Manual Updates, Automatic Updates and corrections.

This is what used to be in S-98 Annex C.

C-12.6.4   Manual chart correction

Small orange identifiers are used to distinguish hand-entered chart corrections, which are subject to human error, from corrections entered automatically by electronic means. The original chart feature should not be removed or altered.

C-12.6.5   Manual corrections to non-ENC S-100 products

Manual corrections to other S-100 products are entered in the same way as chart corrections. They are not visually distinguished from manual chart corrections. However, for portrayal purposes they are treated as part of the appropriate product data rather than the S-101 data and are displayed or removed from the display along with the appropriate viewing groups from the relevant S-100 product.

and….

C-12.11   Displaying manual and automatic updates and added information

C-12.11.1   Manual update

Manual updates of ENC information should be displayed using the same symbology as ENC information and should be distinguished from ENC information as described in the following sub-clauses.

C-12.11.1.1   Added feature (manual)

Point feature: Superimpose symbol CHCRID01.

Line feature: Overwrite with line style CHCRID01.

Surface feature: Overwrite area boundary with line style CHCRID01 and superimpose symbol CHCRID01 on any centred symbol.

C-12.11.1.2   Deleted feature (manual)

The feature should remain on the display and should be marked as follows:

Point feature: Superimpose symbol CHCRDEL1.

Line feature: Overwrite with line style CHCRDEL1 (do not remove the original line).

Surface feature: Overwrite area boundary with line style CHCRDEL1 and superimpose symbol CHCRDEL1 on any centred symbol.

C-12.11.1.3   Moved feature (manual)

As for deleted feature, followed by added feature.

C-12.11.1.4   Modified feature (manual)

There are three cases, which are treated as follows:

a)   If the only modification is an addition (for example, an existing buoy has a retro-reflector added with no other change):

Superimpose symbol CHCRID01 or line style CHCRID01.

b)   If the only modification is a deletion of a part (for example, an area has a «fishing prohibited» restriction removed), then this creates both a change and a deletion and both should be symbolized:

Point: Superimpose symbol CHCRID01 and symbol CHCRDEL1.

Line: Overwrite with line styles CHCRID01 and CHCRDEL1.

Area: Overwrite the boundary with line styles CHCRID01 and CHCRDEL1 and also superimpose symbols CHCRID01 and CHCRDEL1 on any centred symbol.

c)   If the modification is an addition and a deletion then it is handled as in (b) above.

A deleted feature should appear on the display only when its IMO category and viewing group are displayed.

A manually updated feature must be capable of the same performance in feature selection, response to cursor-picking, etc, as an ENC feature. In addition, it should provide updating information (identification and source of update, when and by whom entered, etc) on cursor picking.

This is what's in S-52

10.7   Displaying Manual and Automatic Updates and Added Chart Information

10.7.1 Manual Updates

Manual updates of ENC information must be displayed using the same symbology as ENC information and must be distinguished from ENC information as follows:

10.7.1.1   Added Feature

    Point object: superimpose SY(CHCRIDnn)*.

    Line object: overwrite with line LC(CHCRIDnn)*.

    Area object: overwrite area boundary with line LC(CHCRIDnn) and superimpose SY(CHCRIDnn) on any centred symbol.

10.7.1.2   Deleted Feature

The object must remain on the display and must be marked as follows:

        Point object: Superimpose SY(CHCRDELn)*.

        Line object: Overwrite with line LC(CHCRDELn)* (do not remove the original line).

        Area object: Overwrite area boundary with line LC(CHCRDELn) and superimpose SY(CHCRDELn) on any centred symbol.

*SY(CHCRIDnn) means the current version of symbol CHCRID, that is, CHCRID01 in 1997. CHCRID and CHCRDEL symbols have the category and viewing group of the object they are attached to, display priority «8», radar priority «O».

Note: The line symbols LC(CHCRIDnn) and LC(CHCRDELn) must not suppress the underlying line (see section 10.3.4.1).

10.7.1.3   Moved Feature

As for deleted feature, followed by added feature.

10.7.1.4   Modified Feature

a)   If the only modification is an addition(for example an existing buoy has a retro-reflector added with no other change): superimpose SY(CHCRIDnn) or LC(CHCRIDnn).

b)   If the only modification is a deletion of a part (for example an area has a «fishing prohibited» restriction removed), then this creates both a change and a deletion and both must be symbolized:

Point: Superimpose SY(CHCRIDnn) and SY(CHCRDELn).

Line: Overwrite with LC(CHCRIDnn) and LC(CHCRDELn).

Area: Overwrite the boundary with LC(CHCRIDnn) and LC(CHCRDELn) and also superimpose SY(CHCRIDnn) and SY(CHCRDELn) on any centred symbol.

c)   If the modification is an addition and a deletion then it is handled as in 10.7.1.4 b above.

A deleted feature must appear on the display only when its IMO category and viewing group are displayed.

S 52 Appendix 1 requires that a manually updated feature must be capable of the same performance in feature selection, response to cursor-picking, etc., as an ENC feature. In addition, it must provide updating information (identification and source of update, when and by whom entered, etc.) on cursor picking.

IEC 61174 content (from SM)

1635 ### 4.10.4 Additional mariner's information

1636 (See TBD)

1637 The mariner shall be provided with the capability of adding at least the following symbols,
1638 lines and areas to the system database, and shall be able to revise or delete them:

1639 1) simple point objects including the mariner's caution note (!) or mariner's information note[i]
1640 symbol (see Annex U) used to call up a note on the text display by cursor picking;

1641 2) simple lines and areas with or without colour fill, set up for cursor picking to give
1642 explanatory notes in the text display;

1643 3) text notes.

1644 NOTE 1 The above core version of additional mariner's information is also available in IHO S-52/2.3.1(b) and in
1645 IHO S-98/C-9.1.2.

1646 Optionally, any of the above may be marked as danger to activate alerts or indications, see
1647 4.10.2.1 and 4.10.3.

1648 Additional mariner's information may be linked to S-100 based ENDS data within the system
1649 database.

1650 NOTE 2 IHO S-100 includes the concept of an "interoperabilityIdentifier" attribute expressed as a Maritime
1651 Resource Name (MRN).

2266 ### 5.9.2 Manual update

2267 (See 8.8.19)

2268 ### 5.9.2.1 Keying and symbology

2269 (S-52, appendix 1/3.4.3(a)) *The ECDIS shall enable manual entry of updates for non-integrated*
2270 *presentation on the display. A capacity shall exist to enable the mariner to:*

2271 *1) enter the update as described in IHO S-52;*

2272 *2) ensure all update text information relevant to the new condition and to the source of the*
2273 *update is entered by the mariner and recorded by the system, for display on demand.*

2274 The system shall be capable of implementing manual updates to point objects and simple line
2275 and area objects such as traffic routing schemes and restricted areas, but excluding complicated
2276 lines and areas such as contours and coastlines.

2277 ### 5.9.2.2 Indications and alerts

2278 (S-52, appendix 1/3.4.3(b)) *The ECDIS shall be capable of sensing indications and alerts*
2279 *related to non-integrated (manual) updates, just as it does for integrated ENC updates.*

2280 ### 5.9.2.3 Presentation

2281 (S-52, appendix 1/3.4.3(c)) *Manual updates shall be displayed as described in S-52, 2.3.4.*

2282 (S-52, appendix 1/3.4.3(e)) *It shall be possible to remove from the display any manual update.*
2283 *The removed update shall be retained in the ECDIS for future review until the commencement*
2284 *of the next voyage, but will not be otherwise displayed.*

2285 Manual updates need to be retained only until a new edition of the cell is incorporated.

2286 For the purpose of retaining the removed updates in the ECDIS for future review, the
2287 commencement of the next voyage is defined as a period of three months.

Received from 7Cs (at start of S-164/S-98 Update process).

- Proposal (7Cs) is to restrict manual updates/editing to a particular set of symbols for use on ECDIS. Current rules would be too open to interpretation and no symbol set is currently defined.

- Symbol set based on symbols used for annotating navwarn information (most common manual updating/editing use case)

- Point/Curve/Surface symbology

- If this is acceptable then a full description (and proposal) can be created based on portrayal catalogue terminology

- Proposal is for:

    - Description in S-98 of detailed functionality required. The user must be able to select from the described symbols, together with accompanying text/notes and text to be displayed.

    - S-164 would contain a test to check user is capable of creating a manual update/edit using the symbols / types defined in S-98.

    - Symbols could be described just in S-98, or developed in portrayal catalogue

Proposed Functional requirements (For S98 Annex C) – currently C-12.6.4 and C-12.6.5.

ECDIS must NOT allow any correction or modifications to official hydrographic data by user.

Instead ECDIS must support functionality to temporary annotate changed navigational conditions in a simple and timely manner, minimizing mariner´s workload. This capability shall cover the possible gap between the moment of crew awareness on changed conditions (e.g. via received NAVTEX message) and arrival of official updates from the relevant HO reflecting the same change.

This includes:

1. **In built editor for Manual Updates overlay.**
2. ***Support of limited number of predefined symbols and linestyles that are deliberately different from ENC or any other official data symbology and display rules. Note: For the portrayal, a generic spec (like in IEC62288 for targets) should be sufficient. It may be fixed in S-98 Annex C (preferred). A separate special FC/PC does not seem to be necessary, but technically feasible.***
3. **Can be displayed together with and independently from any underlying ENC or other official data, originated by HOs.**
4. **Support of point, line and area objects with Information and display text attribute to support quick access to information source e.g. Reference to NAVAREA message and nature of changed navigation conditions, as considered necessary by the mariner.**
5. **In addition, support of danger and minimum depth value attribute for optional entry by the mariner to ensure automatic antigrounding functions as per IMO requirements.**

6. **Deleted objects (after navigation conditions changed back to normal and/or official updates delivered including by S-124) shall be kept in ECDIS database for 90 days and should be able to be called for review (and export).**
7. **Manual Updates with set danger or minimum depth value attributes must always be displayed irrespective of selected chart layers and interoperability level. Other manual update objects must be displayed as part of Standard Display.**
8. **Manual Updates objects are to be displayed on scales 1:500000 and larger.**
9. **Objects of Manual Correction layer shall be monochrome and displayed in distinguishable colour (e.g. NINFO).**
10. **Deleted objects called on display for review must also be monochrome and distinguishable by a different colour. Date of entry and removal must be accessible to the user, e.g. by Pick report.**
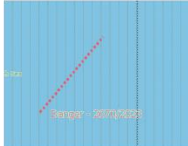
Point Symbols

- Depth
- Underwater
- Wreck
- Obstruction
- Beacon
- Buoy

- Caution (Vicinity)

- Caution (Object Missing)

Curve Symbols

- Danger

- Cable

- Other

Surface Symbols

- Restricted

- Caution

- Other