24 August 2017

Checking the IHO S-52 Presentation Library Edition Number in the ECDIS

Background - IHO ENC Check Dataset

In October 2011 the IHO issued the ECDIS Data Presentation and Performance Checks, which included two fictitious ENC cells intended to assist mariners identifying if their ECDIS was using the latest IHO S-52 Presentation Library, edition 3.4. The dataset also highlighted if there were any known ENC display anomalies present in the system. Mariners were asked to run a series of quick tests using the check datasets within their ECDIS to ascertain if they were experiencing display issues. If the system was found to be running an old IHO Presentation Library or had a more serious display anomaly Mariners were advised to contact their ECDIS manufacturer or an appropriate equipment maintenance company to obtain software patches and investigate further to resolve the issues. Results of the tests were to be sent to the IHO for analysis and for use in revising IHO standards.

The IHO ECDIS Data Presentation and Performance Checklist were not intended for, and are not suitable to be used as a Port State Inspection / Carriage compliance test for ECDIS.

To address the display anomalies and improve the ECDIS user experience the IHO issued S-52 Presentation Library edition 4.0 in September 2014.

One of the principal benefits of upgrading ECDIS systems to the latest IHO Presentation Library is the reduction in audible alarms, which will ease the issue of alarm fatigue on the bridge whilst maintaining safety at sea. The introduction of an *alert* model based on the requirements in the IMO ECDIS Performance Standard will also harmonize ECDIS *alarm and indication* behaviour across different manufacturers systems.

A number of new symbols have also been added to the IHO Presentation Library. These symbols will identify features that require an *indication highlight*; the location of automatic ENC updates; and ENC features that have a temporal attribute.

A number of other significant changes in the Presentation Library have come directly from feedback provided by mariners. For example, the names of Fairways and Anchorage Areas will now appear on the ENC display; and a hover over function for certain charted features has been introduced.

The IHO has co-ordinated with the IEC to align the issue dates of S-52 and IEC 61174 "*ECDIS Operational and performance requirements, methods of testing and required test results*" publications. This resulted in a new edition (4.0) of IEC 61174 being published in August 2015 for the type-approval of new ECDIS. By 1st September 2017, ECDIS which have been type-approved according to a previous edition of IEC 61174 should have been updated in order to comply with the ECDIS software updating guidance in MSC.1.Circ.1503 as amended.

Changes to the IHO S-52 Presentation Library introduced in edition 4.0 will invalidate the tests contained in IHO ECDIS Data Presentation and Performance Checks which were specifically designed and developed for ECDIS using the IHO S-52 Presentation Library edition 3.4 or earlier.

ECDIS and the IHO Presentation Library Edition Number

All ECDIS must have a function to display the edition number of the IHO Presentation Library that is in use within the ECDIS. The new IHO ECDIS Presentation Library edition 4.0 clause 19.1 states; '*The edition number of the PresLib installed must be available to the Mariner on request*'. This requirement is tested for in the standard IEC 61174 edition 4 clause 5.5.1, Presentation library (S 52/Annex A, Part I/19.1) '*The edition number of the PresLib installed shall be available to the Mariner on request*'.

All Mariners must familiarise themselves with the function in their ECDIS that will display the edition number of the IHO Presentation Library as this varies across ECDIS manufactures. This function will be required when Port State Control officers want evidence that the ECDIS is up-to-date to the latest IHO standards. MSC.1.Circ.1503 as amended: '*Additionally, ECDIS software should be kept up to date such that it is capable of displaying up-to-date electronic charts correctly according to the latest version of IHO's chart content and display standards*'.

A list of current IHO Standards in force is maintained on the IHO website.
http://www.iho.int/mtg_docs/enc/ECDIS-ENC_StdsIn_Force.htm

ECDIS Chart 1 and IHO Presentation Library edition 4.0

ECDIS users can check that their systems are capable of displaying the new symbols introduced in the IHO S-52 Presentation Library edition 4.0 by opening the ECDIS Chart 1 datasets. ECDIS Chart 1, which includes a legend of symbols used in ENC's, should be installed on all type approved ECDIS.

The new symbols introduced in IHO Presentation Library edition 4.0 are shown below;
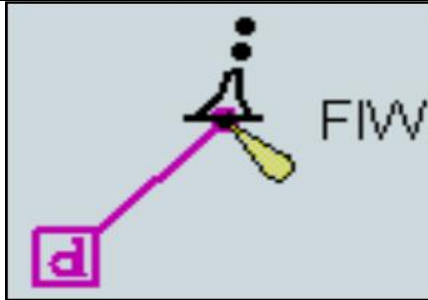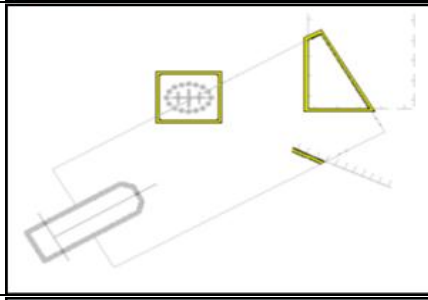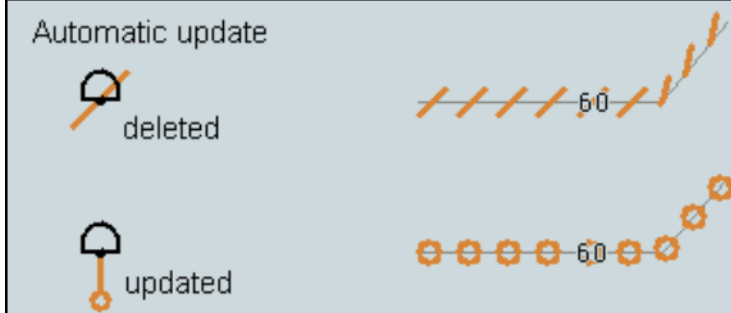
Symbol	Description
	Magenta 'd' symbol for features that have date dependent attributes populated.
	Indication highlight symbology for objects that pose a danger to the vessel.
	Automatic update symbology for identifying where changes to the ENCs have occurred.

Fig 1. New ENC Symbols introduced in IHO S-52 Presentation Library edition 4.0

ECDIS Chart 1

Viewing ECDIS Chart 1, "*Information about chart display (A, B)*" within the ECDIS will only display the new symbols if the IHO Presentation Library edition 4.0 is installed. The beacon and buoy features below (approx. position is 15°07.0'N 005°06.5'W) display the date dependent magenta 'd' symbol when the ECDIS date range is set between 01.04.2014 and 27.08.2014. It will not be possible to view the new symbols if the ECDIS software has not been updated to use the S-52 Presentation Library Edition 4.0.

This is the IHO recommended method for checking that the ECDIS system can display the new symbols correctly. There is no intention for the IHO to issue a check data set for IHO Presentation Library edition 4.0.
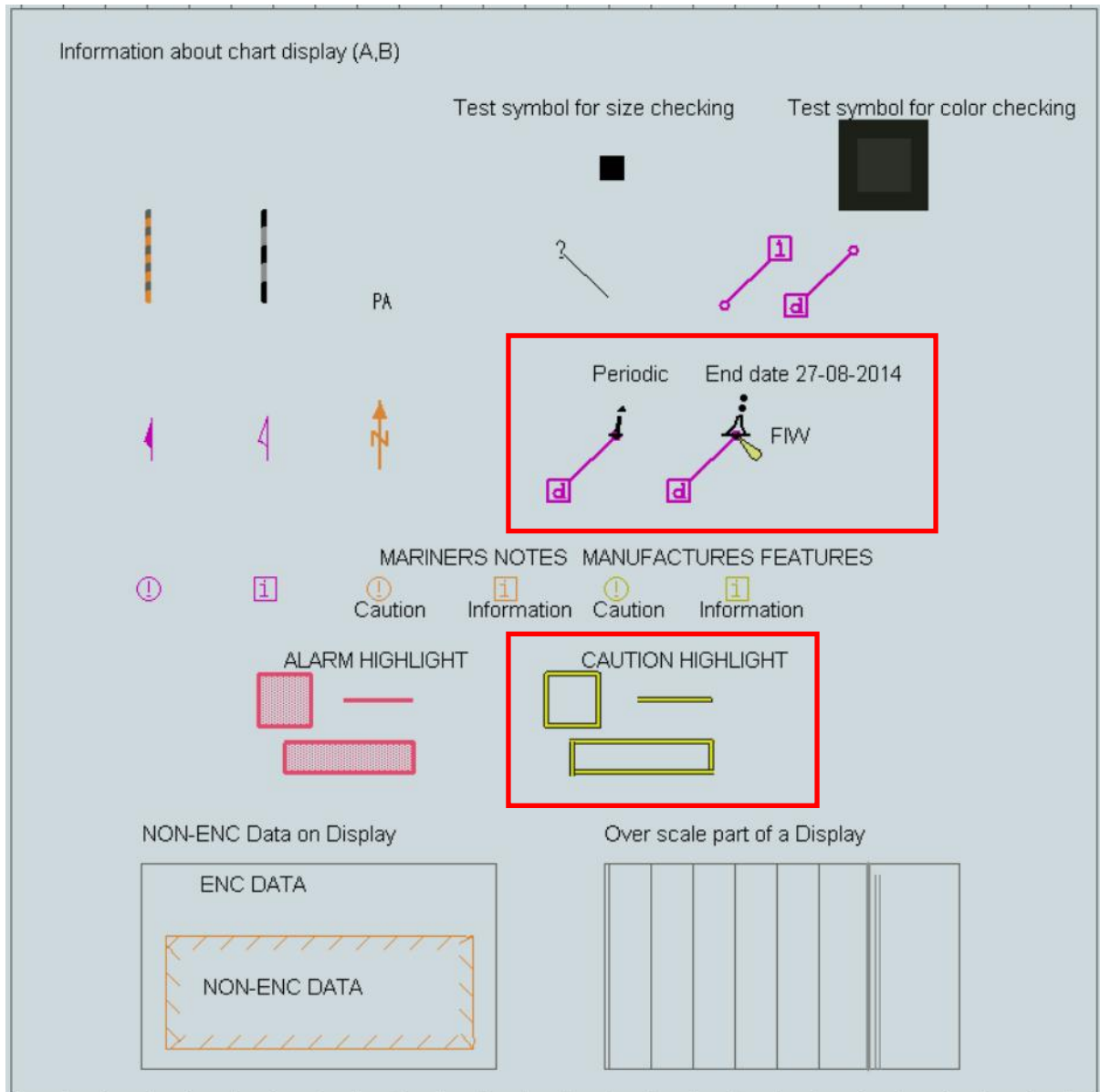

Fig 2. ECDIS Chart 1 Information about chart display (A, B)

Information about chart display (A,B)

Automatic update

deleted

updated

Manual update

deleted

updated

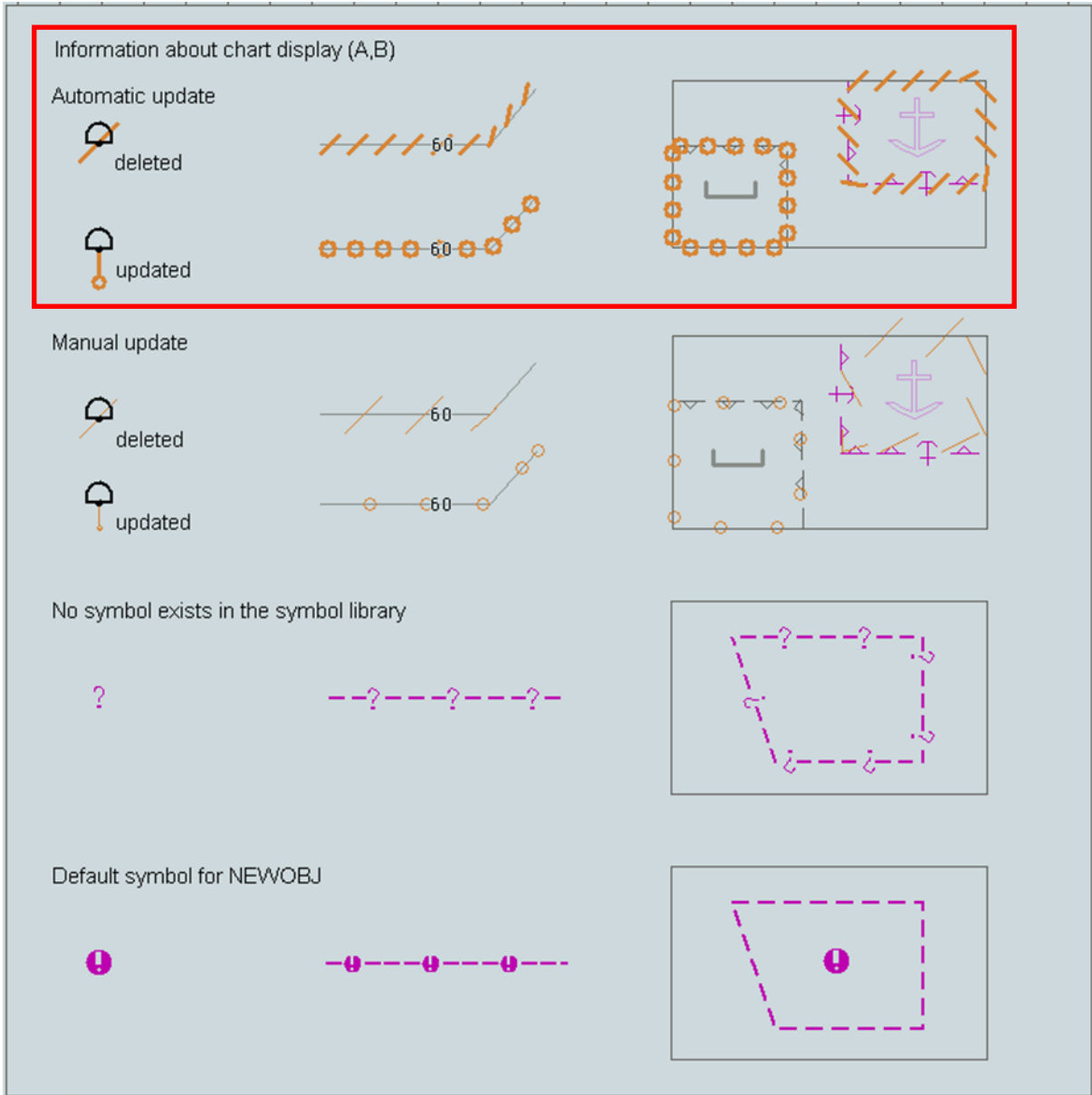No symbol exists in the symbol library

?

Default symbol for NEWOBJ

Fig 3. ECDIS Chart 1 Information about chart display (A, B)