  *Set Scale min Off* | |
| **Action** | |
| *Switch on Standard Display. Check ENC symbols shown in ECDIS against graphical plot* | |
| **Results** | |
| *Confirm that depth and land areas from Display Base are shown*  *The ENC in the ECDIS should be shown as in the picture below.* | |
| **Remarks** | |
| See the screen plot below     1. Pattern for the MARCUL object (AP(MARCUL02)) is not shown. We would like to underline that such situation is usual for a lot of plots in S-64. 2. The TOPMAR object should not be presented at the *Simplified Points symbolization* set in Setup. 3. No such object (LNDARE?) in this dataset. 4. Two LNNRGN objects (2:marsh, 12:swamp) should be presented with AP(MARSHES1) pattern.   **Suggestion**  The screen plot should be fixed | |

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| **Test Reference 3.1.2 (part 3)** |  |
| **Action** | |
| *Switch on Display Base. Check ENC symbols shown in ECDIS against graphical plot.* | |
| **Results** | |
| The ENC in the ECDIS should be shown as in the picture below. | |
| **Remarks** | |
| The LNDARE (?) object at the lower part of the Dataset is absent. See remark 3 to 3.1.2 (part 1)  **Suggestion**  The screen plot should be fixed | |

### 3.1.3 Other Display category

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| **Test Reference 3.1.3 (part 1)** | **IHO Reference S-52 14.3** |
| **Test description** | |
| *The purpose of the test is to verify by observation that ECDIS correctly displays all ENC objects included in the IMO Other Display category. The test is performed by loading to ECDIS test S-57 cell and checking display against graphical plots.*  *The test ENC cell AA5OTHER.000 contains depth and land areas from Display Base plus all ENC objects belonging to Other Display according to the IHO S-52 Presentation Library.*  *The objects belonging to Other Display are to be shown if Other (or All) display is selected in ECDIS HMI and should be disappearing in the Display Base or Standard Display modes* | |
| **Setup** | |
| *Load cell AA5OTHER.000 from 3.1 ENC Display\Other\ENC\_ROOT with the following settings:*  *Select Viewing group layer Other*  *Set the safety contour value to 10 m*  *Set the safety depth value to 10 m*  *Select Symbolized Boundaries*  *Select Text Display Off*  *Select Shallow water dangers Off*  *If provided, select optional Contour label* | |
| **Action** | |
| *Switch on Other Display. Check every ENC symbol shown in ECDIS against graphical plot.* | |
| **Results** | |
| *The ENC in the ECDIS should be shown as in the picture below.* | |
| **Remarks** | |
| 1. The highlighted object - M\_NPUB object with an INFORM attribute (INFORM ={“Test data”}). To switch OFF the presentation of the INFORM01 symbol it is necessary to switch OFF Mariner Selection *“Highlight info”*. Moreover, this object has a TXTDSC attribute with the reference to m\_npub.txt which is absent in the dataset. 2. The M\_QUAL object is not shown in the test plot. The Other viewing group layer includes a Miscellaneous sub-layer with VG={31010} for presentation of the quality of data (M\_QUAL). 3. It is necessary to *‘Set Scale min Off’* (not mentioned in Setup). Otherwise some objects may disappear (e.g. VEGATN at the upper right corner of the plot).   **Suggestion**   * The Dataset should be fixed (TXTDSC attribute with the reference to m\_npub.txt). * Setup should be extended with:  - *Select* *“Highlight info” Off*  *- Set Scale min Off* | |

### 3.1.4 ECDIS Viewing groups names. Standard Display

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| **Test Reference 3.1.4 (part 3)** |  |
| **Action** | |
| *Switch off all controls and switch on only the* ***“Buoys, beacons, aids to navigation”*** *control.*  *Verify that the objects are displayed correctly as presented in the plot.* | |
| **Results** | |
| The objects are shown as presented in the screen plot below | |
| **Remarks** | |
| 1. It is necessary to “*Select Text Display Off.*” 2. Presentation shown in the S-64 screen plot corresponds to “*Paper chart Point symbolization*” (TOPMAR and DAYMAR objects) but in Setup there is the requirement to *Select Simplified Point Symbols.*   **Suggestion**   * The Dataset should be fixed (TXTDSC attribute with the reference to m\_npub.txt). * Setup should be extended with *Select Text Display Off.* * The screen plot should be fixed. | |

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| **Test Reference 3.1.4 (part 4)** |  |
| **Action** | |
| *Switch off all controls and switch on only the* ***“Boundaries and limits”*** *control.*  *Verify that the objects are displayed correctly as presented in the plot.* | |
| **Results** | |
| *The objects are shown as presented in the screen plot below* | |
| **Remarks** | |
| See screen plots below   1. It is a CTNARE (Caution area) object with the Point geometry. CTNARE is not a member of the Viewing group layer ***“Boundaries and limits.”*** It is a member of the Viewing Group layer ***“Cautionary notes”*** (VG = {26150}) S-64 screen plot   **Suggestion**  The screen plot should be fixed | |

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| **Test Reference 3.1.4 (part 6)** |  |
| **Action** | |
| *Switch off all controls and switch on only the* ***“Cautionary notes”*** *control.*  *Verify that the objects are displayed correctly as presented in the plot* | |
| **Results** | |
| The objects are shown as presented in the screen plot below | |
| **Remarks** | |
| Presentation of the CTNARE (Caution area) object with the Point geometry is absent in the S-64 screen plot – see the remark in p.1 for Test 3.1.4 (Part 4 - Boundaries and limits).  **Suggestion**  The screen plot should be fixed. | |

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| **Test Reference 3.1.4 (part 9)** |
| **Action** |
| *Switch off all controls and switch on only the* ***“Miscellaneous”*** *control.*  *Verify that the objects are displayed correctly as presented in the plot.* |
| **Results** |
| *The objects are shown as presented in the screen plot below* |
| **Remarks** |
| 1. Two LNNRGN objects (2:marsh, 12:swamp) should be presented with the AP(MARSHES1) pattern. 2. Such object (LNDARE?) is simply absent in this dataset (see p.2 on the screenshot below)     **Suggestion**  Either the dataset or the screen plot should be fixed. |

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| **Test Reference 3.1.4 (part 10)** |  |
| **Action** | |
| *Load all cells from 2.1.1 Power Up\ENC\_ROOT (GB4X0000.000, GB5X01NW.000)*  *Centre the display on position 32°28.500’ S 60°59.000’ E and then zoom in to a scale of 1:20,000*  *Switch off all controls and switch on only the* ***“Chart scale boundaries”*** *control.*  *Verify that the objects are displayed correctly as presented in the plot.* | |
| **Results** | |
| *The objects are shown as presented in the screen plot below* | |
| **Remarks** | |
| In the layer ***“Chart scale boundaries”*** (VG={21030), the Chart scale boundary (LS(SOLD,1,CHGRD) or LC(SCLBDYnn)) and Overscale data (AP(OVERSCO1)) should be shown. The S-64 screen plot does not show the Chart scale boundary.  **Suggestion**  The screen plot should be fixed. | |

### 3.1.5 ECDIS Viewing Layers. Other Display

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| **Remarks** **for all tests** |
| The “m\_npub.txt" file that is referenced in the dataset "AA5OTHER" is absent.  **Suggestion**  The dataset should be fixed. |

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| **Test Reference 3.1.5 (part 9)** |  |
| **Action** | |
| *Switch off all controls and switch on only the* ***“Miscellaneous”*** *control.*  *Verify that the objects are displayed correctly as presented in the plot.* | |
| **Results** | |
| *The objects are shown as presented in the screen plot below* | |
| **Remarks** | |
| The M\_QUAL object is not shown in the test plot. The Other viewing group layer includes a Miscellaneous sub-layer with VG {31010} for presentation quality of data (M\_QUAL).  **Suggestion**  The screen plot should be fixed. | |

### 3.1.6 Text Grouping

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| **Test Reference 3.1.6 (part 5)** |  |
| **Action** | |
| *View cell AA5OTHER.000*  *Switch off all text group controls and switch on only the* ***“Other Text”*** *control.*  *Verify that the objects are displayed correctly as presented in the plot.* | |
| **Results** | |
| *The objects are shown as presented in the screen plot below* | |
| Remarks | |
| The Current Velocity (TG = {30}) is a member of the Text Group “Other”. The value of CURVEL is not presented in the S-64 plot.  **Suggestion**  The screen plot should be fixed. | |

## 3.2 Invalid objects

### 3.2.2 Invalid Object Pick Report Display

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| **Test Reference 3.2.2 c)** | **IHO Reference S-52 10.8.6** |
| **Test description** | |
| *Display of pick report information for objects with unknown object class.* | |
| **Setup** | |
| *As for test 3.2.1 a)* | |
| **Action** | |
| *1. Select the following objects:*  *- 39°29.000’N, 104°44.000’W*  *- 39°29.000’N, 104°43.000’W*  *- 39°28.000’N, 104°41.000’W*  *2. Remove pick report information from display.* | |
| **Results** | |
| *1a. Pick report associated with chart object is displayed only when object is selected.*  *1b. First example is a wreck and it has 1 unknown attribute and 1 known attributes (Water level effect is*  *Covers and uncovers).*  *1c. Second example is an obstruction and it has 1 unknown attribute and 1 known attribute (Value of*  *sounding has no value).*  *1d. Third example is a restricted area and it has 1 unknown attribute*  *2. Pick report associated with chart object is removed from the display.* | |
| **Remarks** | |
| Unknown attributes for all objects mentioned in the test result are absent – all existing attributes are valid.  Latitudes of objects are wrong, they are from 3.2.1 a), should be 39°27.000’N.  **Suggestion**   * The dataset should be fixed. * The test description should be corrected. | |

## 3.3 Independent Mariner Selections

### 3.3.1 Paper chart and simplified symbols

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| **Test Reference 3.3.1 b)** | **IHO Reference S-52 App B-F** |
| **Test description** | |
| *Display of objects with paper chart symbols.* | |
| **Setup** | |
| *As for test 3.3.1 a)*  *Select Simplified Symbols* | |
| **Action** | |
| *View the objects at position 32° 37.280’ S 61° 21 .000’ E and then zoom in to a scale of 1:10,000.* | |
| **Results** | |
| *Confirm that the objects display as follows:* | |
| **Remarks** | |
| S-64 screen plot    Navtor screen plot    The highlighted symbols are the symbols for BOYCAR objects (BOYCAR01, BOYCAR02, BOYCAR03, BOYCAR04). According to the addendum to PL, line weight should be 0.6 mm, rather than 0.3 mm as it is shown in S-64 screen plot.  **Suggestion**  It is necessary to improve the S-64 screen plot or to change the description for the mentioned objects in the S-52 addendum. | |

### 3.3.3 Date Dependent Display and Functionality

#### 3.3.3.1 DATSTA/DATEND on buoys

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| **Test Reference 3.3.3.1 d)** | **IHO Reference S-52 10.4.1** |
| **Test description** | |
| *Route checking of date dependent objects, date range. (DATSTA and DATEND)* | |
| **Setup** | |
| *As for test 3.3.3.1 c)*  *Deselect Miscellaneous (Other)*  *Select scale 1:10 000* | |
| **Action** | |
| *As for test 3.3.3.1 a)*  *Create a route from 32°36.425’S 61°20.335’E to 32°36.425’S 61°21.400’E with a cross track distance of*  *0.10NM set for Starboard and for Port.* | |
| **Results** | |
| *Confirm that the object displays as in the image below and that a permanent indication is shown as*  *specified in S-52 10.4.1*  *Note: A permanent indication that the date has been adjusted should be shown as specified in S-52*  *10.4.1* | |
| **Remarks** | |
| The screen plot provided for this test is wrong. It is the screen plot for test 3.3.3.2 (PERSTA, PEREND).    **Suggestion**  It is necessary to improve the S-64 screen plot. | |

#### 3.3.3.2 PERSTA/PEREND on buoys

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| **Test Reference 3.3.3.2 d)** | **IHO Reference S-52 10.4.1** |
| **Test description** | |
| *Route checking of date dependent objects, date range. (PERSTA and PEREND)* | |
| **Setup** | |
| *As for test 3.3.3.2 c)*  *Deselect Miscellaneous (Other)*  *Select scale 1:10 000* | |
| **Action** | |
| *As for test 3.3.3.2 a)*  *Create a route from 32°36.425’S 61°21.400’E to 32°36.425’S 61°22.500’E with a cross track distance*  *of 0.10NM set for Starboard and for Port.* | |
| **Results** | |
| *Confirm that the object displays as in the diagram below:*  *Note: A permanent indication that the date has been adjusted should be shown as specified in S-52 10.4.1* | |
| **Remarks** | |
| The screen plot provided for this test is wrong. It is the screen plot for test 3.3.3.1 (DATSTA, DATEND).    **Suggestion**  It is necessary to improve the S-64 screen plot. | |

#### 3.3.3.3 DATSTA/DATEND on Traffic Separation Schemes (TSS)

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| **Test Reference 3.3.3.3 a)** | **IHO Reference S-52 10.4.1** |
| **Test description** | |
| *Display of date dependent objects, current date. (DATSTA and DATEND)* | |
| **Setup** | |
| *Load the following cell 3.3 Settings\ENC\_ROOT\GB4X0001.000 with the following settings:*  *Select Viewing group layer Other*  *Select Symbolized Boundaries*  *Select Paper chart symbols*  *Deselect Accuracy*  *Deselect Highlight info*  *Deselect Highlight document*  *Safety Contour = 10 metres*  *Safety Depth = 10 metres*  *Select Highlight date dependent*  *Ensure that the viewing date is set to the current date and time (any date after 20131201).* | |
| **Action** | |
| *Centre the display on position 32°35.300’S 61°21.380’E and then zoom in to a scale of 1:20,000* | |
| **Results** | |
| *Confirm that the object displays as in the diagram below:* | |
| **Remarks** | |
| 1. The lower Traffic separation lane part (TSSLPT) has a periodic attribute DATSTA set to 20131201. Therefore the symbol SY(CHDATD01) should be used. 2. The Traffic separation Zone (TSSZNE) has a periodic attribute DATSTA set to 20131201. Therefore the symbol SY(CHDATD01) should be used. 3. The ADMARE object: the Line weight of LC(ADMARE01) should be 0.3 mm.   **Suggestion**  It is necessary to improve the S-64 screen plot. | |

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| **Test Reference 3.3.3.3 b)** | **IHO Reference S-52 10.4.1** |
| **Test description** | |
| *Display of date dependent objects, current date. (DATSTA and DATEND)* | |
| **Setup** | |
| *As for test 3.3.3.3 a)*  *Select Highlight date dependent*  *Ensure that viewing date is set to 30.11.2013* | |
| **Action** | |
| *As for test 3.3.3.3 a)* | |
| **Results** | |
| *Confirm that the object displays as in the diagram below:* | |
| **Remarks** | |
| 1. The lower Traffic separation lane part (TSSLPT) has a periodic attribute DATEND set to 20131130. Therefore the symbol SY(CHDATD01) should be used. 2. The Traffic separation Zone (TSSZNE) has a periodic attribute DATEND set to 20131130. Therefore the symbol SY(CHDATD01) should be used. 3. The ADMARE object: the Line weight should be 0.3 mm.   **Suggestion**  It is necessary to improve the S-64 screen plot. | |

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| **Test Reference 3.3.3.3 c)** | **IHO Reference S-52 10.4.1** |
| **Test description** | |
| *Display of date dependent objects, current date. (DATSTA and DATEND)* | |
| **Setup** | |
| *As for test 3.3.3.3 b)*  *Set the viewing date range as follows:*  *Start viewing date= 01.11.2013*  *End viewing date= 01.12.2013* | |
| **Action** | |
| *As for test 3.3.3.3 a)* | |
| **Results** | |
| *Confirm that the object displays as in the diagram below:* | |
| **Remarks** | |
| 1. There are two Traffic separation Zones (TSSZNE) with a periodic attribute: DATSTA set to 20131201 (Lower) and DATEND set to 20131130 (Highlighted). Therefore the symbol SY(CHDATD01) should be used for them both. 2. The ADMARE object: Line weight should be 0.3 mm.   **Suggestion**  It is necessary to improve the S-64 screen plot. | |

## 3.3.4 Safety contour

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| **Test Reference 3.3.4 c)** | **IHO Reference S-52 13.2.19**  **S-52 10.3.4.4**  **S-52 13.2.24** |
| **Test description** | |
| *Display of safety contour and isolated dangers within the safe water enclosed by the ship’s safety contour.* | |
| **Setup** | |
| *As for test 3.3.4 a)* | |
| **Action** | |
| *Select Shallow water dangers for display*  *1. Set the safety contour value to 5m*  *2. Set the safety contour value to 10m.* | |
| **Results** | |
| *The safety contour must be emphasised and the isolated dangers within the safe water enclosed by the*  *ship’s safety contour must be displayed as shown in the image below*  *Safety contour set as 5 m*  *Safety contour set as 10 m* | |
| **Remarks** | |
| 1. According to CS UNWHAZ05, Dangers in shallow water should be shown in the Standard display and hidden in the Base display. Therefore, the Standard display should be selected. 2. In case of the *Standard display* mode, many other objects should be shown.   **Suggestion**   * It is necessary to set in Setup ‘*Select Standard display.*’ * The screen plot should be changed. | |

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| **Test Reference 3.3.4 d)** | **IHO Reference S-52 10.3.4.4**  **S-52 13.2.24**  **S-52 14.2** |
| **Test description** | |
| ***If the equipment under test supports four colour depth shades the following test shall also be performed.***  *Display of safety contour and isolated dangers within the safe water enclosed by the ship’s safety contour using four shades for depth areas.* | |
| **Setup** | |
| *As for test 3.3.4 a)* | |
| **Action** | |
| *Select Shallow water dangers for display*  *1. Set the safety contour value to 5m (shallow contour 2m, deep contour 10m).*  *2. Set the safety contour value to 10m (shallow contour 5m, deep contour 20m).* | |
| **Results** | |
| *The safety contour must be emphasised and the isolated dangers within the safe water enclosed by the*  *ship’s safety contour must be displayed as shown in the image below*   1. Safety contour set as 5 m 2. Safety contour set as 10 m | |
| **Remarks** | |
| See remarks to the test 3.3.4 c) | |

## 3.3.5 Safety depth

|  |  |
| --- | --- |
| **Test Reference 3.3.5** | **IHO Reference S-52 13.2.15** |
| **Test description** | |
| *Display of objects with respect to value of safety depth* | |
| **Setup** | |
| *As for test 3.3.4 a)*  *Display of spot soundings shall be switched on.* | |
| **Action** | |
| *1. Set the safety depth value to 10m (safety contour 30m).*  *2. Set the safety depth value to 4m (safety contour 5m).*  *3. Set the safety depth value to 7m (safety contour 10m).*  *4. Set the safety depth value to 12m (safety contour 10m).* | |
| **Results** | |
| 1. *The objects shown with depth values shallower than 10m must be emphasised.* 2. *The objects shown with depth values shallower than 4m must be emphasised.* 3. *The objects shown with depth values shallower than 7m must be emphasised.* 4. *The objects shown with depth values shallower than 12m must be emphasised.* | |
| **Remarks** | |
| 2. Set the safety depth value to 4m (safety contour 5m).  1. The screenshot above is the screenshot of the Dataset GB5X01NE.000 rather than of GB4X0000.000 as it should be according to Setup (1 – is an UWTROC object from GB5X01NE.000).  2. In any case, many SOUNDG objects are absent in this plot.  **Suggestion**  The screen plot should be changed. | |

## 3.3.9 Display of additional Chart Information Symbol

|  |  |
| --- | --- |
| **Test Reference 3.3.9 b)** | **IHO Reference S-52 10.6.1.1** |
| **Test description** | |
| *Display of additional chart information symbol (INFORM).* | |
| **Setup** | |
| *As for test 3.3.9 a)*  *Select Highlight info* | |
| **Action** | |
| *As for test 3.3.9 a)* | |
| **Results** | |
| *Confirm that the objects display as follows:* | |
| **Remarks** | |
| 1. All objects in this Test have an INFORM attribute. Therefore, the symbol INFORM01 should be shown for all objects, while in the screen plot of S-64, it is only shown for some of them. 2. According to the clause 10.6.3 (Light Description Text Strings) of PL, if the value of the attribute has a non-zero decimal part then the value is displayed to one decimal place. Therefore the value of the nominal range in the Light Description Text String for BCNLAT should be 2.4M but not 2M.     **Suggestion**   * The dataset should be fixed if not all objects need the INFORM attribute. * The screen plot should be fixed. | |

|  |  |
| --- | --- |
| **Test Reference 3.3.9 c)** | **IHO Reference S-52 10.6.1.1** |
| **Test description** | |
| *Display of additional chart information symbol (INFORM).* | |
| **Setup** | |
| *As for test 3.3.9 a)*  *Select Highlight document* | |
| **Action** | |
| *As for test 3.3.9 a)* | |
| **Results** | |
| *Confirm that the objects display as follows:* | |
| **Remarks** | |
| 1. The object name for BCNLAT should be ‘bn Aslanbegov’. The name “Jaakko” printed in the plot is the object name in a national language. 2. According to the clause 10.6.3 (Light Description Text Strings) of PL, if the value of the attribute has a non-zero decimal part then the value should be displayed to one decimal place. Therefore, the value of the nominal range in the Light Description Text String for BCNLAT should be 2.4M rather than 2M.     **Suggestion**  The screen plot should be fixed. | |

## 3.6 Display priority Data in 3.6 Display priorities\ENC\_ROOT\ is incorrect: 1. 2J5X0001.000 - CRC does not match the catalog CRCS value. Dataset cannot be compiled. Previous version of data for this test (S-64, Edition 3.0.0) was correct;

2. In both versions text files referenced in dataset 2J5X0001.000 are absent (RU5XANTX.TXT, RU5XAPIC.TIFF, RU5XATXT.TXT, RU5XLNTX.TXT, RU5XLPIC.TIFF, RU5XLTXT.TXT, RU5XPNTX.TXT, RU5XPPIC.TIFF, RU5XPTXT.TXT)

### 3.6.9 Display of objects affected by CSPs

|  |  |
| --- | --- |
| **Test Reference 3.6.9** | **IHO Reference S-52 10.3.4.1** |
| **Test description** | |
| *Display of objects with priority affected by conditional symbology procedures* | |
| **Setup** | |
| *As for test 3.6.1* | |
| **Action** | |
| *View the objects at position 32°21.850’S 61°23.150’E scale 1:5000* | |
| **Results** | |
| *Confirm that items 1-12 display as shown in the graphic below :* | |
| **Remarks** | |
| The highlighted object is RESARE with RESTRN={8} (entry prohibited) and should be symbolized with LC(ENTRES51) (see CSP RESARE04, Continuation A).  **Suggestion**  The screen plot should be fixed. | |

## 3.7 Scale and navigation purpose

### 3.7.3 Boundaries between compilation scales

|  |  |
| --- | --- |
| **Test Reference 3.7.3** | **IHO Reference S-52 10.1.9.1** |
| **Test description** | |
| *Boundaries between compilation scales.* | |
| **Setup** | |
| *Load the following cell:*  *2.1.1 Power Up\ENC\_ROOT\GB4X0000.000* | |
| **Action** | |
| *Centre de display on 32°21.010’S, 060°57.920’E and zoom to 1:45,000* | |
| **Results** | |
| *Confirm that either the LS(SOLD,1,CHGRD) or LC(SCLBDY51) is shown for the diagonal limit across the cell.*  *Also confirm that the overscale indication is provided for the area in which compilation scale is 1:52 000.* | |
| **Remarks** | |
| The clause 10.1.9.1 (Chart Scale Boundaries) states:  *Only the* ***significant changes from one navigational purpose******to another must*** *appear as chart scale boundaries;* ***boundaries marking minor changes*** *in compilation scale that lie within the range of a navigational purpose* ***must not be drawn.***  **Questions**:   1. The screen plot only uses the Dataset GB40000.000 with the intended usage (UNTI=[4}) approach. Why should the scale boundary be drawn? 2. What does it mean: ***significant changes from one navigational purpose?*** In our opinion, such definition is not precise and permits multiple interpretations. 3. What does it mean: ***boundaries marking minor changes?*** In our opinion, such definition is not precise and permits multiple interpretations.   **Suggestion**:  In the previous version of Presentation library, the algorithm for Chart scale boundaries was described in the CS DATCVR02 and raised many questions. Now the CS DATCVR02 is deleted but, unfortunately, the same questions still exist. In our opinion, rigorous (instead of unclear ‘significant’ or ‘minor’) criteria should be defined for presentation of the chart scale boundary. | |

### 3.7.4 Display of data from another navigational purpose

|  |  |
| --- | --- |
| **Test Reference 3.7.4 b)** | **IHO Reference S-52 10.1.3** |
| *Test description* | |
| *Display of overlapping data.* | |
| **Setup** | |
| *Load cell from 3.7 Overlap\ENC\_ROOT*  *Load cell from 3.7.7 Scale minimum\ENC\_ROOT*  *Select Display mode = Other*  *Select Safety Contour = 10 metres*  *Select Safety Depth = 10 metres*  *Select Symbolized Boundaries*  *Select Paper chart symbols*  *Deselect Accuracy*  *Display cell GB3OVRLP at compilation scale (1:90 000)* | |
| **Action** | |
| *Centre the display on position 32°23.000’S 60°40.000’E* | |
| **Results** | |
| *Confirm that only one cell is displayed in a given area. In this case displays as shown in a) or b) are*  *acceptable.*  *Confirm also that a permanent indication “overlap” is provided.*   1. *Chart AA3SCAMN overlaps chart GB3OVRLP* 2. *Chart GB3OVRLP overlaps chart AA3SCAMN* | |
| **Remarks** | |
| 1. An unknown chart is shown in the corresponding S-64 screen plot.   **Suggestion**  The screen plot should be fixed. | |

## 4.9 Other Chart Related Functionality

### 4.9.2 ECDIS Chart 1

|  |  |
| --- | --- |
| **Test Reference 4.9.2 b)** | **IHO Reference S-52 18.2.2** |
| **Test description** | |
| *Interrogation of ECDIS chart 1.* | |
| **Setup** | |
| *With ECDIS chart 1 displayed.* | |
| **Action** | |
| *Interrogate 3 symbols by cursor pick.* | |
| **Results** | |
| Upon interrogation the description of the symbol as contained in the Presentation Library is presented. | |
| **Remarks** | |
| In the current version of ECDIS CHART1, most objects already have annotations – description of symbol (NEWOBJ with a SYMINS attribute and a corresponding TX instruction). Therefore, in our opinion, this requirement is obsolete. | |

# 5 Detection and Notification of Navigational Hazards (only presentation)

## 5.1 Detection and Notification of Navigational Hazards - Basic test

|  |  |
| --- | --- |
| **Test Reference 5.1** | **IHO Reference S-52 10.5.9** |
| **Test description** | |
| *The purpose of this test is to verify by observation that ECDIS provides an appropriate indication when the Mariner plans a route closer than a user-specified distance from any objects satisfying the conditions for this test as listed in section 10.5.9 of IHO S-52 and included in the test cell AA3NAVHZ.000.*  *This test is performed by loading the test cell AA3NAVHZ.000, manually creating a route connecting all way points between feature objects marked as WP1 through WP18 and checking display against the corresponding graphical plot* | |
| **Setup** | |
| *Load cell AA3NAVHZ.000 from 5.0 Navigational Hazards\ENC\_ROOT*  *Select Viewing group layer Other*  *Set the safety contour value to 0 m*  *Set the safety depth value to 30 m*  *Select Symbolized Boundaries*  *Select Paper chart symbols*  *Deselect Accuracy*  *Deselect Highlight info*  *Manually create a route connecting all way points between feature objects marked WP1 through WP18.*  *Set user-specified distance for indication navigational hazards as 0.1 NM* | |
| **Action** | |
| *Check ENC symbols shown in the ECDIS against the corresponding graphical plot.*  *Repeat sequentially with a safety contour of 0m, 2m, 4m, 5m, 6m, 8m, 9m, 10m, 11m, 16m, 21m, 31m,*  *42m, 50m, 51m* | |
| **Results** | |
| The ENC in the ECDIS should match the corresponding graphical plot shown below. | |
| **Remarks** | |
| 1. **Hazards (any geometry) wholly located in UNSARE** According to UDWHAZ05, in this case the Danger symbol located in UNSARE should not be shown.       According to CS UDWHAZ05, UNSARE is not processed in the loop for underlying objects (only DEPARE and DRGARE). If the hazard is wholly located in UNSARE, the Danger symbol should not be shown. 2. **OBSRTN object with Line and Area geometry** The presentation is incorrect for plots with safety contours set to: 2m, 4m, 5m, 6m, 8m, 9m, 10m, 11m, 16m, 21m, 31m, 42m. **In this case Danger symbol should be presented**   In this case:  OBSTRN (both for LINE and AREA geometry)  Attributes:  EXPSOU = 1 (within the range of depth of the surrounding depth area)  VALSOU = Unknown  WATLEV = 3 (always under water/submerged)  CS DEPVAL02:  UNDERLYING OBJECT ARE UNSARE AND DEPARE  IF UNSARE  LEAST\_DEPTH = UNKNOWN  BREAK  return value = LEAST\_DEPTH = UNKNOWN  CS OBSTRN07:  IF LEAST\_DEPTH = UNKNOWN AND WTLEV=3  DEPTH\_VALUE=0.01  CS UDWHAZ05:  DEPTH\_VALUE <=SAFETY\_CONTOUR  LOOP FOR UNDERLYING OBJECTS  UNDERLYING OBJECT IS DEPARE WITH DRVAL1 = 50  DRVAL1 >= SAFETY\_CONTOUR  DANGER = TRUE  BREAK  **Isolated Danger symbol should be presented.**   1. **Style of the WRECKS border is wrong** The WRECKS object has an attribute VALSOU set to 42m. The Safety Depth in Setup should be set to 30m. According to the new CSP WRECKS05 (constant 20m has been changed to SAFETY\_DEPTH), the border should be symbolized: - with dotted style (LS(DOTT,2,CHBLK)) if CS UDWHAZ05 indicates that the Isolated danger symbol should be drawn (see **1** in the picture below. DANGER=TRUE); - with dashed style (LS(DASH,2,CHBLK)) if VALSOU > SAFETY\_DEPTH (see **2** in the picture below. VALSOU>SAFETY\_DEPTH).  For the WRECKS object (VALSOU=42) in this plot, dotted style should be used only if Safety Contour is set to 42 and 50m. For all other values, dashed style should be used.    This remark also refers to ECDIS CHART1 – Seabed, Obstructions, Pipelines (J, K, L). The text in the SYMINS attribute for OBSTRN objects with Line geometry should be corrected (20m to be changed to Safety Depth). 2. **Plot SC=10**  a) Wrong Safety contour (see 1). DEPARE (DRVAL1=10, DRVAL2=20) should not be the part of Unsafe depths according to CS DEPARE02.  b) The UWTROC object should be shown in this case with the Isolated Danger symbol (see 2) Attributes: - EXPSOU = 1 (within the range of depth of the surrounding depth area) - VALSOU = Unknown - WATLEV=3 (always under water/submerged) For such values of attributes: CS DEPVAL02 returns LEAST\_DEPTH=10 In CS OBSTRN07 variable DEPTH\_VALUE will be set to LEAST\_DEPTH (10) In CS UDWHAZ05:  - DEPTH\_VALUE<=SAFETY\_CONTOUR  - In Underlying DEPARE DRVAL1>=SAFETY\_CONTOUR   **Suggestion**  The corresponding screen plots should be fixed. | |

## 5.2 Detection and Notification of Navigational Hazards – Use of largest scale available

|  |  |
| --- | --- |
| **Test Reference 5.2** | **IHO Reference S-52 10.5.9** |
| **Test description** | |
| *The purpose of this test is to verify by observation that ECDIS uses the largest scale available for detection*  *of navigational hazards.*  *This test is performed by loading the test cells AA2OVRVU.000 and AA3NAVHZ.000, manually creating a*  *route connecting all way points between feature objects marked as WP1 through WP8 and checking*  *display against the corresponding graphical plot* | |
| **Setup** | |
| *Load cell AA3NAVHZ.000 from 5.0 Navigational Hazards\ENC ROOT*  *Load cell AA2OVRVU.000 from 5.0 Navigational Hazards\Overview\ENC ROOT*  *Select Viewing group layer Other*  *Set the safety contour value to 0 m*  *Set the safety depth value to 30 m*  *Select Symbolized Boundaries*  *Select Paper chart symbols*  *Deselect Accuracy*  *Deselect Highlight info* | |
| **Action** | |
| *Select position 39°57.000’N 104°49.000’W at compilation scale (1:350 000) of AA2OVRVU.*  *1) View chart before route planning*  *2) Manually create a route connecting all way points between feature objects marked WP1 through WP8.*  *Set user-specified distance for indication navigational hazards as 0.5 NM. Check ENC symbols shown in*  *the ECDIS against the corresponding graphical plot.* | |
| **Results** | |
| The ENC in the ECDIS should match the corresponding graphical plot shown below.   1. *Situation before route planning. Chart AA2OVRVU displayed as it is (see plot)* 2. *Situation after route planning. Alerts indicated from largest scale available for each location* | |
| **Remarks** | |
| 1. For such setting of Safety contour (*Set the safety contour value to 0 m*), the safety contour will not be chosen. All DEPAREs should be colored with DEPDW. 2. Hazards in UNSARE should not be presented with the Isolated Danger symbol (see explanation for test 5.1). 3. OBSTRN objects with following attributes: EXPSOU = 2 (shoaler than the range of depth of the surrounding depth area) VALSOU = Unknown WATLEV = 3  In this case CS DEPVAL02 will return LEAST\_DEPTH=Unknown In CS OBSTRN07 DEPTH\_VALUE will be set to 0.01 In CS UDWHAZ05: DEPTH\_VALUE > SAFETY\_CONTOUR (0)  DANGER=FALSE Therefore, the Isolated danger symbol should not be shown in this case. 4. WRECKS objects with following attributes: VALSOU=4 WATLEV=3 In CS WRECKS05 DEPTH\_VALUE will be set to 4 In CS UDWHAZ05: DEPTH\_VALUE > SAFETY\_CONTOUR (0) DANGER=FALSE Therefore, the Isolated danger symbol should not be shown in this case.   **Suggestion**  The screen plots should be fixed. | |

## 5.3 Detection and Notification of Navigational Hazards – Basic test Monitoring Mode

|  |  |
| --- | --- |
| **Test Reference 5.3** | **IHO Reference S-52 10.5.9** |
| **Test description** | |
| *The purpose of this test is to verify by observation that ECDIS provides an appropriate indication if, continuing on its present course and speed, over a specified time or distance set by the Mariner, own ship will pass closer than a user-specified distance from any objects satisfying the conditions for this test (as listed in section 10.5.9 of IHO S-52 and included in the test cell AA3NAVHZ.000) that is shallower than the Mariner's safety contour.*  *This test is performed by loading the test cell AA3NAVHZ.000, sailing with a simulated ship over the test area, setting the safety contour to the appropriate values (0m, 2m, 5m, 6m, 8m, 9m, 10m, 11m, 16m, 21m, 31m, 42m, 50m, 51m) and checking display against the graphical plots of test 5.1 (Route plan) corresponding to each set of safety contour settings* | |
| **Setup** | |
| *As for test 5.1* | |
| **Action** | |
| *Check ENC symbols shown in the ECDIS for each safety contour setting against the corresponding*  *graphical plot.* | |
| **Results** | |
| *The ENC in the ECDIS should match the corresponding graphical plot of test 5.1.* | |
| **Remarks** | |
| According to Presentation Library (10.5.9 Detection and Notification of Navigational Hazards), for Route Monitoring *“****An indication should be given to the Mariner if, continuing on its present course and speed, over a specified time or distance set by the Mariner,*** *own ship will pass closer than a user-specified distance from a danger (e.g. obstruction, wreck, rock) that is shallower than the Mariner's safety contour or an aid to navigation”.* Such definition permits to calculate **the length** of *“Safety Zone”.*  **Question:**  How the **width** of *“Safety Zone”* should be calculated? | |

## 5.4 Detection and Notification of Navigational Hazards – Use of largest scale available – Monitoring Mode

|  |  |
| --- | --- |
| **Test Reference 5.4** | **IHO Reference S-52 10.5.9** |
| **Test description** | |
| *The purpose of this test is to verify by observation that ECDIS uses the largest scale available for detection of navigational hazards.*  *This test is performed by loading the test cells AA2OVRVU.000 and AA3NAVHZ.000, manually creating a route connecting all way points between feature objects marked as WP1 through WP8 and checking display against the corresponding graphical plot.* | |
| **Setup** | |
| *Load cell AA3NAVHZ.000 from 5.0 Navigational Hazards\ENC ROOT*  *Load cell AA2OVRVU.000 from 5.0 Navigational Hazards\Overview\ENC ROOT*  *Select Viewing group layer Other*  *Set the safety contour value to 0 m*  *Set the safety depth value to 30 m*  *Select Symbolized Boundaries*  *Select Paper chart symbols*  *Deselect Accuracy*  *Deselect Highlight info* | |
| **Action** | |
| *Select position 39°57.000’N 104°49.000’W at compilation scale (1:350 000) of AA2OVRVU.*  *1) View chart before route planning*  *2) Manually create a route connecting all way points between feature objects marked WP1 through WP8.*  *Set user-specified distance for indication navigational hazards as 0.5 NM. Check ENC symbols shown in*  *the ECDIS against the corresponding graphical plot. Set user-specified distance for indication navigational hazards as 0.5 NM. Check ENC symbols shown in the ECDIS against the corresponding graphical plot* | |
| **Results** | |
| *The ENC in the ECDIS should match the corresponding graphical plot shown below.* | |
| **Remarks** | |
| See remarks for test 5.2. | |

# 6 Detection of Areas for which Special Conditions Exist

In these tests (6.1, 6.2, and 6.3), individual objects which provide an appropriate alarm or indication should be selected. However, Presentation Library (10.5.10) has no such requirement or has it very obscured.

If nevertheless it is needed, in our opinion, it should be clearly and unambiguously specified in S-52 as it is done, e.g., for independent selectors for Viewing group layers.

# 7 Detection and Notification of the Safety Contour

## 7.1 Detection and Notification of the Safety Contour - Basic test

|  |  |
| --- | --- |
| **Test Reference 7.1** | **IHO Reference S-52 10.5.12** |
| **Test description** | |
| *The purpose of this test is to verify by observation that ECDIS provides an appropriate indication when the Mariner plans a route across an own ship's safety contour. The objects satisfying the conditions for this test are listed in section 10.5.12 of IHO S-52 and are included in the test cell AA3SAFCO.000.*  *This test is performed by loading the test cell AA3SAFCO.000, manually creating a route connecting all way points between feature objects marked as WP1 through WP4 and checking display against the corresponding graphical plot.* | |
| **Setup** | |
| *Load cell AA3SAFCO.000 from 7.0 Safety Contour\ENC\_ROOT*  *Select Viewing group layer Other*  *Set the safety contour value to 0 m*  *Set the safety depth value to 30 m*  *Select Symbolized Boundaries*  *Select Paper chart symbols*  *Deselect Accuracy*  *Deselect Highlight info*  *Manually create a route connecting all way points between feature objects marked WP1 through WP4.*  *Set user-specified distance for detecting of safety contour as 0.1 NM* | |
| **Action** | |
| *Check ENC symbols shown in the ECDIS against the corresponding graphical plot.*  *Repeat sequentially safety contour for 0m, 6m, 11m, 13m, 43m* | |
| **Results** | |
| *Results*  *The ENC in the ECDIS should match the corresponding graphical plot shown below.* | |
| **Remarks** | |
| Safety Contour = 6 m    Safety Contour = 11 m    The plot for Safety contour set to 11 meters does not show (highlight) dangers in ‘Unsafe water’ (less than safety contour). Clause 10.5.11 of Presentation library (Visualization of the Safety Contour) has no specified description for such case.  **Suggestion**  In our opinion, dangers in ‘Unsafe waters’ should be highlighted at least by a special request as it is done for dangers in shallow waters for presentation of the Isolated danger symbol.  Same remarks are applicable to all other tests for Detection and Notification of the Safety Contour (7.2, 7.3, 7.4). | |