INTERNATIONAL HYDROGRAPHIC ORGANIZATION
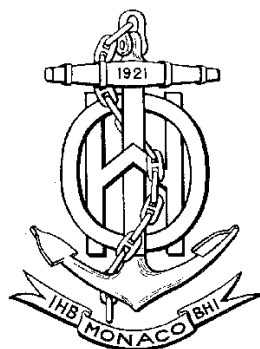
Special Publication No. 52, Appendix 2

COLOUR & SYMBOL SPECIFICATIONS FOR ECDIS

Edition 4 - July 1997

and its Annex A

IHO ECDIS PRESENTATION LIBRARY

Edition 3 – July 1997

C & S MAINTENANCE DOCUMENT

Number 2 – January 1999

Deferred amendments numbers 2 and 3

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INTERNATIONAL HYDROGRAPHIC ORGANIZATION

C&S MAINTENANCE DOCUMENT

Number 2 – January 1999

S-52 APP. 2 –DEFERRED AMENDMENTS 02 & 03

**Deferred amendments to be applied in accordance with the Amendment Procedures
contained in Immediate Amendment 01, item 001, of Maintenance Document 1**

NOTE
(from immediate amendment 1, item 1, section 1.2.4.2)

These deferred amendments will be implemented in the next edition of the specifications.   However an
ECDIS manufacturer may implement a deferred amendment earlier if he wishes to do so, except when it is
specificaly stated that a particular amendment should not be implemented before the next edition is issued
(in order to preserve uniformity in symbolising the ENC).

When an amendment is implemented in a type approved ECDIS, the manufacturer should inform the type
approval authority in case re-testing may be required.

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S-52 APP. 2 –DEFERRED AMENDMENT 02

(Changed wording is identified in **bold**)

Item No. CS04.1.d02.cl.001

Clarification on quoting the Colour & Symbol Specifications

Add a plain-type note at the end of the INDEX, after the bold note about italics:

"Quotations from these specifications may be used in the manufacturer's manuals. the source should be acknowledged."

Item No. CS04.1.d02.cl.002

Clarification of Colour & Symbol Specifications , section 2.2.3 – Route Planning - -

To correct the title of the ECDIS Standards, the first line should read:
"The **IMO Performance Standards for ECDIS** distinguish between route planning and - - - -"

Item No. CS04.1.d02.co.003

Correction to Colour & Symbol Specifications , section 2.3.1c –
Manufacturers' information on the route monitoring display

NOTE THAT DUE TO THE DEGREE OF CHANGE IN SYMBOLOGY INVOLVED, THIS AMENDMENT SHOULD NOT BE IMPLEMENTED UNTIL EDITION 4 OF THE PRESENTATION LIBRARY IS ISSUED.

The IHO Test Data Set brought to light that one case of non-HO data (an area of non-HO data superimposed on HO data) was missing from Colour & Symbols Specifications 2.3.1c.

Re-write the whole section, whith changes as indicated in **bold** below:

"2.3.1c Manufacurer's Information on the route monitoring display

.1   If the manufacturer should add **non-chart** information to the SENC, he should use the following symbols, lines and areas:

(i)   the circled "!" caution symbol **SY(CHINFO11)**, or boxed "i" information symbol **SY(CHINFO10)**, used to call up a note on the alphanumeric display by cursor picking,

(ii)   simple lines, or areas without colour fill, set up for cursor picking to give an explanatory note in the alphanumeric display (colour fill should not be used).

(iii)   Non-chart information entered by the manufacturer should be distinguished by the colour yellow (colour token ADINF). It should not overwrite **HO** ENC information.

.2   If the manufacturer should add **non-HO** (non- ENC) chart information to the SENC it should be symbolized in the same way as **HO** chart information and distinguished from HO chart information as described for the various cases below:

(i)   Limited non-HO data is added to existing HO data to augment the chart information. Each object should be marked by the special identifiers described in the Presentation Library Manual, section 8.7.2.

(ii)   An area of non-HO data is located in waters for which HO chart data exists; it is superimposed on the HO data. In some cases the non-HO data may be more appropriate for the intended purpose, for example it may be more detailed.

In this situation it is at the mariner's discretion whether to use the HO or the non-HO data.

If the mariner selects the non-HO data, the boundary of this data should be identified on the ECDIS display by the line LC(NONHODAT) and the warning "Unofficial data displayed. Refer to paper chart" should be displayed.

Note that the LC(NONHODAT) is a "one-sided line", and the boundary of the area of non-HO data must be drawn according to S-57 rules to ensure that the diagonal stroke of the line is on the non-HO data side of the line.

(iii)   An area of non-HO data is located wholly outside the area covered by HO data (although it may share a boundary with the HO data) but is shown on the same display as HO data. The non-HO data should be bounded by the line LC(NONHODAT) and the warning "Unofficial data displayed. Refer to paper chart" should be displayed.

(iv)   The entire display contains nothing but non-HO data. the warning "No official data available. Refer to paper chart" should be displayed. In this case, special identifiers need not be used."

.3   The mariner should be able to remove all manufacturer's information if the need should arise."

(End of amended text)

Note that the line LC(NONHODAT) is an orange version of the line LC(HODATA01). It provides a positive identification of non-HO data. LC(HODAT01) will be discontinued when this amendment is brought into force.

Until this amendment is brought into force, case (ii) above should be symbolized with non-HO identifiers, as described in the Presentation Library Manual, section 8.7.2.

Follow-on changes

These will be required when the above amendment to Colour & Symbols Specifications 2.3.1c is implemented:

1.   Colour & Symbols Specifications 3.1.7:

Delete "limit of HO data" from the sub-section title.

Delete final paragraph "The end of HO chart data …….. 12.2.2 DATCVR01"

2.	Colour & Symbols Specifications 3.2.3 (13a) and (13b):

Delete 3.2.3 (13a) and (13b) entirely and replace with:

"(**13**)	Data from non-HO sources

The **non-HO data boundary LC(NONHODAT)** serves to separate official HO ENC data from non-HO chart information.See section 2.3.1c for further details on identifying non-HO data."

3.	Symbol Library:

1.	Add a new symbol to the Symbol Library: LC(NONHODAT). This is the same linestyle as LC(HODATA01) but uses colour NINFO.

Meaning:	"Boundary of non-HO chart data".

2.	When this amendment (Deferred Amendment No. 02 to S-52 Appendix 2 Item No. CS04.0.d02.co.003) is implemented, delete linestyle LC(HODATA01).

4.	Presentation Library Manual, Part 1:

Revise Presentation Library, Part 1, section 8.7.2 as follows with changes identified in **bold:**

"8.7.2	**Non-HO** (non-ENC) chart information

8.7.2.1	**Limited non-HO data added to existing HO ENC data to augment the chart information** should be distinguished from the HO-ENC information as follows:

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.

Non-HO data should be distinguished from manually updated chart information, **which uses the same identifiers,** by cursor picking.

See IHO Colour & Symbols Specifications section 2.3.1c for information on how to symbolize other cases of non-HO data appearing on the ECDIS display.

8.7.2.2	**Non-HO** chart information may be updated by any systematic procedure. A record of updates should be maintained.

8.7.2.3	**The mariner should be able to remove all non-HO chart information if the need should arise."**

5.	Presentation Library, Part 1, section 12.2.2

Amend Conditional Symbology Procedure DATCVR01, section 2.1 to read as follows (changes in **bold**):

"2.1	Limit on ENC coverage: **non-HO data on the display**

Since the HO will not issue a data coverage diagram, the ECDIS should compile a **graphical index of the HO ENC data available, classified by navigational purpose, and make it available to the mariner.**
The end of HO data need not be identified on the display. The appearance of the "No data" colour (NODTA) and fill pattern AP(NODATA03) (see section 8.3) will indicate the end of data.

If non-HO data is shown on the ECDIS display, its boundary should be identified by the linestyle LC(NONHODAT). The display priority is 3; over radar; display base; viewing group 11060. **Note that the LC(NONHODAT) is a "one-sided" line and the boundary of the non-HO data must be drawn according to S-57 rules to ensure that the diagonal stroke of the line is on the non-HO data side of the line.**

See IHO Colour & Symbols Specifications, section 2.3.1c for information on how to symbolize various cases of non-HO data appearing on the ECDIS display."

RE-name the procedure as "**DATCVR02**"
Make follow-on changes to the Look-up tables.

6.   Presentation Library, Part 1, section 13.2

Amend viewing group 11060 to read:

"11060   **Non-HO data boundary LC(NONHODAT)"**

7.   ECDIS Chart 1

Amend page AB to remove line LC(HODAT01) and add line LC(NONHODAT).

Item No. CS04.1.d02.cl.004

Clarification of Colour & Symbol Specifications , section 2.3.4 – Displaying ECDIS updates

Add the clarification identified below in **bold** to the paragraph headed IMO PS 4.8. Use italics:

"IMO PS 4.8   The mariner should be able to display updates for review as follows:

For automatic updates: The manufacturer should provide a means of distinguishing these. ***One method suggested is to identify automatic updates temporarily in the same manner as manual updates. The temporary switch-on/switch-off of the identifiers would distinguish automatic from manual updates.***

For manual updates: Display all SENC information. The manual updates should be distinguishable as described in the Presentation Library Manual, Part 1, section 8.7."

Item No. CS04.0.d02.cl.005

Clarification of Colour & Symbol Specifications , sections 3.1.4 and 5.2.5 – ECDIS Chart 1 and Colour Differentiation Test Diagram

1.   Amend the second paragraph of section 3.1.4 as indicated in **bold** in the following:

"The Presentation Library includes an ECDIS Chart 1, **a graphical index of ECDIS symbols** including both simplified and paper-chart point symbols and also the symbolized **lines and area** boundary linestyles. This is intended to familiarize the mariner with the colour and symbol coding used by the ECDIS. The symbols are grouped according to INT1, which is familiar to the mariner, but are not labelled. The manufacturer should provide linking by cursor interrogation between the symbols and the explanations given in the symbol library.

The ECDIS Chart 1 is intended for use off-line and in route planning.   It is not required during route monitoring, when the mariner should use cursor enquiry to find the meaning of symbols.

Details of the ECDIS Chart 1 are given in Part III of the Presentation Library."

2.   Add at the end of section 5.2.5, after the sentence about the grey scale:

"The Colour Differentiation Test diagram is intended for use off-line.   It is not required during route monitoring.

Details of the Colour Differentiation Test diagram are given in Part III of the Presentation Library."

(See also item 030 of this amendment).

Item No. CS04.0.d02.cl.006

Clarification of Colour & Symbol Specifications , section 3.1.6 – Display Orientation

Add the sentences identified in **bold** in the following:

"3.1.6   Display Orientation

It should always be possible to display the chart north-up (IMO PS, section 7.1), but other orientations are allowed. *(Human factors specialists point out that course-up orientation offers some safety advantages and operational reports support this).*

Symbols and text should always be drawn screen-up, no matter what the orientation of the screen may be. **Symbols which include "rotate" in the symbology instruction (eg light flares) should be rotated with respect to the top of the screen. However symbols that are oriented according to an S-57 attribute such as ORIENT should be oriented with respect to true north. Further details are given in the Presentation Library, Part 1, section 7.2.3.**

If the display is oriented course-up, the orientation should not be altered too frequently, in order to avoid jitter from frequent rewriting of chart information.

The north arrow is always required on the display, as part of the IMO **Performance Standards** "Display Base".

(See also item 019 of this amendment).

Item No. CS04.0.d02.cl.007

Clarification of Colour & Symbol Specifications , section 3.1.7 – <u>ENC scale</u>

Number and identify the sub-sections and add the following clarifications identified in **bold:**

"3.1.7   <u>ENC scale; Graphical Index of ENCs by Navigational Purpose; Limit of HO data</u>

.1   **ENC scale. The compilation scale of the ENC is the scale at which the ENC was designed to be displayed. It may not be the same as the scale of the source data. As required by IMO Performance Standards, section 5.1 an overscale indication should be shown whenever the mariner selects a display scale that is larger than the compilation scale. See Presentation Library, part 1, section 12.2.2 DATCVR for details.**

.2   **Automatic overscale at a scale boundary.** Where ENCs of different navigational purpose overlap, the ECDIS display of the overlap area should show two "chart compilation scale boundaries", at the beginning and end of the overlap. Beyond one boundary the part of the display taken from the smaller scale ENC will often be grossly overscale. **(See section 3.2.3 8(b))**

Only the major changes in compilation scale resulting from a change in "navigational purpose" should be shown **as scale boundaries on the display.** Small changes in compilation scale within a navigation purpose should not be shown.

The Presentation Library, section 12.2.2 DATCVR, specifies how the scale boundaries and the overscale area should be symbolised.

.3   **Graphical Index of ENCs by Navigational Purpose**. Without cursor enquiry of the chart area it will not always be clear what compilation scale applies to a given part of a mixed source display. S-52 requires a graphical index of the navigational purpose of the data to clarify the situation. This is also needed for route planning.

.4   **Limit of HO data.** The end of HO chart data on this graphical index defines the limit of HO ENC coverage. Details are given in the Presentation Library, section 12.2.2 DATCVR.

(See also items 010 and 023 of this amendment).

Item No. CS04.0.d02.cl.008

Clarification to Colour & Symbol Specifications, section 3.1.9 – <u>Cursor Enquiry</u>

To show "all" the information available for an object would often be confusing. Change "call up all the information" in the first line of section 3.1.9 to "call up **any of** the information".

Add a further sentence at the end of 3.1.9: **"See Presentation Library, Part 1, section 8.8 for further discussion".**

Item No. CS04.0.d02.cl.009

Clarification to Colour & Symbol Specifications, section 3.2.2 (1) – <u>Own-ship Safety Contour</u>

NOTE THAT THIS PROPOSAL HAS NOT YET BEEN TESTED AT SEA. FURTHER CHANGES MAY BE NEEDED BEFORE EDITION 4 OF THE PRESENTATION LIBRARY IS ISSUED.

The Safety Contour is probably the most important feature on the ECDIS display.   But the fact that the values of the depth contours available in the SENC are limited and may vary widely, sometimes over a short distance, means that the contour value entered by the mariner will frequently default to various other, deeper, values.   It may be difficult to ensure that the mariner gets a contour close to the one he wants, or even to let him know the value of the contour which is highlighted as the default safety contour.

The conditional procedure DEPCNT02 will ensure that the safety contour entered by the mariner is selected for symbolizing as safety contour if it is available.   If that contour is not available, as is usually the case, the procedure selects the next deeper contour available as the default safety contour.   This amendment adds two further features to DEPCNT02 (which then becomes DEPCNT03), in order to clarify the situation to the mariner :

1.   If the safety contour defaults by a "small" amount it is symbolized as a safety contour [LS(SOLD,2,DEPSC)].   If it defaults by a "large" amount, it is symbolized as a default safety contour by a broader line of equal prominence [LS(SOLD,5,CHGRF);LS(SOLD,1,DEPSC)]

- for an entered contour < = 10m, a "small" default covers up to 67% change in contour value,
- for an entered contour   > 10m, a "small" default covers up to 33% change in contour value.

 Some examples of defaults symbolized as "safety contours", or "default safety contours" are as follows:

requested contour	"safety contour"	"default safety contour"
3m	< = 5m	> 5m
6m	< = 10m	> 10m
12m	< = 15m	> 15m
16m	< = 21m	> 21m
23m	< = 30m	> 30m

2.   The procedure triggers a note on the user interface giving the safety contour entered and the values of the default safety contours encountered in compiling the display.

Ideally the default values displayed should be restricted to those relating to the area within six minutes run of the ship, but given the complications of compiling such a value, the values for the whole area under compilation for drawing may be given.

A revised version called DEPCNT03 will be issued to implement this amendment.

To implement this amendment, make the following changes to conditional symbology procedure DEPCNT02 :

1.   On the title page amend the "Remarks" to read :

"The safety contour, which separates safe water from unsafe water, is probably the most important feature on the ECDIS display.   This procedure examines all objects of the class DEPCNT and DEPARE (line) and highlights any depth contour that matches the safety contour depth value entered by the mariner.   Any DEPARE (line) that contains that value is also highlighted.
But while the mariner is free to enter any safety contour depth contour value that he thinks is suitable for the safety of his ship, the SENC only contains a limited choice of depth contours.   If the depth value entered by the mariner is not found in a given area, then the contours or line depth areas that separate safe from unsafe water are symbolized as safety contours.   That is to say that where there is no matching contour, the next deeper contour is selected as a default safety contour by examining the contours bounding the depth areas.
If the difference between the value entered by the mariner and the default value actually selected is small, the default safety contour is symbolized the same way as a safety contour.   If the difference is large, the default safety contour is symbolized by a broader line of equal prominence. The criteria for a "small" or a "large" difference are given in the conditional procedure.
Both the safety contour value entered by the mariner and the value of the contour or contours actually selected over a given area should be shown in a text display on the same screen as the chart display.   Ideally the "given area " should be small, perhaps a circle of radius six minutes run at the ship's present speed, but it may not be possible to make this distinction.

The procedure also identifies any line segment of the spatial component of the object that has a "QUAPOS" value indicating unreliable positioning, and symbolizes it with a dashed line.   Under these circumstances, a default safety contour is not symbolized differently from one which corresponds to the safety contour entered by the mariner.

NOTE : Depth contours are not normally labelled.   The ECDIS may provide labels on demand only, as with other text, or provide the depth value on cursor picking.

2.   On continuation A of the procedure :

Change the lower case note that accompanies the "No" answer to the question "DOES THE VALUE OF 'VALDCO' EQUAL THE VALUE OF THE SAFETY CONTOUR ?   " to the following:
"The following procedure selects the next deeper contour as the safety contour if that contour is separating safe and unsafe depth areas , or dredged areas.   This is determined by the DRVAL1 attribute of the adjacent depth or dredged areas."

3.   Change continuation B of the procedure to the following :
             (A separate file will be provided)

4.   Re-name the procedure DEPCNT03, and change all references in the look-up tables.

<u>Follow-on change</u>:

        Amend "Colour and Symbol Specifications" section 3.2.2.(1) by adding the following at the end of this section:
        "See Presentation Library section 12.2.4 conditional procedure DEPCNTnn for details"

Item No. CS04.0.d02.cl.010

Clarification of Colour & Symbol Specifications 3.2.3 (8b) <u>"Overscale area - -"</u>

Change the wording as identified in **bold** in the following:

"(8b)   Overscale area at scale boundary.   S52 points out that all the chart data on the display must be shown at the same scale. In order to avoid leaving part of the display blank, the chart display may extend beyond the edge of a relatively large scale ENC to include information from an adjoining smaller scale ENC, which may be from a different "navigational purpose". The smaller scale data will normally be enlarged to match the larger scale ENC, and in this case the "overscale area" symbol should be used to identify **any part of the chart display shown at more than twice the compilation scale**.   See Presentation Library section 12.2.2 DATCVR for details.
        Note that this symbol applies only to the automatic overscaling performed by the ECDIS in matching ENCs at different compilation scales.   It should not be applied to an overscale display deliberately requested by the mariner, **which should trigger the overscale indication required by IMO Performance Standard section 5.1**."

     (See also item 023 of this amendment)

Item No. PL03.0.d02.co.011

Clarification of Presentation Library, section 7 – <u>Centred area symbols</u>

Amend the third paragraph of section 7.4.3.2 to read as follows (changes in **bold**):

        If, due to an offset built in by the Presentation Library, **the whole of** a symbol falls outside the area it applies to, it should not be drawn. **If it overlaps the area boundary, it should be drawn**. The result should be that the mariner can clearly identify the area.

Item No. CS04.0.d02.cl.012

Clarification to Colour & Symbol Specifications, section 4.1.7 – <u>Transparency</u>

Add the following sentences, distinguished in **bold**, to section 4.1.7 (2):

       "2)   by mixing the fill and underlay colour **according to the procedure given in the Presentation Library, Part 1, section 4.2.3.2.** This must be done in such a way that no appearance of change in colour or shape occurs in any SENC feature on the display, at any intermediate transparency value. **The underlying SENC information must remain**

distinguishable, except when the overlay colour approaches 100%, in which case Colour & Symbol Specifications 2.3.2 (b) applies, and an indication is required."

(See also item 017 of this amendment).

Item No. PL03.0.d02.cl.013

Clarification of Presentation Library on <u>quoting the Presentation Library</u>

Add a note at the end of the present FOREWORD, after the credits:

"Quotations from these specifications may be used in the manufacturer's manuals. The source should be acknowledged."

Item No. PL03.0.d02.cl.014

Clarification of Presentation Library, Part 1, section 3.4 – <u>Conditional Symbology Procedures</u>

Delete third paragraph and substitute the following, in which new wording is identified in **bold:**

"Further conditional symbology procedures will be used as future requirements arise for which conditional symbology gives the simplest or most effective solution. This **edition** of the presentation Library provides **an extended set of procedures. Note that the authoritative version of the procedures is that given in section 12. The pseudo-code version described in section 19.6 is supplied for convenience, but may not always be amended."**

Item No. PL03.0.d02.cl.015

Clarification of Presentation Library, Part 1, section 3.5 – <u>Look-up Tables &</u>
Extended Presented Instructions

Change section number "3.5" to "**3.5.1**", as follows:

"3.5.1   The Look-up Tables"

Instructions on how to symbolise --------- " *(text as in existing 3.5).*

- and add a new section 3.5.2:

" 3.5.2   Extended Presented Instructions which cannot be described by look-up tables

Many display features cannot be handled by look-up tables, generally because they are not discrete S-57 objects and fall between the look-up tables and the conditional symbology procedures. Some examples are the scalebar, the ECDIS chart legend, manual correction identifiers, cursor pick etc. These are described in sections 8.5 through 8.8 of this manual".

(The new section title should be added to the Index).

Item No. PL03.1.d02.co.016

Minor corrections to the digital Presentation Library files

The following minor changes not described elsewhere in these amendments will be made to the .DAI file of the official Presentation Library in the course of preparing the amendments disk PSLB04_0.DAI for edition 4 of the Presentation Library. They are "deferred" changes which will become mandatory with the next edition of the Presentation Library, but they may optionally be applied now:

1.   Look-up tables:

Table 11.1.1 (paper chart point symbols) and table 11.1.2 (simplified point symbols):
"BERTHS","", etc. the display priority will be changed from 3 to priority 5 because the BERTHS symbol is being overwritten by warehouses coded BUISGL with priority 4.
"LNDELV","", etc. the text command will be changed to TE('%3.0lf m','ELEVAT',3,2,2, '15110',1,0,CHBLK,28) in order to distinguish heights of an islet from a sounding by the suffix "m".
Follow-on change: Presentation Library 13.3, text group 28 will be changed from "na" to "height of islet or land feature".
"waypnt","", etc. the symbol will be changed from WAYPNT11 to WAYPNT01
"waypnt","select1", etc. the symbol will be changed from WAYPNT11 to WAYPNT01
"waypnt","select2", etc. no change in symbol
see also amendment d02 co036 for further change relating to "WAYPNT" symbols.

Table 11.1.2 (Simplified point symbols):
Look-up table lines "BCNSPP","CATSPM52" and "BOYSPP","CATSPM52" will be removed on the grounds that it was inappropriate to symbolise CATSPM52 = "purpose unknown" with a question mark "?" = SY(QUESMRK1). This symbol is normally used to mean "object which is not sufficiently described to be symbolized, or for which no symbol exists in the symbol library."
The default symbols SY(BCNSPP21) and SY(BOYSPP21), which are a yellow beacon and a yellow buoy, are more appropriate.

Tables 11.3.1 and 11.3.2 (Area symbols):
Look-up table line "DMPGRD","CATDPG5" in each table will be removed on the grounds that there is no reason to distinguish "CATDPG5" = "spoil ground" as less dangerous than any other kind of dumping ground.

Tables 11.3.1 and 11.3.2 (Area symbols):
Look-up table default line for SBDARE in each table will be symbolized with NATSUR in text:
delete line   "SBDARE","","","",'S',"",""
replace with   "SBDARE","",""TX(NATSUR,1,2,2,'15110',0,0)","4", "O","OTHER","34010

Tables 11.3.1 and 11.3.2 (Area symbols):
The display priority of PYLONS and SLCONS will be reduced to "6" so that lights and conspicuous point objects will draw on top of them.   In addition the over-radar flag for SLCONS was changed to "S" so that the radar would show up on the shoreline construction.
In each table:
delete: "PYLONS","","AC(CHBRN);LS(SOLD,2,CSTLN)","8","S","DISPLAYBASE","12210"
replace with: "PYLONS","","AC(CHBRN);LS(SOLD,2,CSTLN)","**6**","S","DISPLAYBASE", etc
and:
delete: "SLCONS","","CS(SLCONS03)","7","O","DISPLAYBASE","12410"

replace with: "SLCONS","","CS(SLCONS03)","**6**","**S**","DISPLAYBASE","12410"

2. <u>Symbol Library</u>:

The complex linestyles LC(ERBLINA01) and LC(ERBLNB01) will be re-named "electronic **range**/bearing line".

The direction of buoyage arrow is frequently used in narrow channels of the Baltic to indicate an arbitrary direction of the flood stream.   The arrow symbol currently has a large offset at 90 deg. to the direction, which means that it will fall outside the long, narrow M_NSYS area and will not be symbolized.   This offset will be changed to 0 deg.
In the symbol library, change the direction of the offset for SY(DIRBOY01), SY(DIRBOYA1) and SY(DIRBOYB1) from 90 degrees to 0 degrees.

3. <u>Colour tables</u>

The following minor improvements will be made to the depth area shades of the Day_Black background and Dusk colour tables (changes in **bold**):

Day_Black background, change:

						(dusk)
token:	DEPMD	colour=dark blue	x = 0.27	y = 0.30	L = 2.00	
token:	DEPMS	colour=med blue	x = 0.24	y = 0.26	L = 8.00	
token:	DEPVS	colour=light blue	x = 0.22	y = 0.24	L = 14.0	
token:	DEPIT	colour=ylw grn	x = 0.26	y = 0.36	L = 14.0	
to:						**(dusk)**
token:	DEPMD	colour=dark blue	**x = 0.26**	**y = 0.29**	**L = 4.00**	**(0.36)**
token:	DEPMS	colour=med blue	x = 0.24	y = 0.26	**L = 12.0**	**(1.08)**
token:	DEPVS	colour=light blue	x = 0.22	y = 0.24	**L = 20.0**	**(1.80)**
token:	DEPIT	colour=ylw grn	**x = 0.28**	y = 0.36	**L = 24.0**	**(2.16)**

For the Dusk colour table, the "x" and "y" values will remain unchanged but the luminance is decreased by a factor of 0.09, giving the values shown in brackets.

Note that these changes will not become mandatory until the issue of edition 4 of the Presentation Library.   Until then they are optional.   The effect on the display is visible, but not such as to change its appearance significantly.

Item No. PL03.0.d02.cl.017

Clarification of Presentation Library, Part 1, section 4.2.3.2 (2) – <u>Transparent radar</u>

Add the following sentence, distinguished in **bold**, to section 4.2.3.2 (2):

"(2)   by mixing the fill and underlay colour at each pixel to give a continuous transparency change from 0 to 100%. This must be done in such a way that no appearance of change in colour or shape occurs in any SENC feature on the display, at any intermediate transparency value. **The underlying SENC information must remain distinguishable, except when the overlay colour approaches 100%, in which case Colour & Symbol Specifications 2.3.2 (b) applies and an indication is required. "**

Item No. PL03.0.d02.cl.018

Clarification of Presentation Library, Part 1, section 7.1.2.1 (2) – <u>"TE" text command</u>
and 7.1.4 – <u>How text is handled in the look-up table</u>

Add the following sentences to section 7.1.2.1 (2), in which the new wording is identified in **bold:**

"(2)   For numeric text, an alphanumeric prefix or suffix is needed to avoid confusion between the numbers of the text and the numbers representing soundings. For this purpose the "C" format "TE" command is used. This substitutes "format" and "attribute list" for the "string" parameter, but is otherwise the same as the "TX" command.
Other character strings, such as LITDSN, may be used in place of the attribute list in the Bachus-Naur diagram.

Where "/n" is used in a "TE" command, each successive line should have the same justification (HJUST, VJUST) as the first line.

Section 7.1.4 describes how the "TE" commands are used in the look-up table.

The meaning of the abbreviations used in the FORMAT statement are given in section 13.4.1."

Make the following changes in section 7.1.4, in which new wording is identified in **bold:**

"The existence of an attribute **or other character string** in a text command means that the command should be implemented whenever that attribute **or character string** exists, with a value, in the SENC object being symbolized. (But remember that text is only written when selected by the mariner).

If the attribute **or character string** named in a text command is not included in the SENC object, the text command should be disregarded. **If the symbology instruction for an object includes more than one text command, only the text command whose attribute value or character string is missing should be disregarded; the other text command should be implemented."**

Item No. PL03.0.d02.cl.019

Clarification of Presentation Library, Part 1, section 7.2.3 – <u>Symbol rotation</u>

Number the first paragraph:

".1   SYNAME

The symbol name is an 8-letter code that is composed of a class letter (6 letters) and a serial number (2 letters)."

Delete the text of the second paragraph headed "**ROTATION** 'symbol rotation' parameter" and replace with the following:

".2   **ROTATION** 'symbol rotation' parameter

.2.1 **Symbols with no rotation should always be drawn upright with respect to the screen.**

.2.2 **Symbols with a rotation instruction should be rotated with respect to the top of the screen (-y axis in figure 2 of section 5.1). (See example below).**

.2.3 **Symbols rotated by means of the six-character code of an S-57 attribute such as ORIENT should be rotated with respect to true north.**

.2.4 **The symbol should be rotated about its pivot point. Rotation angle is in degrees clockwise from 0 to 360. The default value is 0 degrees."**

Item No. PL03.0.d02.cl.020

Clarification of Presentation Library, Part 1, section 8.3.4.3 – Display Categories

Delete paragraph headed "Mariners' Objects" and replace with:

"Mariners' Objects

The own-ship symbol and planned route are always required on the route monitoring display by IMO PS 10.5.1, and so must be Display base. All other mariners' navigational objects, which are listed in the look-up table under "Non-standard classes", are initially assigned in the look-up tables to a default "Mariners' Standard" or "Mariners' Other" category. However the mariner should have the option of changing the category of any non-standard object class (except for Display base), to suit his operational needs."

Item No. PL03.0.d02.cl.021

Clarification of Presentation Library, Part 1, section 8.3.5 – Test edition of the Presentation Library

The "Test edition of the Presentation Library" issued with the Presentation Library, edition 3.0.2, consists of a replacement for the look-up table only. This replacement is not identified as a revision although it was intended to be used with the pre-existing colour tables and symbol files.

For the Presentation Library, edition 4, the "Test edition version of the .DAI file" will be a complete file replacement. That is it will contain all necessary look-up tables, colour tables and symbol files. This will then be consistent with the revision method described in Presentation Library Manual, part 1, section 8.3.5, where it is specified that any amendment to the Presentation Library should consist of a complete replacement of the .DAI file.

For the life of the present edition 3 of the Presentation Library, the manufacturer is offered two options:

(a)   Use the "Test edition" as provided on the initial issue CD, Presentation Library, edition 3.0, and exchange only the PL look-up tables, leaving the colour tables and symbol files untouched,
OR

(b)   Use a revised "whole file replacement .DAI file" of the "Test Edition version of the Presentation Library .DAI file", file name PSLT03_0.DAI, which will shortly be

available from the International Hydrographic Bureau at no more than distribution cost to those who have purchased the "Digital Presentation Library". Ask for the "1998 revision of the Test Edition version of the .DAI file."

Those who wish to make the change without purchasing the digital Presentation Library should note that the "test edition" look-up tables symbolize all areas as AC(NODTA), all lines as LS(DASH,1,CHGRF), all buoy objects with the square black CHKSYM symbol and all other point objects with their standard symbology.

In the Presentation Library Manual, Part 1, section 8.3.5, all references to the "test Version" of the Presentation Library should be changed to "test Edition". The name of the .DAI file (second line) should be changed to "PSLT0m_n.DAI", where "m" is the edition number and "n" is the revision number.

Item No. PL03.0.d02.cl.022

Clarification of Presentation Library, Part 1, section 8.7.2 – <u>Non-ENC Chart information</u>

This item duplicated the follow-on requirements of : item CS04.1.d02.cl.002
Consequently it has been deleted.

Item No. PL03.0.d02.cl.023

Clarification of Presentation Library, Part 1, section 12.2.2 – <u>Symbology Procedure DATCVR – overscale indications</u>

Sub-section 2.1 <u>Limit of ENC coverage</u>

Amend the first sentence to read (changes in **bold**) :

"The ECDIS should compile **a graphical index of the HO ENC data available, classified by navigational purpose, and make it available to the mariner**.

- then continue with "The boundary of the combined adjacent areas of M_COVR - - - " and so on, as in the present text

Sub-sections 4.1 and 4.2 : add two further paragraph, as indicated in bold below :

"4.1 <u>Overscale indication</u>

The overscale indication is intended to remind the mariner that the size of chart errors is magnified when he increases the display scale. A 1mm error at a compilation scale of 1/20,000 becomes a 2mm error at a display scale of 1/10,000.

The overscale factor should be calculated as [denominator of the compilation scale] / [denominator of the display scale], expressed as "X2" for the example above. This should be indicated on the same screen as the chart display, and treated as display base. Use colour SCLBR.

"The overscale indication is required by IMO PS 5.1 as soon as the display scale exceeds the compilation scale.

Note that if the display is compiled from more than one ENC of the same compilation scale, and if the mariner deliberately chooses to zoom in so that the display scale exceeds the compilation scale, then only the "overscale indication" should be shown. The "overscale pattern" AP(OVERSC01) should not be shown."

Sub-section 4.2 <u>Overscale area at a chart scale boundary</u>

Section 4.1 above dealt with overscale deliberately selected by the mariner. A different overscale situation arises when the ship approaches a scale boundary from a larger to a smaller scale ENC, typically when leaving harbour, as illlustrated in figure 7. In combining data from the large scale and the small scale ENCs to generate a display at the larger scale, the ECDIS will have **"**grossly enlarged" the small scale data to the left of the scale boundary on this figure.

In addition to drawing the scale boundaries, the **"grossly overscale"** part of the display should be identified with pattern AP(OVERSC01), as illustrated. Its display priority is 3; over radar; standard display; viewing group 21030

In this context, " grossly enlarged" and " grossly overscale" should be taken to mean that the display scale is enlarged/overscale by X2 or more with respect to the compilation scale. For example, at the left edge of figure 7 the display scale of 1/12,500 is X4 the compilation scale of 1/50,000, and so the overscale pattern is required.

Note that in this situation the overscale pattern AP(OVERSC01) should ONLY be shown on the area compiled from the smaller scale ENC. If the area from the larger scale ENC is also overscale, this should be indicated by the "overscale indication" of sub-section 4.1 above. The overscale pattern AP(OVERSC01) should not be shown on the part of the display taken from the larger scale ENC. For example if the display scale of the situation in figure 7 was 1/7,000 (half mile radar), the area of compilation scale 1/12,500 would would have an overscale indication of X1.8 but would have no pattern AP(OVERSC01).

Item No. PL03.0.d02.cl.024

Clarification of Presentation Library Manual, sections 5.4 – **Symbols** and 7.1.2.1 – **Text**
<u>Clarification of meanings of symbol names and of abbreviations used in "C" text commands</u>

Amend section 5.4 to read as follows (changes in 5.4.1 in **bold,** 5.4.2 is a new section):

"5.4   Colours and descriptions for symbols etc.

5.4.1   The colours and descriptions for all symbols in the symbol library are listed in **the hard copy addendum containing the "ECDIS Chart 1", which is bound with the Colour & Symbol Specifications**.

5.4.2   The general naming convention for symbols etc. is as follows:

Symbols: "SY(AAAAAAnn)" point symbol: where A = abbreviated name, n = serial number.
            "SY(AAAAAA5n)" centred symbol for area.
            "SY(AAAAAA6n)" centred symbol for area with added caution restriction.
            "SY(AAAAAA7n)" centred symbol for area with added information restriction.

Lines: "LS(type, thickness, colour)" is a simple line of type solid, dashed or dotted.
            "LC(AAAAAAnn)" is a complex line (e.g. a pipeline).
            "LC(AAAAAA5n)" is a complex linestyle for an area boundary.

Areas: "AC(CCCCC)" is an area colour fill, where C is the colour token.
            "AC(CCCCC,n)" is a transparent area colour fill, where n = transparency (see 7.4.8).
            "AP(AAAAAAnn)" is an area pattern fill.

All names (A,n) for symbols, complex lines and area patterns (but not colour fills) have 8 characters."

Amend the last line of text in section 7.1.2.1 (2), before the Backus-Naur definition, to read (changes in **bold**):

"Section 7.1.4 describes how "TE" commands are handled in the look-up table.   **The alphanumeric prefixes and suffixes used, and the "C" format commands, are listed in section 13.4."**

Follow-on change:

Add to section 13.4.1 the following list of "C" format commands:

"   **"C" format commands**
       %   = instruction follows,
       %s   = text string,
       %d   = integer number,
       %n.mlf = floating point number with
       n characters (including the decimal),
       m of which come after the decimal point. "

Item No. PL03.0.d02.cl.025

Clarification of Presentation Library, Part 1, section 13.2 – Viewing Groups

The title of Standard display section M, starting at 25000, should be changed from "TRAFFIC ROUTES" to **"RECOMMENDED TRACKS, etc."** and the caption for group 25000 should be changed from "Routes" to "**Tracks**" .
This is in order to avoid confusion with the "TRAFFIC ROUTES" in Display Base, starting at 15000.

Item No. PL03.0.d02.co.026

Correction to the Presentation Library section 12.2.4 conditional symbology procedure DEPCNT02 : symbolization of low accuracy contours

This amendment has been cancelled after checks on the IHO test Data Set showed that using dashed contours to indicate low accuracy was unlikely to be confused with the dashed grey lines used to symbolize some area boundaries.

Item No. PL03.0.d02.cl.027

Clarification of Presentation Library, Part 2, Mariners' Objects, sections 3.2 & 3.3 – IEC symbol No. cross-reference

In order to be consistent with IMO Appendix 3, IEC have changed the numbering of Mariners' object classes in IEC 61174. In the tables of Presentation Library, Part 2, sections 3.2 and 3.3, change the IEC numbering as follows:

IEC numbers	1 through 10	no change
IEC number	11 …………	(AIS vessel reports) becomes 3.3 – 3.5
"	12 …………	(ARPA targets) becomes 3.6 – 3.8
"	13.1, 13.2	(tidal streams) become 11.1, 11.2
"	14 …………	(danger highlight) becomes 12
"	16 …………	(planned course and speed) becomes 14
"	17 …………	(waypoint) becomes 15
"	18 …………	(distance to run) becomes 16
"	19 …………	(planned position) becomes 17
"	20 …………	(limits of light) becomes 18
"	21 …………	(wheel-over) becomes 19

Item No. CS04.0.d02.cl.028

Clarification of Colour & Symbol Specifications, section 2.3 – Organising the information for display

Sea experience has shown that some manufacturers are considering linkages which, while simplifying operation, will prevent the mariner from taking advantage of important options, such as selecting between plain and symbolized area boundaries independently of the selection between paper chart and simplified point symbols.

Add new section 2.3.3d to the Colour & Symbol Specifications:

"2.3.3d Linkages in selecting mariner's options

Many other options are available to the mariner in addition to those discussed above. Although these may at first be confusing, linkages which reduce these options but which also reduce the performance of the ECDIS should not be used.   For example:

- lights should not be automatically displayed when the night colour table is selected.

(Lights cause clutter and under certain circumstances the mariner may not want them on the display.)

- as stated in section 3.1.1, symbolized area boundaries should not be automatically selected when paper chart point symbols are selected.   *(Symbolized area boundaries are needed for large scale displays showing a number of overlapping areas, whereas the   selection of paper chart point symbols is a personal preference and is independant of display scale.)*

Because vessels vary widely in their requirements and their operational procedures, linkages between options which reduce the flexibility of the ECDIS should be avoided."

Item No. CS04.0.d02.cl.029

Clarification of Colour & Symbol Specifications, section 3.4.3 – <u>Text panel on route monitoring display</u>

In Colours and Symbols Specifications section 3.4.3, delete all after the explanation in italics and substitute the following, with changes shown in **bold**:

"Sea experience has shown that the text panel on the route monitoring display may have a prominence out of proportion to its significance to safety of navigation.   This is particularly damaging to ECDIS performance at night, when the strictly dimmed chart display, which carries nearly all of the information of importance to navigation, may be overwhelmed by the light emitted from large, bold or bright characters on the text display, some conveying relatively unimportant information.

The text panel should be outside the 270 by 270 mm minimum area designated for the route monitoring chart display by the IMO PS.   **The colours, symbols and luminance of this user interface panel should not degrade the SENC information on the chart display**."

<u>Follow-on change</u>:

For consistency, add the following at the start of Presentation Library Part I section 4.2.7 new wording in **bold** :

"4.2.7 Section VI / User interface

The following is advisory.   The manufacturer is responsible for the design of the user interface panel, subject to the requirement in Colours and Symbols Specifications section 3.4.3 that " The colours, symbols and luminance of this user interface panel should not degrade the SENC information on the chart display."

This section is composed of **eleven** colour tokens to be used in coding information in the user interface area. The - - - etc."

Item No. PL03.0.d02.co.030

Correction to Presentation Library, Parts 1 & 3 – <u>Specifications for ECDIS Chart 1 and the Colour Test Diagram</u>

NOTE. The method of producing the ECDIS Chart 1 is being reviewed to investigate either including it in the regular SENC symbolization procedure, or revising the version described below in order to

provide a dynamic display of Chart 1 capable of demonstrating mariner's options such as symbolized area boundaries, different colour tables, etc.
Should this change be made, this latest version will become a third option (c) available to manufacturers, in addition to options (a) and (b) listed below, until edition 4 of the Presentation Library is issued. When edition 4 is issued option (c) will become the only version.
Option (c) will have a second revised data file identified as a new edition in the EDTN sub-field of the DSID field, and will be accompanied by another special Chart 1 version of the .DAI file named PSC103_1.DAI

Several ECDIS manufacturers have reported problems in the use of cartographic objects to symbolize diagrams in the pseudo-ENC files representing the ECDIS Chart 1 and the Colour Differentiation Test diagram, some of which cannot be symbolized by existing ENC objects. They prefer as little difference as possible from the procedures for symbolizing a standard ENC file. They also prefer to have the data files set up more like a set of real ENCs.

The data files have been re-organised to place the nine pages of Chart 1 side by side instead of all at the same location, and the Specifications for Chart 1 and the Colour Test diagram are spelled out below, and amendment CS04.0.d02.cl.005 emphasizes that these diagrams are only required in an off-line mode and not during the time ECDIS is in use for route-monitoring.

Until Edition 4 is issued, manufacturers may symbolize Chart 1 and the Colour Diagrams either by the method specified in the original issue of Edition 3 or by the method given in these amendments. (Or by their own method, so long as they achieve the same result. See Presentation Library section 1.1, last paragraph.)
The options are:

(a)   Use the "ECDIS Chart 1" with accompanying special look-up tables as provided on the initial issue CD, Presentation Library edition 3.0,

OR

(b)   Use the revised version of the "ECDIS Chart 1 and Colour Test Diagram" with accompanying special Chart 1 version of the .DAI file, file name PSC103_0.DAI, which will shortly be available from the International Hydrographic Bureau at no more than distribution cost for those who have purchased the "Digital Presentation Library". Ask for the "1998 revision of the ECDIS chart 1 version of the .DAI file".

Those who wish to make the change without purchasing the digital Presentation Library should follow the illustrations in section A.5 of the "Hard copy addendum to the
Presentation Library", bound with the 4th. edition of the "Colour & Symbol Specifications for ECDIS"

To introduce the revised version, delete section 3 of Part III of the Presentation Library and replace with the following:

"3.   SPECIFICATION FOR ECDIS CHART 1 AND THE COLOUR TEST DIAGRAM

3.1   Definition (for this specification only)

A "display" means a Chart 1 data cell displayed so as to fill all of the standard ECDIS display area.

3.2   Description and purpose

The ECDIS Chart 1 and the Colour Differentiation Test are diagrams for use by the mariner which are provided in the form of ENC-like S-57 files, using ENC objects and some cartographic objects with a special look-up table. To minimise special processing by the ECDIS, the data and the presentation procedures are designed to resemble those for displaying a chart as closely as possible. The standard display generator procedures of the Presentation Library can be used.

The ECDIS chart 1 is intended to familiarise the mariner with the symbology used on ECDIS. He should be able to display each cell,and by cursor-pick get a read-out of the meaning of any symbol shown.

The Colour Differentiation Test diagram is intended for display in any of the available colour tables so that the mariner can check that the CRT is providing adequate colour performance. It is also used in type-approval testing. Instructions for its use are given in section 4.

3.3 Mode of use

These diagrams are supplementary features of the ECDIS, intended for use off-line or during route planning. Because they occupy the entire display and also require a special look-up table they should not be used during route monitoring. If the mariner needs to find the meaning of a symbol during route monitoring, he should use cursor-picking.

The operation of these diagrams is not subject to the draw-speed requirements of route monitoring.

3.4 Content and encoding

The Chart 1 / Colour Test package consists of the eleven S-57 cell files described below, plus the Chart 1 version of the .DAI file in which the special Chart 1 look-up tables replace the standard look-up tables.

The S-57 files of the ECDIS Chart 1 consists of nine detail cells and an index cell. The detail cells contain all of the symbols used on ECDIS, including Mariners' Navigational Objects, plus some explanatory diagrams. They are organised in displays that follow the classification used for INT 1 for the paper chart (e.g. the first display is "AB - Information about the chart display.")

The S-57 files of the Colour Differentiation Test diagram consists of one display cell containing twenty squares, each with a different background/foreground colour combination.

The cells are identified as follows:

cell code	INT 1	name	comp. scale	"N"
C1ABO	AB	information about the chart display	1/14 000	5
C1CDE	CDEF	shore and port features	1/14 000	5
C1HIO	HI	depths, currents etc.	1/14 000	5
C1JKL	JKL	seabed, obstructions, pipelines etc.	1/14 000	5
C1MOO	M	traffic routes	1/14 000	5
C1NOO	N	special areas	1/14 000	5
C1PQR	PQRS	simplified buoys & beacons, lights, etc.	1/14 000	5
C1QOO	Q	paper chart buoys and beacons	1/14 000	5
C1V00	-	mariners navigational objects	1/14 000	5
C1WOO	-	colour differentiation test diagram	1/14 000	5
C1XOO	X	index covering all of above detail cells	1/42 000	4

The file name uses the IHO Producer Code (AA), followed by the navigational purpose and the individual cell code given above. Revision will be by new edition (see section 3.6 below), and so the update number is always ".000". An example of a full file name is: " AA5C1ABO.000"

The unique combination "AANC1XXX.000" should be used as an identifier to indicate that the ECDIS should switch to "Chart 1 mode" and use the Chart 1 .DAI file containing the special Chart 1 look-up table.

Spatially, the "harbour" scale Chart 1 detail cells ("N"=5) are laid out in a 3 x 3 matrix with the Colour Test display cell below, and all are covered by the index cell on the "approach" scale ("N"=4). They are located in the West African desert at 15 degrees north, 5 degrees west, where there should be no danger of their being called up as real chart cells (unless river traffic on the R. Niger above Timbuktu increases drastically.)

Symbols and explanatory diagrams in the Chart 1 files are encoded as ENC-like objects whenever possible. But because Chart 1 contains diagrams that are meaningless in the real world it is impossible to code all of Chart 1 without also using the cartographic objects listed in section 3.5 below.

The EN Application Profiles of S-57 Appendix B1 are used, with arbitrary values entered for certain items (such as vertical datum) which do not apply to Chart 1. (This is done to minimise the changes to ECDIS software needed in order to process these special purpose Chart 1 files in an ECDIS.)

The IHO agency code (1810) is used in the AGEN sub-field of the DSID field, and the PRSP field is given the value {3} to distinguish it from the values used for the ENC Product Specification.

3.5   Cartographic objects

The following cartographic pbjects are used in the manner defined in S-57 Appendix 2:
$AREAS, $LINES, $CSYMB, $TEXTS.

One cartographic attribute is used: $SCODE (code 155). This is given a separate value for each non-ENC feature (or part of a feature), linking it to the line in the special look-up table giving the appropriate symbolization for that particular feature.

The coded string of this A-type attribute always consists of eight characters, which may be alphabetic or numeric.

3.6   Revisions

Revisions will be made by whole file replacement, ie by issuing a new edition, as indicated in the EDTN sub-field of the DSID field.

3.7   Packaging

The special Chart 1 look-up tables are packaged in a complete "Chart 1 version" of the .DAI file and contained with the S-57 data files in the Digital Presentation Library.

3.8   Presentation

The Chart 1 files and the Colour Test diagram are symbolized by the special Chart 1 look-up tables and by some of the standard conditional symbology procedures. Standard display-generator procedures are used.

A special look-up table is used because the diagrams would make near-impossible demands on the standard look-up tables, and also because it is undesirable to dilute the standard look-up tables with special-purpose entries.

The README files give some specific mariner settings, such as safety contour, that are required to give the correct display.

The Chart 1 and Colour Test diagram cells should be displayed full-screen (270 x 270 mm., or preferably 350 x 270 mm), i.e. at or larger than the compilation scale.   Otherwise features such as centred symbols may not be correctly illustrated.

The mariner should be able to cursor-pick on any symbol on the Chart 1 display and get a text read-out of the symbol meaning (LXPO field of the symbol library).

The Colour Test Diagram should be displayed using any colour table requested by the mariner.   The symbol BLKADJ01 should be brought up on first selecting this diagram, and at mariner request, as on the standard chart display.

The use of the Colour Test Diagram is exlained in Section 4 of Part III of the Presentation Library."

(The assignment of {3} as the value for the PRSDN sub-field, given at the end of sedtion 3.4 above, is subject to confirmation by the IHO TSMAD WG.)

(Presentation Library Part III section 4.1.1 has been amended by deferred correction number PL03.0.d02.co.035.*)*

Item No. PL03.0.d02.co.031

Correction to Presentation Library, section 5 – Complex Linestyles for curved lines

At small or medium display scales, an area to which special conditions apply is usually seen as a complete feature and there is no problem in understanding the display when it is symbolized using plain boundary linestyles with a centred symbol.   There is no need to use symbolized area boundary linestyles. In fact doing so causes clutter and should be avoided.

However at large display scales, incomplete parts of several areas may appear on the screen, and if plain boundaries are used in this case it is almost impossible to figure out on which side of the boundary line the special area lies, and what the nature of the area is. The situation immediately becomes clear when symbolized linestyles are used.   But unfortunately area boundaries, and lines such as recommended tracks, are often curved, and the existing complex linestyles cannot handle a curved line and default to a dashed line.   Consequently the problems of identification remain.

This amendment introduces a new composite linestyle symbol broken up into separate embedded symbols and short complex line segments, which will draw along a curved line.   This will clear up the confusion that can otherwise arise on large scale displays.

All the complex linestyles (prefixed LC) in the symbol library will be available in composite form except RCRDEF01 and RCRTCL01, -02, -03, -04, which give technical problems, and are normally straight anyway.

Because the appearance of the new composite type linestyles on the ECDIS display will be the same as that of the single-unit type linestyles, the symbol names for the new composite versions of the linestyles will be kept the same as those of the existing single unit linestyle.   (This will avoid numerous changes in the look-up tables and conditional symbology procedures.)

For the life of the present edition 3 of the Presentation Library, the new composite symbols will be issued in a special temporary .DAI file.   For edition 4, only the composite symbols will be used.

For the life of edition 3 of the Presentation Library, the manufacturer is offered two options:

(a)   Use the single unit compex linestyles (prefix LC) as provided on the initial issue CD, Presentation Library edition 3.0,

OR

(b)   Use a temporary deferred amendment .DAI file, file name PSTY03_0.DAI, which will shortly be available from the International Hydrographic Bureau, at no more than distribution cost to those who have purchased the Digital Presentation Library.   Ask for the "Temporary .DAI file for deferred amendments, edition 3 revision 1".

Those who wish to make the change without purchasing the digital Presentation Library should follow the illustrations in section A 5 of the "Hard copy addendum to the Presentation Library", bound with the 4th. edition of the "Colour & Symbol Specifications for ECDIS"

This change is being brought in as a deferred amendment because it may require software changes in some ECDIS.   But the curved symbolized linestyles will improve the safety of navigation, and manufacturers are encouraged to implement them as soon as possible.

To incorporate these composite complex linestyle symbols for curved lines, make the following changes to the Presentation Library section 5:

1.   Add the sentence highlighted in **bold** below to the "SC" instruction;

"SC   symbolname, orientation
       The SC instruction calls another symbol definition.   Orientation specifies whether the called symbol is drawn upright (orientation=0), rotated to the direction of the last pen moving instruction (orientation=1), **or rotated at 90 degrees to the tangent of the symbolized edge at the location of the symbol (orientation=2)**.   The pivot point of the symbol will be placed on the current pen position. Upon completion of the SC instruction, the original pen position and status (pen up/down) are restored."

2.   Delete the existing section 5.2 and replace it with the following, where the changes from the original are identified in **bold** (the bolding will not be reproduced in edition 4 of the Presentation Library.)

"5.2   Usage of a complex Linestyle

5.2.1   A complex linestyle is formed from a repeating symbol.   The symbol definition for a line style is very similar to the symbol definition for a point symbol.   The linestyle symbol has its own pivot point around which it is rotated.   The orientation is given by the direction between the two vertices of the **segment of the** line object that the symbol will represent on the ECDIS display.

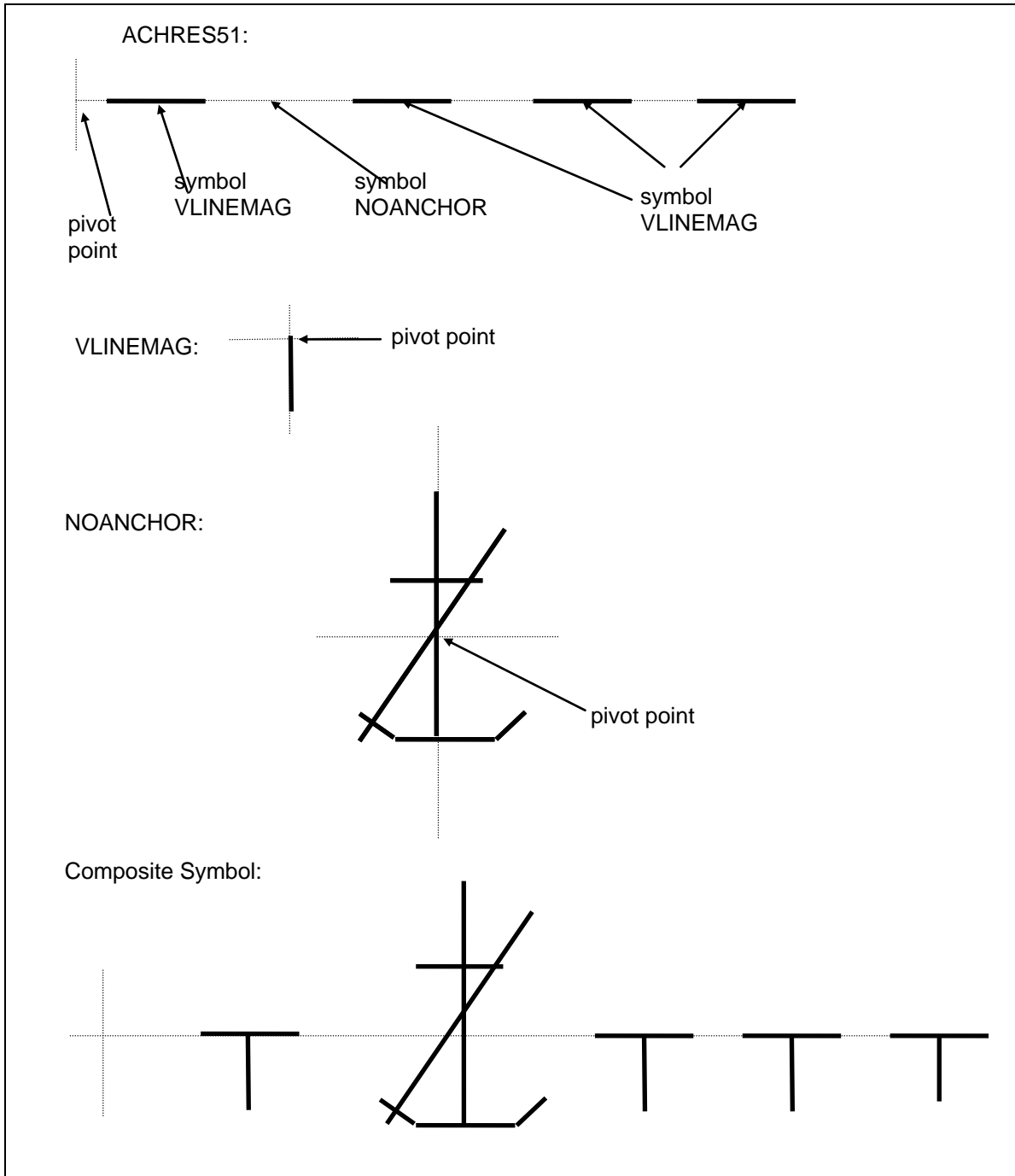**The Presentation Library uses two types of complex linestyle symbol (see figures 3a and 3b):**

(i)   **The single unit type of complex linestyle is one in which the linestyle unit is described as a whole and is fitted as a string of units between the two vertices of the entire line object, using one orientation (figure 3a).**

(ii)   **However the single unit type of complex linestyle will only symbolize a straight line. To symbolize all lines, straight or curved, a composite type of complex linestyle is used, in which the unit is composed of a series of horizontal lines and symbols,**

strung together along the line object to form the linestyle unit, using a continually changing orientation if the line object is a curve (figure 3b).

5.2.2 **For the single unit type of complex linestyle**, the orientation is given by the direction between two vertices of the line object that will be presented on the ECDIS display. The linestyle symbol is placed with its pivot point on the geometry of the line. The pivot point of the following symbol is placed where the run length of the preceding symbol ends. The run length is calculated by subtracting the largest x-coordinate of the symbol definition from the x-coordinate of the pivot point. If the run length of a linestyle symbol does not fit between two vertices of a line object , a simple linestyle should be used to join the vertices. A dashed line is preferred, but a solid line may be used. The colour and line width are taken from the last drawing instruction within the linestyle definition of the preceding symbol.

For further information about linestyle definitions, see section 10.7

5.2.3 For the composite type of complex linestyle, locate the start and end position of each horizontal line in the complex linestyle along the edge to be symbolized. Then draw the complex line along the edge between the start and end positions. If a symbol needs to be drawn, then determine the angle of rotation by calculating the tangent of the edge at the location where the symbol is to be drawn. The symbol will then be rotated 90 degrees to the tangent. Figure 3b shows how the composite symbol is created from the linestyle and the embedded symbols. "

ACHRES51:

pivot point

symbol VLINEMAG

symbol NOANCHOR

symbol VLINEMAG

VLINEMAG:

pivot point

NOANCHOR:

pivot point

Composite Symbol:

3.   Re-number "Fig. 3-Usage of complex linestyle" as "Fig. 3a.-Usage of single unit type of complex linestyle", and add new "Fig 3b-Usage of composite type of complex linestyle" shown above

4.   Re-number section 5.3 as 5.3.1 and add the following explanation for the new format to the end of this new section 5.3.1:

" 5.3.2 Sample Symbol Library format for composite complex linestyle symbols

The following sample Symbol Library sequence illustrates the step from the "Single Unit" type of complex linestyle to the "Composite" type.   We modified the complex linestyle achres51.lin LC(ACHRES51) as follows:

Complex Linestyle achres51.lin:
```
LNST   10LS03354NIL
LIND   38ACHRES51001080081002729005030044600572
LXPO   64boundary of an area where anchoring is prohibited or restricted^_
LCRF   6ACHMGD
LVCT   29SPA;SW1;PU446,810;PD747,810;^_
LVCT   24PU595,810;SCVLINEMAG,2;^_
LVCT   25PU1208,810;SCNOANCHOR,2;^_
LVCT   31SPA;SW1;PU1655,810;PD1957,810;^_
LVCT   25PU1808,810;SCVLINEMAG,2;^_
LVCT   31SPA;SW1;PU2248,810;PD2552,810;^_
LVCT   25PU2404,810;SCVLINEMAG,2;^_
LVCT   31SPA;SW1;PU2874,810;PD3175,810;^_
LVCT   25PU3024,810;SCVLINEMAG,2;^_
```

(NOTES: The VLINEMAG and NOANCHOR symbols will be imbedded in the linestyle at the location given by the last position of the pen before the inclusion the embedded symbol. The only vectors in this linestyle are the four horizontal dashes that are to be drawn.)

Symbol noanchor.sym:
```
SYMB   7SY00000
SYMD   39NOANCHORV01207008480043100503009870057 2
SXPO   36Anchor symbol with a line through it^_
SCRF    6ACHMGD
SVCT   32SPA;SW1;PU1208,572;PD1208,1074;^_
SVCT   31SPA;SW1;PU1052,721;PD1356,721;^_
SVCT   55SPA;SW1;PU1005,971;PD1111,1075;PD1309,1075;PD1407,974;^_
SVCT   31SPA;SW1;PU1418,640;PD987,1071;^_
```

Symbol vlinemag.sym:
```
SYMB   7SY00000
SYMD   39VLINEMAGV005950081000010000100059500810
SXPO   28Vertical Chart-Magenta Line^_
SCRF   6ACHMGD
SVCT   29SPA;SW1;PU595,810;PD595,970;^_
```

Item No.PL03.0.d02.co.033

Correction to the Presentation Library section 12.2.19, procedure SNDFRM02:
<u>Symbolizing drying soundings</u>

Continuation A of this conditional symbology procedure fails to take into account that in a few cases drying soundings may exceed 10 metres.

To remedy this:

(i) identify the second question of continuation A   "Is 'depth_value' less than zero metres? "
and the answers "Yes: create symbol name: 'symbol_prefix' + 'A1' ('SOUNDSA1')"   and   "no: do nothing here",

(ii)   move this question and answer block to the head of continuation A, before
the question "Is 'depth_value' less than 10 metres? "

(iii) leave the remainder of the procedure as it is.

Re-number the procedure as SNDFRM03, and make the necessary follow-on changes for all mentions of the procedure in conditional symbology procedures SOUNDG, OBSTRN and WRECKS.

Item No.PL03.0.d02.co.034

Correction to Presentation Library part 1 section 8.4 <u>Display of objects depending on date</u>

Delete existing second paragraph of Presentation Library Part I section 8.4:

"(Edition 4 of the Presentation Library may specify that the mariner be given the option of requesting such objects for temporary review outside of their effective dates.)"

and replace with:

"However, to provide for effective route planning, the ECDIS should allow the mariner to select any future date for the purpose of reviewing pre-planned changes in chart data and also to view time-varying information such as tides.   When this option is in use, the mariner should be reminded that the information on the display may not be correct for the actual date."

Follow-on change :

Amend the second paragraph of Presentation Library Part I section 2 "Display Generator " by adding a further sentence, given in **bold** below:

"Figure 1 shows how the various elements - - - section 8 of this manual gives further details that are of interest to the programmer. **Note particularly section 8.4 dealing with the display of objects depending on date (e.g. DATSTA, DATEND) or on display scale (SCAMIN)."**

Item No.CS04.0.d02.co.035

Correction to Colour & Symbol Specifications 4.1.4 etc.and Presentation Library 8.5 etc,
<u>Night display problems</u>: <u>Contrast and Brightness controls.</u>

Sea tests have shown that mariners inexperienced with ECDIS may not use a systematic approach to adjusting the contrast and brightness controls and consequently may lose information from the display by setting the brightness or contrast too low, below the "black level".   The problem affects black-background displays most, and is critical on the night display.   It may occur when, for example, the mariner reduces the display luminance in an attempt to dim a user interface text panel which is emitting too much light.

In addition, there should be more contrast between the deep- water depth- area shade and the intertidal and built-up area shades, and the planned route should be somewhat less prominent.   This is covered by immediate amendment PL03.0.i01.co.012.

This amendment introduces a feature of significant importance to the safety of navigation, and manufacturers are encouraged to implement it as soon as possible.

Setting the black level on the CRT:

A simple procedure using the new symbol BLKADJ should ensure that the brightness and contrast controls are correctly set.   BLKADJ consists of two nested black squares: the 20mm. outer square is coloured black (colour token BKAJ1, ex RES04); and the 12 mm. inner square is coloured just above black (colour token BKAJ2, ex RES05).   The symbol itself comes from the modified SMPTE 133 standard monitor test pattern.

To introduce this procedure, delete the last paragraph of existing section 4.1.4.4 "It is particularly important - - " and add a new section 4.1.4.5.to the Colour & Symbol Specifications:

"4.1.4.5.   Setting the Brightness and Contrast controls for route monitoring. *The ECDIS display carries far more detail than a radar display, and requires correspondingly more attention to the correct selection of colour table and the correct adjustment of the brightness and contrast controls.*

This particularly affects the black-background displays, and is critically important at night, because all colours of the night table, particularly those for large areas, have to be set very dark to avoid loss of night vision, and if the brightness or contrast is turned down too far these colours will disappear into the black background.   As a result, chart information will be lost.

The situation will be worse if one of the day tables is improperly dimmed for use at night, instead of switching to the night table.

It is important that the display be adapted to lighting conditions on the bridge by selecting the correct colour table :   "Day-bright" for bright sunlight; "Day-white background" or "day-black background" by day; "Dusk" for twilight; or "Night" for the night-darkened bridge.

The brightness and contrast should only be used for fine adjustment within the appropriate colour table.

To ensure that the brightness and contrast are always set to a level above that at which information will be lost, the black-adjust symbol BLKADJ should be available to the mariner, treated as "Standard display", to be called up at any convenient point on the screen.   The following instructions to the mariner should be incorporated in the "Users instructions" for the ECDIS :

1.   First, set contrast to a maximum, brightness to a minimum.   Look at the black-adjust symbol.   Then either:
2A.   If the centre square is not visible, turn up the brightness until it just appears.   OR:
2B.   If the centre square is clearly visible (with contrast at maximum, brightness at minimum), turn the contrast down until the inner square disappears, then turn contrast back up until the inner square is just visible again.

(If the above adjustment is not successful, select a more appropriate colour table and repeat this procedure).

The "black level" is now correctly set. If a brighter display is required use the contrast control, but it is better not to re- adjust the controls unless lighting conditions on the bridge change.
Note that the black-adjust symbol should be displayed to check that the inner square remains visible on the following occasions:
- every time that the brightness or contrast controls are adjusted,
- every time that the display is switched to the night colour table.

It is recommended that the BLKADJ symbol be displayed automatically all the time that the night colour table is selected, with a mariner over-ride to remove it if necessary."

Follow-on changes :

1.   Add the sentence identified in **bold** below at the begining of Colour & Symbol Specifications section 5.2.5,:

"5.2.5 Colour Differentiation Test diagram; grey scale

The use of symbol BLKADJ to adjust the brightness and contrast controls every time that the night colour table is selected has been described in section 4.1.4.5. This section describes further checks on the colour performance of the ECDIS CRT.

A multi-purpose colour differentiation test diagram - - -"

In section 5.2.5, item (1) of the intended uses of the Colour Test Diagram, replace "brilliance and contrast controls" with "brightness and contrast controls".

2.   Add new section 8.5.8 to part 1 of the Presentation Library:

"8.5.8 Black level adjustment symbol:

Unless the brightness and contrast controls of the CRT are properly adjusted there is a danger that information may be lost from the chart display, particularly at night. Symbol BLKADJ is provided for checking correct adjustment and for re-adjusting as necessary. It should be available for call-up by the mariner as required. Instructions for its use are given in Colour & Symbol Specifications, section 4.1.4.5. Display priority is 9; over radar; IMO category is standard display; viewing group does not apply as the black level adjustment symbol is a case of special call-up."

3.   Presentation Library Part III section 4.1.1, "Colour Differentiation Test diagram", delete second paragraph, and replace with the following, changes in **bold**:

"This diagram is provided primarily for the mariner's use so that he can verify that his CRT still has the capability of differentiating important colours clearly.
The Colour Test should be applied on all colour tables. For testing the night table, the bridge should be darkened to as nearly as possible normal night viewing conditions.

   Before the Colour Test diagram is used, the black-adjust symbol SY(BLKADJ) should be brought up on the screen and the contrast and brightness controls should be adjusted as follows:
   1.   First, set contrast to a maximum, brightness to a minimum.   Look at the black-adjust symbol.   Then either:
   2A.   If the centre square is not visible, turn up the brightness until it just appears.   OR:
   2B.   If the centre square is clearly visible (with contrast at maximum, brightness at minimum), turn the contrast down until the inner square disappears, then turn contrast back up until the inner square is just visible again.
   (If the above adjustment is not successful, select a more appropriate colour table and repeat this procedure).

   The "black level" is then correctly set.   If a brighter display is required use the contrast control, but preferably do not adjust the controls unless lighting conditions on the bridge change.
   Note that the black-adjust symbol should be displayed to check that the inner square remains visible on the following occasions:
   - every time that the brightness or contrast controls are adjusted,
   - every time that the display is switched to the night colour table.

   The diagram is also intended for use by the type aproval authority in verifying all but the Day_Bright colour tables. "

4.   In the Presentation Library, section 4.1 "Colour Scheme", delete "Colour Section IV", and replace with the following (changes identified in **bold**):

"Colour section IV / Reserved for **Special** Requirements (8 uses)

Token	Colour	Usage
RESBL	blue	(reserved for **VTS** line features and **symbols**)
RESGR	grey	(reserved for line features & screened areas)
BKAJ1	**black**	**(black level test symbol background)**
BKAJ2	**grey**	**(black level test symbol foreground)**
RES06	not specified	(reserved for future use)
RES07	not specified	(reserved for future use)
RES08	not specified	(reserved for future use)

5.   Make the following changes to the Presentation Library, chapter 13.1, Colour Tables:

   Delete tokens RES04 and RES05,
   Add tokens BKAJ1 and BKAJ2, with the following values:

Colour table: DAY_BRIGHT
token: BKAJ1   colour = black   x = 0.28   y = 0.31   L = 0.0
token: BKAJ2   colour = grey   x = 0.28   y = 0.31   L = 1.6   *(70,70,70)*

Colour table: DAY_WHITE BACKGROUND
token: BKAJ1   colour = black   x = 0.28,   y = 0.31   L = 0.0
token: BKAJ2   colour = grey   x = 0.28   y = 0.31   L = 1.12   *(68,68,68)*

Colour table: DAY_BLACK BACKGROUND

| token: | BKAJ1 | colour = black | x = 0.28, | y = 0.31 | L = 0.0 | |
| token: | BKAJ2 | colour = grey | x = 0.28 | y = 0.31 | L = 1.6 | *(70,70,70)* |

Colour table: DUSK

| token: | BKAJ1 | colour = black | x = 0.28 | y = 0.31 | L = 0.0 | |
| token: | BKAJ2 | colour = grey | x = 0.28 | y = 0.31 | L = 0.144 | *(48,48,48)* |

Colour table: NIGHT

| token: | BKAJ1 | colour = black | x = 0.28 | y = 0.31 | L = 0.0 | |
| token: | BKAJ2 | colour = grey | x = 0.28 | y = 0.31 | L = 0.05 | *(35,35,35)* |

(The figures in brackets and italics in the right hand column are "typical" DAC values to achieve the required grey luminance. They are "get started" values for information only. They are not part of the colour table, and should not be used once calibration has been carried out).

6.   Add the following new symbol to the Symbol Library:

Name: BLKADJ01 - Black-adjust symbol.
Meaning: "Symbol to be used for checking and adjusting the brightness and contrast controls."
Description: Nested pair of squares. The outer square is of 20 mm. side length, black, colour token BKAJ1. The superimposed inner square is of 12 mm. side length, very dark grey (1 level removed from black), colour token BKAJ2.

Item No. PL03.0.d02.co.036

Clarification of Presentation Library part 1 section 12.2.5, conditional procedure LEGLIN01

To meet manufacturers' requests, a double orange circle symbol SY(WAYPNT11) was provided in the Presentation Library some time ago to identify the next waypoint, but this was not connected to the LEGLIN conditional symbology procedure. To do so requires that the manufacturer provide a conditional procedure to select the next waypoint and change the symbol from the other waypoint symbol SY(WAYPNT01) to the next waypoint symbol SY(WAYPNT11).

To make this change, add a second paragraph to the "Remarks" on the title page of "12.2.5 Conditional Symbology Procedure "LEGLIN01" " as follows :

" Note that a double orange circle symbol SY(WAYPNT11) is provided in the Presentation Library to distinguish the next waypoint from other waypoints.   This is illustrated on the ECDIS chart 1. Should the manufacturer wish to provide the use of this symbol, he should introduce his own software to select the next waypoint and to change the symbol from the single circle "other waypoint" symbol SY(WAYPNT01), to the double circle "next waypoint" symbol SY(WAYPNT11). "

Follow-on change:

Change the name of this procedure to "LEGLIN02" and make the necessary change in look-up table 11.2 "Look-up table for object type Line."

End of Deferred Amendment No. 02

(Note that the edition/revision numbers do not change after a deferred amendment).

INDEX OF ITEMS IN AMENDMENT 02 TO S-52 APPENDIX 2

Item No. PL03.0.d02.cl.015
Clarification of PL, Part 1, section 3.5 **- Look-up Tables & Extended Presentation Instructions**
special display features (e.g.scalebar, manual corrections) not specified elsewhere are in sections 8.5
to 8.8.   *page*

Item No. PL03.0.d02.co.016
Minor corrections to the digital Presentation Library files   *page*

Item No. PL03.0.d02.cl.017
Clarification of Presentation Library, Part 1, section 4.2.3.2 (2) - **Transparent radar**
the underlying SENC info must remain distinguishable.   *page*

Item No. PL03.0.d02.cl.018
Clarification of Presentation Library, Part 1, section 7.1.2.1 (2) - **"TE" text command**
and section 7.1.4 - **How text is handled in the look-up table**
use of features other than attributes in the "TE" command.   *page*

Item No. PL03.0.d02.cl.019
Clarification of Presentation Library, Part 1, section 7.2.3 - **Symbol rotation**
distinguish "rotate" relative to top of display from "ORIENT" relative to north.   *page*

Item No. PL03.0.d02.cl.020
Clarification of Presentation Library, Part 1, section 8.3.4.3 - **Display Categories**
display category of mariners' objects to be changeable at mariners' option.   *page*

Item No. PL03.0.d02.cl.021
Clarification of Presentation Library, Part 1, section 8.3.5 -**Test edition of the Presentation Library**
option to use special look-up table only as in edition 3.0 of the PL or the complete file replacement
available now and for use in edition 4.0.   *page*

Item No. PL03.0.d02.cl.022
Clarification of Presentation Library, Part 1, section 8.7.2 - **Non-ENC chart information**
This item duplicated the follow-on requirements of item CS04.1.d02.cl.003 and has been deleted.

Item No. PL03.0.d02.cl.023
Clarification of PL, section 12.2.2 - Symbology procedure DATCVR - **overscale indications**
mariner-selected overscale indication immediately display scale > comp. Scale.
overscale pattern for automatic compilation from two scales when overscale >X2.   *page*

Item No. PL03.0.d02.cl.024
Clarification of Presentation Library Manual, section 5.4 - Symbols and section 7.1.2.1 "Text" -
Clarification of meanings of symbol names and of abbreviations used in "C" text commands
                                                                                                       page
Item No. PL03.0.d02.cl.025
Clarification of Presentation Library, Part 1, section 13.2 **- Viewing Groups**
change title "Routes" to "Recommended tracks" for standard display.   *page*

Item No. PL03.0.d02.co.026
Correction to the Presentation Library section 12.2.4 conditional symbology procedure DEPCNT02 :
symbolization of low accuracy contours*.   This amendment has been cancelled.*

Item No. PL03.0.d02.cl.027
Correction toPL , Part 2 Mariners' Objects, sections 3.2, 3.3 - **IEC symbol number cross-reference**
                                                                                                       page
Item No. CS04.0.d02.cl.028
Clarification of Colour & Symbol Specifications, section 2.3 - **Organising the information for**
display *avoiding linkages.*   *page*

Item No. CS04.0.d02.cl.029
Correction to Colour & Symbol Specs, section 3.4.3 - **Text panel on route monitoring display**
specs to limit over-prominent text display.   *page*

Item No. PL03.0.d02.co.030
Correction to PL Parts 1 & 3   **Specifications for ECDIS Chart 1 and the Colour Test diagram.**
                                                                                 page

Item No. PL03.0.d02.co.031
Correction to Presentation Library, section 5 -   **Complex Linestyles for curved lines**   *page*

Item No. CS04.0.d02.cl.032
Clarification to the Colour & Symbols Specs. and thePL :   **Night pattern for depth < safety contour.**
                                                                                 page

Item No.PL03.0.d02.co.033
Correction to the Presentation Library section 12.2.19, SNDFRM02**: Symbolizing drying soundings.**   *page*

Item No.PL03.0.d02.co.034
Correction to Presentation Library part 1 section 8.4   **Display of objects depending on date**
                                                                                 page

Item No.CS04.0.d02.co.035
Correction to C & SS 4.1.4 etc.and PL 8.5 etc   **Night display problems: Contrast and Brightness controls.**   *page*

Item No. PL03.0.d02.co.036
Clarification of Presentation Library part 1 section 12.2.5, conditional procedure **LEGLIN01**
Introducing a symbol to distinguish the next waypoint.   *page*

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S-52 APP. 2 –DEFERRED AMENDMENT 03

This amendment deals with "Extensions" to S-52 Appendix 2

(Changed wording is identified in **bold**)

Item No. PL03.0.d03.ex.001

Summary of some potential future extensions to S-52 Appendix 2

The following are summaries of some potential extensions for Edition 5 of the Colour & Symbol Specifications and Edition 4 of the Presentation Library. Comments on any of these topics will be welcomed. Please send them via the IHB.

1.   Cursor enquiry

An effective response to a cursor pick is an important part of ECDIS performance, and developing this difficult capability will depend on on interaction between manufacturers and mariners. The sketchy guidance given in section 8.8 of the Presentation Library could be firmed up in the light of experience of this appears useful.

2.   Manual corrections and Mariner-added objects

The selection of an S-57 object to call up a symbol from the Presentation Library may not be difficult, but the list of objects is potentially very large. It may be possible to set limits on this open-ended requirement as a result of experience of mariners' needs.

3.   Missing mandatory attributes

With some exceptions, the look-up tables are based on the assumption that the mandatory attributes will be available. (The first line default symbolization is given in case of errors.) In fact, mandatory attributes will often be missing, especially in the first generation ENCs based on paper charts. The extent of the problems this may cause, and the remedies, will become evident with experience. Some extension of the look-up table may be needed.

4.   Text offsets and prefixes

.1   In order to avoid a conditional procedure (which slows the re-draw) for a relatively unimportant item such as text, uniform text offsets are used which may be too large in some cases, leading to possible confusion.

.2   In order to ensure that text is readable, it is in black (white on a black background), and so text which consists of numbers (e.g. buoy numbers) is indistinguishable from soundings. Hence prefixes (e.g. "by" for buoy, "No" for number) are used to distinguish text. This again could possibly lead to confusion, at least initially.

Manufacturers are asked to inform the IHB if they encounter any problems or hear of adverse reports from mariners.

5.   Non-latin text

Although non-English text is a supplementary option under S-52, section 3.7 "Language", it seems evident that a recommendation in S-52 Appendix 2 on a common approach to

displaying non-latin text would be helpful. Seven Cs have offered to develop a procedure, using minor modifications to the "TX" command, and to offer it for testing in order that this can be considered for the next edition.

6. Marine Information Objects (MIOs) (previously known as Time Varying Objects)

Some time-varying "additional" (i.e. non-chart) information is already shown on the ECDIS display, including mariners' objects, radar and ARPA targets. More is likely to follow, with AIS targets, information from VTS centres, tide and current information and ice reports already under discussion. In addition to concerns over clutter/information overload, some coordination will be needed to ensure that the symbology used for chart and additional information is balanced in relation to its relative importance and also harmonized in shape and colour to avoid confusion over the meaning and the source of the information.

7. Display priorities

There is already some difficulty in handling display priority with only 9 levels, and Seven Cs note requirements such as fitting ice overlays to a coastline that will increase the demand for separating the draw priority of features. One proposal is to add a zero to each priority, thus extending the possible priorities from the present 1-9 to 01 – 99.

8. Presentation Library in ASCII format or in binary

S-57 went to binary to reduce volume and improve transmission reliability. However the Presentation Library is a different case from an ENC and would benefit less from the change. Should it be changed to binary or stay in ASCII?

End of Deferred Amendment No. 03.

(Note that the edition/revision numbers do <u>not</u> change after a deferred amendment.