INTERNATIONAL HYDROGRAPHIC ORGANIZATION



Special Publication No. 52, Appendix 2

COLOUR & SYMBOL SPECIFICATIONS FOR ECDIS

Edition 4.2 – March 2004

and its Annex A

IHO ECDIS PRESENTATION LIBRARY

Edition 3.3 – March 2004 becoming Edition 3.4 – January 2008 by application of this document

C & S MAINTENANCE DOCUMENT

Number 5 – July 2007 (updated January 2008)

IMMEDIATE AMENDMENT 5

DEFERRED AMENDMENT 7

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Introduction

Amendments to S-52 Appendix 2 affect primarily the ECDIS manufacturers, though the mariners will benefit from the improvements made. The procedures for amending S-52 Appendix 2 include both immediate and deferred amendments. Definitions and procedures for these amendments are given in S-52 App.2 "Colour & Symbol Specifications for ECDIS" (C&S Specs), section 1.2.4.1, but are as follows:

An amendment in general may be of the following two different types:

- a deferred amendment may contain either:
 - (a) clarifications and deferred correction items, or
 - (b) extension items, which are distributed separately.
- an immediate amendment which contains only items to be applied urgently,

A deferred amendment is not included in any S-52 Appendix 2 document until the new edition which is identified as bringing the deferred amendments into force. However OEMs may apply such deferred amendments at any time after their publication and do not have to wait for the implementation date of the new edition.

<u>An immediate amendment</u> is issued only in exceptional cases. It applies solely to corrections and extensions which directly affect safety of navigation. Immediate amendments have to be implemented to ECDIS under production and in the field at the earliest opportunity. An immediate amendment to the C&S Specs or Presentation Library (PresLib) changes the Edition number. It applies only to corrections, which must not depend on any deferred amendment.

The item number of each amendment item gives the edition number of the C&S Specs or the PresLib to which the amendment item applies. This Edition number will change once an immediate amendment is applied, but does not change for a deferred amendment.

At the end of each <u>immediate</u> amendment, there is a reminder of the current Edition number <u>after</u> the amendment is applied.

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S-52 APP. 2 – DEFERRED AMENDMENT 7

July 2007

NOTES

- 1. These amendments are intended to remind users of S-52 Appendix 2 of the changes approved at meetings CSMWG 15, 16 and 17 and to point out how these changes affect C&S Specifications Edition 4.2 and PresLib Edition 3.3 in detail.
- 2. <u>CHANGE HISTORY OF S-52 APP.2 FROM CSMWG SPECS 4.0 --> 4.2 AND PRESLIB 3.0--</u> >3.3 FROM 1997 TO 2007

'MD' stands for IHO Maintenance Document; 'IA' stands for Immediate Amendment; and 'DA' stands for Deferred Amendment:

Colours & Symbols Specifications (S-52 Appendix 2)

- Edition 4.0 (July 1997) + MD1 IA i01 --> Edition 4.1 (January 1999)
- Edition 4.1 + MD2 DA d02 + MD4 DA d6 --> Edition 4.2 (March 2004)
- Edition 4.2 + MD5 DA d7 \rightarrow Edition 4.3 (January 2008)

Presentation Library (Annex A to S-52 Appendix 2)

- Edition 3.0 (July 1997) + MD1 IA i01 → Edition 3.1 (January 1999)
- Edition 3.1 + MD 3 IA i04 --> Edition 3.2 (May 2000)
- Edition 3.2 + MD2 DA d02 + MD3 DA d05 + MD4 DA d6 \rightarrow Edition 3.3 (2004)
- Edition 3.3 + MD5 IA i5 + MD5 DA d7 → Edition 3.4 (2008)
- Digital versions:
 - PRSLIB03.dai (July 1997),
 - PSLB03_1.dai (December 1998),
 - PSLB03_2.dai (May 2000),
 - PSLB03_3.dai (March 2004).
- Temporary digital files: PSTY03_0.dai (June 1999), PSTY3_2b.dai (October 2001) (see amendment d05.cl.005)
- Paper based description of symbols:
 - Addendum to Part I, Users' Manual (2003)
 - Addendum to Part I, Users' Manual (2007)
 - Addendum to Part I, Users' Manual (2008), Edition 3.4

Edition 4.2 of the CSMWG Specs and Edition 3.3 of the PresLib, issued in March 2004, brought all outstanding deferred amendments to Editions 4.1 of the CSMWG Specs (issued January 1999) and 3.2 of the PresLib (issued May 2000) into effect. Edition 4.3 of the CSMWG Specs does not contain substantial changes compared to the preceding version with the exception of the reference to Edition 3.4 of the PresLib, which was triggered by the introduction of new objects, object attributes and attribute values in S-57 Supplement No. 1, issued in January 2007. Edition 4.3 of the PresLib itself is to be set in force in conjunction with the S-57 Supplement No. 1 by 1. January **2008**.

Note that although this MD5 is published in July 2007, OEMs have until 1 January 2008 to fully implement ALL of these amendments.

Since the first issue of MD5 in July 2007 minor mistakes have been identified and corrected by means of this issue dated from January 2008 for the following amendments:

Item No.PL03.3.i5.ad.1	Addition of symbols for new objects Symbolisation of ARCSLN, ASLXIS, NEWOBJ, RESARE (ESSA and PSSA)	р. 9
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Item No.PL03.3.d7.co.7	Correction to PresLib CSP Visualization of two 'no sector' lights at the same location	p. 45
Item No. PL03.3.d7.co.10	Correction to PresLib Look-up table Revised Look-up table for LNDARE point and line features display OBJNAM	to p. 49
Item No.PL03.3.d7.co.12	Correction to PresLib Look-up table Revised Look-up table entry for UNSARE objects	p. 50
Item No.PL03.3.d7.ad.13	Addition to PresLib symbolisation DGPS reference stations	p. 50
Item No.PL03.3.d7.ad.15	Addition to PresLib symbol description (Users' Manual Addendo AIS symbology	um) p. 52
Item No. PL03.3.d7.co.16	Correction to PresLib symbol description (Users' Manual Addend AIS symbology_	dum) p. 52

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Item No.PL03.3.i5.ad.2	Addition to PresLib CSP Symbolisation of object of the class "NEWOBJ"	p. 21
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Item No.CS04.2.d7.co.1	Correction to PresLib Part 1 (Users' Manual), section 8.1, second par Display of any valid attribute information for unknown objects	agraph p. 22
Item No.CS04.2.d7.co.2	Correction to PresLib Part 1 (Users' Manual), Glossary Display of unknown objects	p. 22
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Item No.PL03.3.d7.co.11	Correction to PresLib Look-up table Revised Look-up table entry for rivers	p. 50
Item No.PL03.3.d7.co.12	Correction to PresLib Look-up table Revised Look-up table entry for UNSARE objects	p. 50
Item No.PL03.3.d7.ad. 13	<u>3</u> Addition to PresLib symbolisation DGPS reference stations	p. 50
Item No.PL03.3.d7.ad.14	Addition to PresLib symbol description (Users' Manual Addendum) DGPS reference station symbol	p. 51
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S-52 APP. 2 – IMMEDIATE AMENDMENT 5

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Throughout this amendment changes to the CSMWG Specs. and the PresLib. are indicated by strikethrough text for deletions and **bold text** for additions.

Item No.PL03.3.i5.ad.1 Addition of symbols for new S-57 Supplement Number 1 (Edition 3.1.1) features Symbolisation of RESARE (ESSA and PSSA), ARCSLN, ASLXIS, NEWOBJ

According to the enhancements of the ENC Product Specification by S-57 Supplement No. 1 issued in January 2007, ESSAs and PSSAs must be encoded as individual objects of class RESARE. The following entries into the look up tables for ESSAs and PSSAs are introduced as immediate amendment to the Presentation Library. They apply to both plain and symbolized boundaries.

Lookup table entry ESSA

11.3 Look-up Table Listing for Object Type Area 'A' "RESARE","CATREA27","SY(ESSARE01);LC(ESSARE01)","5","S","STANDARD","26010"

Lookup table entry PSSA

11.3 Look-up Table Listing for Object Type Area 'A' "RESARE","CATREA28","SY(PSSARE01);LC(ESSARE01)","5","S","STANDARD","26010"

Presentation example of ESSA and PSSA

These new look up table entries for ESSA and PSSA would result into the display presentation as shown in Fig. 1. The symbol definition to be added to the PresLib is shown in Fig. 1 A, Fig. 1 B and Fig. 1 C.



Fig 1. ESSA and PSSA (Centred Symbol and Boundary) at day light display

Symbol definition PSSA

Symbol Name:		SY(PSSARE01)	RN:519
Symbol Explan	nation:	PSSA - centred symbol	
Look up table	affected:	CSP	
Pivot Point Co Pivot Point Ro	lumn: w:	6.35 6.35	
Width of Boun Height of Bour	ding Box: nding Box:	12.70 5.00	
Symbol Colou	rs:	CHMGF	
Comments:		Line weight 0.6 mm	
Examples on I	ENC:	N/A	
References:			
S57 E3.1.1		INT 1	
RESARE, CATREA 28	N22	PSSA PSSA	

Figure 1 A: Symbol definition of centred Symbol for PSSA (Addition to Users' Manual Addendum)

Symbol definition ESSA

Symbol Name:	SY(ESSARE01)	RN: 523
Symbol Explanation:	ESSA - centred symbol	
Look up table affected:	CSP	
Pivot Point Column: Pivot Point Row:	6.35 6.35	
Width of Bounding Box: Height of Bounding Box:	12.70 5.00	
	1270 5.50 3.40 11111 5.50 5.00	
Symbol Colours:	CHMGF	
Comments:	Line weight 0.6 mm	
Examples on ENC:	N/A	
References:		
S57 E3.1.1	INT 1	
CATREA 27		

Figure 1 B: Symbol definition of centred Symbol for ESSA (Addition to Users' Manual Addendum)

Boundary symbol definition PSSA/ESSA

Symbol Name:	LC(ESSARE01)		
Symbol Explanation:	boundary of an ESSA or PSSA		
Look up table affected:	area symbols with symbolized boundaries		
Pivot Point Column: Pivot Point Row:	-2.00 0.00		
Width of Bounding Box: Height of Bounding Box:	3.00 1.50		
	$ \underbrace{ \begin{array}{c} & & & \\ & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & &$		
Symbol Colours:	CHMGF		
Comments:	Line weight 0.3 mm		
Examples on ENC:	N/A		
References:			
S57 E3.1.1 RESARE, N22 CATREA 27 or 28	INT 1		

Figure 1 C: Symbol definition of boundary of PSSA/ESSA (Addition to Users' Manual Addendum)

Presentation of Archipelagic Sea Lanes (ASL)

The proposal for the display of ASL on ECDIS follows the IHO Chart Specification for ASLs (M-4, B-435.10) and revised BSH INT1 (M 17) November 2005 for paper charts. The resulting look up table entry reads as follows:

Archipelagic Sea Lane Axis

11.2 Look-up Table Listing for Object Type Line 'L' "ASLXIS","","LS(DASH,2,CHMGF)","5","S","STANDARD","26260"

Archipelagic Sea Lane

11.3 Look-up Table Listing for Object Type Area 'A' "ARCSLN","","LC(ARCSLN01)","5","S","STANDARD","26260"

Presentation example of ASL

These new look up table entries for ASL would result into the display presentation as shown in Fig. 2. The symbol definition to be added to the PresLib is shown in Fig. 2 A.



Fig. 2 ASL symbolisation (Boundary and Axis Line) at day light display

symbol definition ASL

Symbol Name	:	LC(ARCSLN01) RN: 520
Symbol Explar	nation:	boundary of archipelagic sea lane
Look up table	affected:	area symbols with plain boundaries area symbols with symbolized boundaries
Pivot Point Co Pivot Point Ro	lumn: w:	-2.00 0.00
Width of Boun Height of Bour	ding Box: nding Box:	6.00 1.62
Symbol Colours:		CHMGF
Comments:		Line weight 0.3 mm
Examples on ENC:		N/A
References:		
S57 E3.1.1		INT 1
ARCSLN	M17	

Symbol definition of boundary of archipelagic sea lane (Addition to Users' Manual Addendum) Figure 2 A:

8.3.3.11 Presentation of New Object NEWOBJ

For the presentation of objects of class NEWOBJ two alternative presentation options are provided by the PresLib which do not rule each other out. On the contrary, both solutions cover different options of application.

8.3.3.11a Default symbol for NEWOBJ

Because there may be very little information available (beside the values of the attributes INFORM and/or TXTDSC), a well known attention grabbing symbol seems to be appropriate as the <u>default</u> symbolisation. To distinguish a new object symbol from the standard "Non ENC object" symbol (magenta question mark), an exclamation mark shaped in a magenta filled circle has been developed. The new symbol is named 'NEWOBJ01'. This symbol is called by Look-up table entries to by found under 11.1, 11.2 and 11.3.

The entries into the look up tables for new objects of point, line and area type are as follows:

- 11.1 Look-Up Table Listing for Object Type Point 'P'
- 11.1.1 Look-up Table for paper chart point symbolization

"NEWOBJ","","SY(NEWOBJ01)","6","S","STANDARD","21020"

- 11.1.2 Look-up Table for simplified point symbolisation "NEWOBJ","","SY(NEWOBJ01)","6","S","STANDARD","21020"
- 11.2 Look-up Table Listing for Object Type Line 'L' "NEWOBJ","","LC(NEWOBJ01)","6","S","STANDARD","21020"
- 11.3 Look-up Table Listing for Object Type Area 'A'
- 11.3.1 Look-up Table for areas with symbolized boundaries "NEWOBJ","","SY(NEWOBJ01);LS(DASH,2,CHMGD)","6","S","STANDARD","21020"
- 11.3.2 Look-up Table for areas with plain boundaries "NEWOBJ","","SY(NEWOBJ01);LS(DASH,2,CHMGD)","6","S","STANDARD","21020"

Presentation examples of New Objects - default symbolization

These new look up table entries for NEWOBJ according to this approach would result in the display presentation as shown in Fig. 3. The symbol definition to be added to the PresLib is shown in Fig. 3 A and Fig 3 B.



Fig. 3 NEWOBJ (New object)

Default Symbol Definition NEWOBJ

Symbol Name:	SY(NEWOBJ01)	RN: 522
Symbol Explanation:	new object	
Look up table affected	I: paper chart point symbols area symbols with plain boundaries simplified point symbols area symbols with symbolized boundaries	
Pivot Point Column: Pivot Point Row:	3.00 3.00	
Width of Bounding Bo Height of Bounding Bo	x: 6.00 px: 6.00	
Symbol Colours:	CHMGD	
Comments:	Line weight 0.3 mm	
Examples on ENC:	N/A	
References:		
S57 E3.1.1	INT <u>1</u>	
NEWOBJ N/A		

Figure 3 A: Default Symbol definition of new object symbol (Addition to Users' Manual Addendum)

Default Boundary Definition NEWOBJ



Figure 3 B: Default symbol definition of boundary of new object symbol (Addition to Users' Manual Addendum)

8.3.3.11b Encoded symbolization for NEWOBJ

The 'New Object' feature object class has been supplemented to the S-57 object catalogue in order to cater for possible future requirements specified by the IMO and that affect safety of navigation which cannot adequately be encoded by any existing object class. It must not be used unless approved by the Transfer Standard Maintenance and Application Development Working Group (TSMAD) and the Colours and Symbols Maintenance Working Group (CSMWG) and issued as an ENC Encoding Bulletin.

As stated for the use of NEWOBJ01 to depict the NEWOBJ, its visualisation is a generic one, which means that the symbol is not self-explanatory but has been designed to grab attention. The user must select the pick report if he wants to learn more about the nature and designation of this object. To visualise such objects in a more meaningful way, the concept of cartographic objects from earlier editions of S-57 (Version 2.0) and the S-52 PresLib has been re-introduced. This "encoded symbolisation is given as second alternative option to visualise NEWOBJ. This method effectively binds a direct call of a symbol by its dedicated PresLib symbol name to the encoded object. This call is activated by a new optional attribute called symbol instruction (SYMINS). If this new attribute is populated with a valid symbol name (to be taken from the PresLib, Edition 3.4 Addendum), the specified symbol will be displayed on ECDIS. If this new attribute is not populated, or populated with an invalid symbol name, the default symbology as described under 8.3.3.11a will be displayed by default. This approach provides encoders with an option to select the symbol they consider best reflects the nature of the feature.

If it is required to encode a new object specified by the IMO and that affects safety of navigation which cannot adequately be encoded by any existing S-57 E3.1 object class, it must be done using the feature object class NEWOBJ. The 'New Object' feature object class must only be used in conjunction with an Encoding Bulletin issued by the IHO. The Bulletin will provide the specifics on how to use the object class for a particular application. The 'New Object' feature object class must not be used under any other circumstances.

Geo Object: New Object (NEWOBJ) Attributes: CLSDEF CLSNAM COLOUR COLPAT CONDTN CONRAD CONVIS DATEND DATSTA NATION NOBJNM OBJNAM PEREND PERSTA RESTRN STATUS WATLEV INFORM NINFOM NTXTDS SYMINS TXTDSC

Remarks:

- When approved for use, the attribute CLSDEF must be defined in the data itself and is the detailed definition of all objects comprising the new object class. It is comparable to the definition section of an existing object class in the object catalogue. All objects that belong to the same object class (CLSNAM) must use an identical definition and this definition must also be used for the proposal to the S-100 feature data dictionary manager.
- When approved for use, the attribute CLSNAM must also be defined in the data itself and contains the descriptive name of the object class. For an object class that is defined in an existing object catalogue, this is the name of the object class e.g. 'Depth Area'. CLSNAM must not be used for the common name of the real world object. Common names must be encoded by use of OBJNAM and or NOBJNM. CLSNAM is a generic name to categorize all objects of one class and therefore all objects that belong to the same object class must have an identical CLSNAM. The value used for CLSNAM must also be used for the new feature object class when it is proposed to the S-100 feature data dictionary manager.
- At least <u>one of</u> INFORM or TXTDSC is mandatory, not both. INFORM is used to describe the feature for ECDIS systems that are not yet E3.1.1 compatible, as was done for the new attribute values for S-57 E3.1. For consistency, when one or both of these attributes is used, the text must commence with the approved object class name (CLSNAM) of the feature, such as 'Archipelagic Sea Lane'.
- This object class has default symbology in the S-52 Presentation Library Edition 3.4 (and later editions), however for features that are considered to affect safety of navigation, an existing symbol must be approved by TSMAD and CSMWG from the S-52 Symbol Library, in

order to portray the feature more accurately on an ECDIS. If the attribute SYMINS is populated with a valid symbol instruction, this will override the default symbology. Note that there are separate symbol names for point, simple and complex lines, area and text symbology.

- A corresponding Encoding Bulletin will provide the specific attribute values (strings) and instructions on how to use the object class for a particular application. This object class must not be used without an ENC Encoding Bulletin issued by the IHO on the authority of TSMAD/CSMWG.
- In addition to the issue of the Encoding Bulletin, a new feature object class proposal (and new attributes if necessary) must also be made to the S-100 feature data dictionary manager. For future editions of the product specification, the new object class will be considered for inclusion in the object catalogue.

The entries into the look up tables for new objects of point, line and area type are as follows:

- 11.1 Look-Up Table Listing for Object Type Point 'P'
- 11.1.1 Look-up Table for paper chart point symbolization "NEWOBJ","SYMINS","CS(SYMINS01)","6","S","STANDARD","21020"
- 11.1.2 Look-up Table for simplified point symbolisation "NEWOBJ","SYMINS","CS(SYMINS01)","6","S","STANDARD","21020"
- 11.2 Look-up Table Listing for Object Type Line 'L' "NEWOBJ","SYMINS","CS(SYMINS01)","6","S","STANDARD","21020"
- 11.3 Look-up Table Listing for Object Type Area 'A'
- 11.3.1 Look-up Table for areas with symbolized boundaries "NEWOBJ","SYMINS","CS(SYMINS01)","6","S","STANDARD","21020"
- 11.3.2 Look-up Table for areas with plain boundaries "NEWOBJ","SYMINS","CS(SYMINS01)","6","S","STANDARD","21020"

The following is an example of how SYMINS may be used using an existing look up table entry.

// example of SYMINS attribute for NEWOBJ of type area
// symbolize the area with a 50 % transparent colour fill using RESBL
// and a 2 pixels wide, dashed outline in CHBLK

SYMINS="AC(RESBL,2);LS(DASH,2,CHBLK)"

// example of SYMINS attribute for NEWOBJ of type line
// symbolize the line 3 pixels wide, dotted, in CHMGD

SYMINS="LS(DOTT,3,CHMGD)"

// example of SYMINS attribute for NEWOBJ of type line
// symbolize the line with the complex linestyle FERYRT01

SYMINS="LC(FERYRT01)"

// example of SYMINS attribute for NEWOBJ of type point
// symbolize the point with symbol CHINFO06

SYMINS="SY(CHINFO06)"

Item No.PL03.3.i5.ad.2 Addition to PresLib CSP Symbolisation of object of the class "NEWOBJ"



End of immediate amendment applying to Edition 3.3 – March 2004 becoming Edition 3.4 – January 2008 by application of this amendment

S-52 APP. 2 – DEFFERED AMENDMENT 7

Throughout this amendment changes to the CSMWG Specs. and the PresLib. are indicated by strikethrough text for deletions and **bold text for additions**.

<u>Item No. CS04.2.d7.co.1</u> Correction to PresLib Part1 (Users' Manual), section 8.1, second paragraph Display of any valid attribute information for unknown objects

S-52 Presentation Library Edition 3.3, Part 1, section 8.1, second paragraph:

Feature objects must be of an officially adopted object class. If feature objects are of proprietary (non-IHENC) classes (i.e. not included in S-57 Product Specifications for ENC) they will be treated as members of unknown object classes. There will be no appropriate entry in the look-up tables but even in that case they must be presented on the ECDIS screen in accordance with 8.3.3.7a below. Instead t The occurrence of such an object should be recorded during transformation from ENC to SENC as an anomaly should be a message on the interface and the unknown objects should show up be displayed as by means of '?'-symbols.

8.3.3.7a Symbolizing an object of unknown / unidentified non-ENC object class

If there is no look-up table line matching the object at all, the look-up table is incomplete or the object is of an unknown object class. If this happens, a caution should be shown on the mariners' interface and a '?-symbol ('QUESMRK1'-symbol, pattern or line style) should be shown as fail-safe presentation, which on cursor inquiry of attributes INFORM and or TXTDSC would display text and if possible explaining the object in the SENC. All standard S-57 attributes permitted for ENCs that have been populated, must also be available for cursor enquiry. For an area use SY(QUESMRK1) as a centred symbol and for the areas with symbolized boundaries use LC(QUESMRK1) to symbolize the boundary. Display priority is 5, over radar, IMO category is 'standard', and viewing group is 21010.

8.3.3.7b Symbolizing an object with unknown / unidentified non-ENC attributes or non-ENC attribute values

Closely following sections 8.3.3.2 and 8.3.3.3 in detail-will result in a fail-safe symbolization of the object by the default symbolization for that object class." For a non-ENC attribute, apply default symbology for the valid object class. For a non-ENC attribute value, apply default symbology for the valid object class/attribute combination. INFORM and or TXTDSC attributes (and any other valid ENC-attributes that have been populated) must be available to the mariner in every case by Pick Reports.

Item No. CS04.2.d7.co.2 Correction to PresLib Part 1 (Users' Manual), Glossary Display of unknown objects

17. Glossary

Unknown Object:	If an object-class is not listed in the look-up table, the ECDIS should advice the mariner that an		
	unknown object exists in the display area, and symbolize all such objects with '?'.		

<u>Item No. CS04.2.d7.co.3</u> Correction to PresLib section 12.2.2 (subsection 4.2, paragraph 4) **Typographical error to display scale**

Note that in this situation the 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 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 1/3,500 the area of compilation scale 1/12,500 would have an overscale indication of X 3.6 but would have no pattern AP(OVERSC01).

Item No. PL03.3.d7.co.4 Correction to PresLib CSP Depth Contour Procedure



Required modification of this conditional branch: The portrayal instruction "LC" must be replaced by the portrayal instruction "LS".

The diagram DEPCNT03 below corrects the PresLib and substitutes DEPCNT03 of PL 3.3:



Item No.PL03.3.d7.co.5 Correction to PresLib CSP Safety contour detection method

Conditional symbology procedure DEPARE02 CONTINUATION A :



Modification of this conditional branch: If there are no SLCONS objects which are sharing the same edge, then the answer is NO and the local variable 'UNSAFE' is set to 'TRUE'.

If there is a SLCONS object sharing the same edge, then the answer is YES and this edge will not be displayed as part of the safety contour, but will be displayed by the conditional symbology procedure 'SLCONS03' which always belongs to the DISPLAY BASE category.

The old additional checking for sharing of RIVERS, LAKARE, CANALS or DOCARE is not necessary because this edge is shared by LNDARE or UNSARE and therefore the condition is definitely 'unsafe' in this case.

The diagram DEPARE02 CONTINUATION A below corrects the PresLib and substitutes DEPARE CONTINUATION A of PL 3.3:

PARE02 CONTINUATION TE: IN ORDER TO MAKE THIS AL JECTS HAVE ALREADY BEEN PR	N A .GORITHM EFFICENT, 7 ROCESSED TO ELIMINA	THE MANUFACTU	RER SHOULD KEE	EP TRACK OF V	WHICH SPATIAL
For each spatial component of th	is object, perform this log	00.			
True	AS THE CURRENT SPATI	AL OBJECT ALREAD	Y BEEN PROCESSE	D?	False
GET THE NEXT SPATIAL (OBJECT AND CONTINUE T	THE NO			
SET LOCAL VARIABLE 'SA	FE' EQUAL TO FALSE AS	DEFAULT;			
SET LOCAL VARIABLE 'UN	NSAFE' EQUAL TO FALSE C-SAFETY' EQUAL TO FA	AS DEFAULT; ALSE AS DEFAULT; E OBJECT THAT IS O	ALLING THIS		
True (the object is unsafe)	PROCEDU	RE < SAFETY CONTO	DUR?	(False the object is safe)
SET LOCAL VARIABLE 'UN	NSAFE' EQUAL TO TRUE.	SET	LOCAL VARIABLE 'S	SAFE' EQUAL TO	TRUE.
Tan	IS THE	SPATIAL COMPONE	NT SHARED BY A 'D	DEPONT	Falsa
IS THE VAL	UE OF 'VALDCO' GIVEN?	(Depin Conto			raise
True SET THE LOCAL VARIABLE 'LOC_VALDCO' EQUAL TO T VALUE OF 'VALDCO'.	HE SET THE LOCA	Faise AL VARIABLE D'EQUAL TO	SET THE LOC EQUAL TO U	CAL VARIABLE 'L' NKNOWN.	OC_VALDCO'
IS THE LOCAL VAR	ABLE 'LOC_VALDCO' EQ	UAL TO THE R?			False
	IS THE SPATIA	AL OBJECT SHARED rim area) OR 'DRGAR	BY ANOTHER E' OBJECT?		
GS TO THE SAFETY	IS THE VALUE OF I'DRVAL1' GIVEN? True False	True IS THE OTH True	IS THE SP ANOTH HER GROUP 1 OBJE (land area) OR AN U (unsurveyed DBJECT SHARED CONS	ATIAL OBJECT S HER GROUP 1 OF CT A LNDARE JNSARE area]7 False	HARED BY BJECT? False
ARE CERTAIN THE EDGE BELON CONTOUR. I LOCAL VARIABLE 'LOC_SAFET'	SAFETY CONTOUR? True False	(shoreline ci OBJE SET THE LOCAL VARIABLE 'UNSAFE' EQUAL TO 'TRUE'.	DO NOTHING HERE DO NOTHING HERE NOTE: SAFETY CONTOURS WILL NOT BE DRAW ALONG THIS SPATIAL OBJECT BECAUSE THERE	DO NOTHING HERE NOTE: SAFETY CONTOIRS WILL NOT BE DRAWN AROUP 1 AROUP 1 AROUP 1 AREAS THAT ARE NOT DEPARE OR DRARE BECAUSE THESE OBJECTS ARE ALREADY OUTLINED WITH AN	DO NOTHING HERE
SE VE	SET THE LOCAL VARIABLE "UNSAN EQUAL TO TRUE SET THE LOCAL VARIABLE "SAFE EQUAL TO "TRUE		ALREADY EXISTS AN SLOONS- OBJECT SPECIFIC LINE THE SAME WEIGHT AS THE SAME WEIGHT CONTOUR.	OBJECT- SPECIFIC LINE THE SAME WEIGHT AS THE SAFETY CONTOUR.	
True	IS TH	E VARIABLE 1.0C_S	APETY EQUAL TO	FALSE?	False
IS (UNSAFE -	TRUE AND SAFE - TRUE)? False			
SET THE LOCAL VARIABLE 'LOC_SAFETY' EQUAL TO TH	RUE'. DOM	NOTHING HERE	DO NOTHING	3 HERE	
CONTINUATION B			-		

Item No. PL03.3.d7.co.6 Correction to PresLib CSP Revised CSPs OBSTRN06 and WRECKS04 to portray depths over dangers

1. PURPOSE

This development is required as a result of action item 37 of the minutes of the 16th meeting of the IHO Colours and Symbols Maintenance Working Group (CSMWG) held in Monaco in 2006. It is aimed at visualizing the values of soundings belonging to a wreck or another obstruction lying on the sea bed, by modifying the relevant Conditional Symbology Procedures (CSPs)

At present when the mariner selects viewing group 33010 (soundings) the display shows only the depths of the soundings in object class SOUNDG. To see the depths over rocks, wrecks or obstructions as well, the mariner must make cursor-picks of the objects individually. Or he can select viewing group 34050 (non-dangerous rocks, wrecks and obstructions) for display, but this would bring in all such objects whether they had a sounding value or not and so cause clutter.

This amendment sets up a new viewing group 34051 (non-dangerous rocks, wrecks and obstructions which have a VALSOU attribute), and CSPs OBSTRNnn and WRECKSnn have been revised to assign all non-dangerous rocks, wrecks and obstructions which have a VALSOU attribute to this group. Also, because at present these CSPs only display depths of less than 20 meters they have been revised to display all depths. The sounding will always be shown whenever the objects in this group are on the display

Note however that Isolated Dangers to ownship (rocks, wrecks and obstructions whose depth is less than the safety contour and which lie in water deeper than the safety contour) will continue to be symbolized only with the "Isolated Danger" symbol SY(ISODGR01), whose shape was not designed for showing a depth value clearly.

The revised versions of CSPs OBSTRNnn and WRECKSnn are included in this amendment together with a revision to the Viewing Groups and a discussion on displaying the depth over Isolated Dangers.

2. NEW VIEWING GROUP

A new viewing group (34051) for non-dangerous rocks (UWTROC), wrecks (WRECKS) and obstructions (OBSTRN) which have a VALSOU attribute has been added.

J, K, L SEABED	, OBSTRUCTIONS, PIPELINES
34000	Seabed Information: rocks, wrecks & obstns, pipes & cables
34010	nature of seabed (SBDARE)
34020	spring (SPRING), sea weed (WEDKLP)
34030	Na
34040	fish haven (FSHHAV), fishing stakes, etc. (FSHFAC)
34050	rocks (UWTROC), wrecks (WRECKS), obstructions (OBSTNS), which are not a danger to own-ship's navigation (these are all Display Base if a danger to own-ship)
34051	non-dangerous rocks (UWTROC), wrecks (WRECKS) and obstructions (OBSTRN) which have a VALSOU attribute and are not a danger to own-ship's navigation (these objects are all Display Base if a danger to own-ship)
34060	Na
34070	submarine cable (CBLSUB), submarine pipeline (PIPSOL)

Update to section 13.2 VIEWING GROUPS for Other Chart Information:

By means of this new viewing group, the Mariner can view all of the obstructions and wrecks lying on the sea bed that have the attribute VALSOU set, along with soundings, by choosing the viewing group 34051 and 33010 (soundings). If viewing group 34050 is not selected, then those obstructions and wrecks lying on the seafloor which do not have the attribute VALSOU set will not be displayed.

The following entries into the look up tables for obstructions and wrecks are modified or added to the Presentation Library.

11.1Look-Up Table Listing for Object Type Point 'P'11.1.1Look-up Table for paper chart point symbolization

"OBSTRN","","CS(OBSTRN05**OBSTRN06**)","4","O","OTHER","34050" "OBSTRN","CATOBS7VALSOU","SY(FOULGND1)","4","O","OTHER","34051" "OBSTRN","CATOBS8VALSOU","SY(FLTHAZ02)","4","O","OTHER","34051" "OBSTRN","CATOBS9VALSOU","SY(ACHARE02)","4","O","OTHER","34051" "OBSTRN","CATOBS10VALSOU","SY(FLTHAZ02)","4","O","OTHER","34051"

"WRECKS","","CS(WRECKS04**WRECKS0**4)","4","O","OTHER","34050" "WRECKS","CATWRK3VALSOU","SY(FOULGND1)","4","O","OTHER","34051"

11.1.2 Look-up Table for simplified point symbolisation

"OBSTRN","","CS(OBSTRN05OBSTRN06)","4","O","OTHER","34050" "OBSTRN","CATOBS7VALSOU","SY(FOULGND1)","4","O","OTHER","34051" "OBSTRN","CATOBS8VALSOU","SY(FLTHAZ02)","4","O","OTHER","34051" "OBSTRN","CATOBS9VALSOU","SY(ACHARE02)","4","O","OTHER","34051" "OBSTRN","CATOBS10VALSOU","SY(FLTHAZ02)","4","O","OTHER","34051"

"WRECKS","","CS(WRECKS04WRECKS04)","4","O","OTHER","34050" "WRECKS","CATWRK3VALSOU","SY(FOULGND1)","4","O","OTHER","34051"

11.2 Look-up Table Listing for Object Type Line 'L'

"OBSTRN","","CS(OBSTRN05OBSTRN06)","4","O","OTHER","34050"

11.3 Look-up Table Listing for Object Type Area 'A'

11.3.1 Look-up Table for areas with symbolized boundaries "OBSTRN","","CS(OBSTRN05OBSTRN06)","4","S","OTHER","34050" "OBSTRN","CATOBS7VALSOU","SY(FOULGND1);LC(NAVARE51)","4","S","OTHER","34051"

"WRECKS","","CS(WRECKS03WRECKS04)","4","S","OTHER","34050" "WRECKS","CATWRK3VALSOU","LC(NAVARE51)","4","S","OTHER","34051"

11.3.2 Look-up Table for areas with plain boundaries

"OBSTRN","","CS(OBSTRN05OBSTRN06)","4","S","OTHER","34050" "OBSTRN","CATOBS7VALSOU","SY(FOULGND1);LS(DASH,1,CHGRD)","4","S","OTHER","34051"

"WRECKS","","CS(WRECKS03WRECKS04)","4","S","OTHER","34050" "WRECKS","CATWRK3VALSOU","LS(DASH,1,CHBLK)","4","S","OTHER","34051"

3. REVISED CSPs OBSTRN06 and WRECKS04

The versions with the changes marked are given immediately below. The un-marked versions are given at the end of this amendment.

12.2.9 Conditional Symbology Procedure 'OBSTRN06'

Applies to:	S-57 Object Class "obstruction" (OBSTRN) S-57 Object Class "under water rock" (UWTROC)
Spatial Object(s):	Point, Line, Area.
Attribute(s) used:	"value of sounding" (VALSOU) "water level" (WATLEV) "exposure of sounding" (EXPSOU)
Parameter(s):	Object to be symbolized from SENC
Defaults:	Display Priority given by look-up table OVERRADAR priority given by look-up table Display Category given by look-up table Viewing Group given by look-up table Area Color fill from underlying 'DEPARE' or 'UNSARE'
Remarks:	Obstructions or isolated underwater dangers of depths less than the safety contour which lie within the safe waters defined by the safety contour are to be presented by a specific isolated danger symbol and put in IMO category "DISPLAY BASE" (see IMO Performance Standard for ECDIS, App.2, 1.3). This task is performed by the most recent edition of sub-procedure UDWHAZnn which is called by this symbology procedure. Objects of the class "under water rock" are handled by this routine as well to ensure a consistent symbolization of isolated dangers on the seabed.
	The current UDWHAZnn also allows the mariner the option of displaying isolated dangers in the waters between the safety contour and the zero metre line.
	In the case that the value of attribute VALSOU for this object is unknown, the most recent edition of sub-procedure DEPVALnn is called. This will provide a default 'least_depth' from the DRVAL1 of the underlying depth area on condition that the value of attribute EXPSOU is not 2 (shoaler than the depth area), and the value of attribute WATLEV is 3 (always underwater).

OBSTRN06 Conditional symbology procedure for symbolizing objects of the class obstruction (OBSTRN) and underwater rock (UWTROC). GET THE OBJECT WHICH IS CALLING THIS PROCEDURE GET THE VALUE OF THE ATTRIBUTE 'VALSOU' IS THE VALUE OF THE ATTRIBUTE 'VALSOU' (value of sounding) GIVEN ? YES NO SET THE LOCAL VARIABLE 'LEAST_DEPTH' TO UNKNOWN SET THE LOCAL GET THE VALUE OF THE ATTRIBUTES 'WATLEY' AND 'EXPSOU' VARIABLE 'DEPTH_VALUE' DEPVAL02 ('LEAST_DEPTH') EQUAL TO 'VALSOU' PERFORMS THE SYMBOLOGY PROCEDURE 'DEPVALO2' WHICH RETURNS A VALUE FOR THE LOCAL VARIABLES 'LEAST_DEPTH' AND 'SEABED_DEPTH'. SET THE MEWING GROUP TO 34051 PASS ATTRIBUTES 'WATLEV' AND 'EXPSOU' ON TO IT. SNDFRM03 ('DEPTH_VALUE' Note: 'seabed_depth' is returned from depval02 but is not used by this procedure IS THE VALUE OF THE LOCAL VARIABLE 'LEAST_DEPTH' EQUAL TO UNKNOWN ? PERFORM THE SYMBOLOGY PROCEDURE YES NO 'SNDFRM03' WHICH RETURNS SET THE LOCAL VARIABLE 'DEPTH_VALUE' TO A FAIL-SAFE DEPTH BASED ON THE VALUE OF THE A LIST OF SOUNDING ATTRIBUTES 'CATOBS' AND 'WATLEV': SYMBOLS. IF 'CATOBS'=6 (foul area) THEN 'DEPTH_VALUE'=0.01 PASS 'DEPTH_VALUE' ON TO IT. ELSE IF 'WATLEV'=5 (awash at low water) THEN 'DEPTH_VALUE' = 0 REMEMBER THE SET THE LOCAL VARIABLE 'DEPTH_VALUE' EQUAL TO SOUNDING ELSE IF 'WATLEV'=3 (always under water) THEN 'DEPTH_VALUE' = 0.01 SYMBOL(S). THE LOCAL VARIABLE 'LEAST_DEPTH'. ELSE IF 'WATLEV'=4 (covers and uncovers) THEN 'DEPTH_VALUE' = -15ELSE IF 'WATLEV'=1 OR 2 (always dry) THEN 'DEPTH_VALUE' = -15 ELSE 'WATLEV' = ' ' (unknown or missing) THEN 'DEPTH_VALUE' = -15UDWHAZ04 ('DEPTH_VALUE') PERFORM THE SYMBOLOGY PROCEDURE 'UDWHAZ04' WHICH RETURNS A FLAG INDICATING WHETHER OR NOT TO DISPLAY THE ISOLATED DANGER SYMBOL [IMO PS App.2 1.3] AND THE SELECTED SYMBOL PASS 'DEPTH_VALUE' ON TO IT. IS THE OBJECT OF TYPE POINT ? YES NO IS THE OBJECT OF TYPE LINE ? NC YES THEN IS TYPE AREA CONTINUATION A CONTINUATION B CONTINUATION C

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BSTRN06 Continuation	A				
int objects, underwater rocks (UWTROC) and a	ostructions (OBSTRN)				
QUAPNT02					
PERFORM THE SYMBOLOGY PROCEDURE 'O OR NOT TO DISPLAY THE LOW ACCURACE	UAPNTO2' WHICH RETURNS A FLAG NOXCATING WHETHER Y SYMBOL AND RETURNS THE SELECTED SYMBOL	2			
VEC	HAS THE PROCE THE IS	EDURI SOLA SHO	e 'UDV Ted di Suld e	VHAZO ANGEI BE SH	04' INDICATED R SYMBOL OWN ?
SHOW THE SYMBOL SELECTED BY 'UDWHAZO	4' AT THE CALLING OBJECTS LOCATION				
F SO INDICATED BY THE PROCEDURE 'QUAPNT LOW ACCURACY SYMBOL AT THE CALLING OB	02', SHOW THE RETURNED JECT'S LOCATION]
SYMBOLIZATION IS FINISHED EXIT PROCEDURE					DO NOTHINC HERE
SET THE LOCAL VARIABLE 'SOUNDING' TO FALS SYMBOL(S) RETURNED FROM 'SNDFRMD3' SHOUL	E TO INDICATE THAT SOUNDING ID NOT BE DRAWN				
VES	IS THE VALUE OF VALSOU	U' GI	ATTR VEN ?	BUTE	
	IS THE VALUE OF THE ATTRIBUTE "VALSOU LESS THAN GR EQUAL TO 2D METRESS (Definition of "dangerous" in M4-422.5)	5 ?!/NO	YES	OF	E CALLING OBJECT THE TYPE (TROCT? N
YES IS THE CALL	INC OR ECT OF	1		C	ALLING OBJECT MUST BE
THE TYPE	"UWTROC"?	5		٦Ê	
SELECT THE APPROPRIATE SYMBOL AND DECIDE IF THE SOUNDING SHOULD BE SHOWN.	CALLING OBJECT MUST BE OF THE TYPE 'OBSTRM'.	Ë-	(pe6.	V TROC	"CATOBS'=6 (foul area), HEN SELECT "ST(OBSTRN01)"
IF "WATLEV"=3 (dways submerged), THEN SELECT "SY(DANGERD1)" AND "SOUNDING"=TRUE ELSE IF "WATLEV"=4 (covers and uncovers)	F 'CATOBS'=6 (foul area), THEN SELECT 'SY(DANGERD1' AND 'SOUNDING'=TRUE ELSE F 'WATLEV'=1 (partly submerged at HW) OR 2 (olways dry), THEN SELECT 'SY(OBSTRN11)' AND 'SOUNDING'=FALSE	VIDNOS, DNV	(diways submer sy(uw180C03)) SELECT 'SY(UN	LSE F 'WATLEV'=1 (partly submerged at H) R 2 (always dry), HEN SELECT "SY(OBSTRN11)" LSE F 'WATLEV'=3 (always submerged), HEN SELECT "SY(OBSTRN01)"
AND "SOUNDING"=FALSE ELSE IF "WATLEV"=5 (gwosh)	ELSE IF "WATLEV"=3 (always submerged) THEN SELECT "SY(DANGERD1)" AND "SOUNDING"=TRUE	ERCC).	LEV=3	EFAULT T 0 m	LSE F 'WATLEV'=4 (covers and uncovers) R 5 (awash) HEN SELECT 'SY(00STRN03)'
THEN SELECT "SY(UWTROCD4)" AND "SOUNDING"=FALSE	ELSE F 'WAILEV'=4 (covers and uncovers) OR 5 (awash) THEN SELECT 'SY(DANGER03)' AND 'SOUNDING'=TRUE	(DANG	IF "WAT	ELSE (C	LSE (DEFAULT) SELECT 'SY(OBSTRN01)'
ELSE (DEFAULT) SELECT 'SY(DANGERD1)' AND 'SOUNDING'=TRUE	ELSE (DEFAULT) SELECT 'SY(DANGERD1)' AND 'SOUNDING'=TRUE	SELECT'SI			
SHOW THE SELECTED SYMBOL AND THE SOUR returned from SNDFRMO3) AT THE CALLING	RDING SYMBOL(S) (F REQUIRED - : OBJECT'S LOCATION				
F SD INDICATED BY THE PROCEDURE 'QUAPNTI LOW ACCURACY SYMBOL AT THE CALLING OB	02', SHOW THE RETURNED JECT'S LOCATION				
SYMBOLIZATION IS FINISHED EXIT PROCEDURE					



QUAPNT02					
PERFORM THE SYMBOLOGY PROCEDU WHETHER OR NOT TO DISPLAY THE	JRE 'QUAPNTO'2' WHICH RETURNS A F LOW ACCURACY SYMBOL AND RETUR	'LAG RNS	INDICATING THE SELECTED	SYMBOL	
	HAS THE PRO THAT T	DCED HE I	DURE 'UDWHAZO/ ISOLATED DANGE SHOULD BE SHO	4' INDICATED IR SYMBOL DWN ?	
YES PRESENT THE AREA OBJECT WITH AN O	PAQUE COLOUR FILL WITH			N N	
THE COLOUR 'DEPVS', AND THE AREA SYMBOLIZE THE AREA BOUNDARY AS A	PATTERN 'FOULARO1'				
IN THE COLOUR 'CHBLK' LS(DOTT, 2, CH	HBLK)				
IN THE CENTRE OF THE AREA.	MAZU4"			DO	
IF SO INDICATED BY THE PROCEDURE 'C LOW ACCURACY SYMBOL IN THE CENTR	QUAPNTO2', SHOW THE RETURNED RE OF THE AREA			NOTHING HERE	
SYMBOLIZATION IS FINISHED EXIT PROCEDURE					
YES	IS THE VALUE OF 'VALSO	υG	GIVEN ?	N	
IS THE VALUE OF 'VALSOU' L	THE ATTRIBUTE ESS THAN		SELECT THE AP	PROPRIATE SYMBOL T SYMBOLIZATION	
YES OR EL	QUAL 0m.?	ΝΟ	IF 'CATOBS'=6 THEN SELECT '	(foul area), AP(FOULAR01);LS(DOTT, 2, CHBLK	
SYMBOLIZE THE AREA BOUNDARY WITH			ELSE IF 'WATLE THEN SELECT '	EV"=1 (partly submerged at HW) AC(CHBRN);LS(SOLD, 2, CSTLN)'	
COLOUR 'CHBLK' 'LS(DOTT, 2, CHBLK)'	SYMBOLIZE THE AREA BOUNDARY LS(DASH, 2, CHGRD)	AS	ELSE IF 'WATLEV'=2 (always dry) THEN SELECT 'AC(CHBRN);LS(SOLD, 2, CSTL)		
			ELSE IF 'WATLE THEN SELECT '	EV"=4 (covers and uncovers) AC(DEPIT);LS(DASH , 2, CSTLN)'	
SHOW THE SOUNDING SYMBOL(S) RETURN	ED FROM		ELSE IF 'WATLE THEN SELECT '	EV'=5 (awash) AC(DEPVS);LS(DOTT, 2, CHBLK)	
SNDFRM03' IN THE CENTRE OF THE AREA.			ELSE IF 'WATLEV'=3 (always submerged) THEN SELECT 'AC(DEPVS);LS(DOTT, 2, CHBLK)'		
			ELSE (DEFAULT 'AC(DEPVS);LS(') SELECT DOTT, 2, CHBLK)'	
IF SO INDICATED BY THE PROCEDURE 'C LOW ACCURACY SYMBOL AT THE CENT	QUAPNTO2', SHOW THE RETURNED RE OF THE AREA				

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12.2.27 Conditional Symbology Procedure 'WRECKS04'

Applies to:	S-57 Object Class "wrecks" (WRECKS)
Spatial Object(s):	Point, Area
Attribute(s) used:	"value of sounding" (VALSOU) "category of wreck" (CATWRK) "water level" (WATLEV)
Parameter(s):	Object to be symbolized from SENC
Defaults:	Display Priority given by look-up table OVERRADAR priority given by look-up table Display Category given by look-up table Viewing Group given by look-up table Area colour fill from underlying DEPARE or UNSARE

Remarks: Wrecks of depths less than the safety contour which lie within the safe waters defined by the safety contour are to be presented by a specific isolated danger symbol and put in IMO category "DISPLAY BASE" (see App.2, 1.3, of the IMO Performance Standards for ECDIS). This task is performed by the sub-procedure "UDWHAZnn" which is called by this symbology procedure.

CSP "UDWHAZ" also allows the mariner the option of displaying isolated dangers in the waters between the safety contour and the zero meter line.

In the case that the value of attribute VALSOU for the wreck is unknown, sub-procedure "DEPVAL' is called. This will provide as default 'LEAST_DEPTH' the DRVAL1 of the underlying depth area, but only on condition that the value of attribute EXPSOU is not 2 (shoaler than the depth area), and the value of attribute WATLEV is 3 (always underwater).

For the case that a wreck of unknown VALSOU lies in deep water, sub-procedure 'DEPVAL' also provides the DRVAL1 of the underlying depth area as the 'SEABED_DEPTH' for use in calculating a 'safe clearance depth' over the wreck in accordance with IHO publication M-4 appendix to specification B-422.7.



WRECKS04 Continuation A

Point objects, wrecks (WRECKS)

YES	IS THE VALUE O	Y THE ATTREUTE I GIVEN ? NO
IS THE VALUE OF THE A LESS THAN OR EQU	TRIBUTE 'VALSOU' IAL TO 20m ? THEN 'VALSOU' > 20m	SELECT THE APPROPRIATE SYMBOL : IF 'CATWBK'=1 (non-dangerous wreck) AND 'WATLEV'=3 (always submerged), THEN SELECT 'SYYWERCKSDA')
SELECT 'SY(DANGERO 1)'	SELECT 'SY(DANGER02)'	ELSE F 'CATWRK'=2 (dangerous wreck) AND 'WATLEV'=3 (always submerged), THEN SELECT 'SY(WRECKSD'S)' ELSE F 'CATWRK'=4 (wread: showing most (marts))
SHOW THE SELECTED SYMBOL(S) (danger, low occuracy) AT THE CALLING OBJECT'S LOCATION		THEN SELECT 'SY(WRECKSO)' ELSE F 'CATWRK'=5 (wreck showing any portion of hull or superstructure) THEN SELECT 'SY(WRECKSO)'
SHOW THE SOUNDING SYMBOL(S) (returned from SNDFRMO3) ON TOP AT THE CALLING OBJECT'S LOCATION		ELSE F 'WATLEV'=1 (partly submerged at HW) THEN SELECT 'SY(WRECKSO1)'
D0 NOTHING		ELSE F 'WATLEV'=2 (dways dry) THEN SELECT 'SY(WRECKS01)' ELSE F 'WATLEV'=5 (dwash) THEN SELECT 'SY(WRECKS01)'
HERE		ELSE F 'WATLEV'=4 (covers and uncovers) THEN SELECT 'SY(WRECKSD1)' ELSE (DEFAULT) SELECT 'SY(WRECKSD5)'
		SHOW THE SELECTED SYMBOL(S) (wreck, low accuracy) AT THE CALLING OBJECT'S LOCATION
SYMBOLIZATION IS FINSHED EXIT PROCEDURE		



UN-MARKED VERSIONS OF THE CSPs FOLLOW

OBSTRN06 Conditional symbology procedure for symbolizing objects of the class obstruction (OBSTRN) and underwater rock (UWTROC). GET THE OBJECT WHICH IS CALLING THIS PROCEDURE GET THE VALUE OF THE ATTRIBUTE 'VALSOU' IS THE VALUE OF THE ATTRIBUTE 'VALSOU' (value of sounding) GIVEN ? YES NO SET THE LOCAL VARIABLE 'LEAST_DEPTH' TO UNKNOWN SET THE LOCAL GET THE VALUE OF THE ATTRIBUTES 'WATLEY' AND 'EXPSOU' VARIABLE 'DEPTH_VALUE' DEPVAL02 ('LEAST_DEPTH') EQUAL TO 'VALSOU' PERFORMS THE SYMBOLOGY PROCEDURE 'DEPVALO2' WHICH RETURNS A VALUE FOR THE LOCAL VARIABLES 'LEAST_DEPTH' AND 'SEABED_DEPTH'. SET THE MEWING **GROUP TO 34051** PASS ATTRIBUTES 'WATLEV' AND 'EXPSOU' ON TO IT. SNDFRM03 ('DEPTH_VALUE') Note: 'seabed_depth' is returned from depval02 but is not used by this procedure IS THE VALUE OF THE LOCAL VARIABLE 'LEAST_DEPTH' EQUAL TO UNKNOWN ? PERFORM THE SYMBOLOGY PROCEDURE YES NO 'SNDFRM03' WHICH RETURNS SET THE LOCAL VARIABLE 'DEPTH_VALUE' TO A FAIL-SAFE DEPTH BASED ON THE VALUE OF THE A LIST OF SOUNDING ATTRIBUTES 'CATOBS' AND 'WATLEV': SYMBOLS. IF 'CATOBS'=6 (foul area) THEN 'DEPTH_VALUE'=0.01 PASS 'DEPTH_VALUE' ON TO IT. ELSE IF 'WATLEV'=5 (awash at low water) THEN 'DEPTH_VALUE' = 0 REMEMBER THE SET THE LOCAL VARIABLE 'DEPTH_VALUE' EQUAL TO SOUNDING ELSE IF 'WATLEV'=3 (always under water) THEN 'DEPTH_VALUE' = 0.01 SYMBOL(S). THE LOCAL VARIABLE 'LEAST_DEPTH'. ELSE IF 'WATLEV'=4 (covers and uncovers) THEN 'DEPTH_VALUE' = -15ELSE IF 'WATLEV'=1 OR 2 (always dry) THEN 'DEPTH_VALUE' = -15 ELSE 'WATLEV' = ' ' (unknown or missing) THEN 'DEPTH_VALUE' = -15UDWHAZ04 ('DEPTH_VALUE') PERFORM THE SYMBOLOGY PROCEDURE 'UDWHAZ04' WHICH RETURNS A FLAG INDICATING WHETHER OR NOT TO DISPLAY THE ISOLATED DANGER SYMBOL [IMO PS App.2 1.3] AND THE SELECTED SYMBOL PASS 'DEPTH_VALUE' ON TO IT. IS THE OBJECT OF TYPE POINT ? YES NO IS THE OBJECT OF TYPE LINE ? NC YES THEN IS TYPE AREA CONTINUATION A CONTINUATION B CONTINUATION C

OBSTRN06 Continuation /	4				
oint objects, underwater rocks (UWTROC) and ob	structions (OBSTRN)				
QUAPNT02					
PERFORM THE SYMBOLOGY PROCEDURE 'OI OR NOT TO DISPLAY THE LOW ACCURACY	JAPNTO2' WHICH RETURNS A FLAG INDICATING WHETHE SYMBOL AND RETURNS THE SELECTED SYMBOL	R			
	HAS THE PRO THE	CEDUR ISOLA SH	RE 1UDV ATED D KOULD I	NHAZ MANGE BE SH	D4' INDICATED R SYNBOL HOWN ?
SHOW THE SYMBOL SELECTED BY 'UDWHAZO4	" AT THE CALLING OBJECTS LOCATION				NJ
IF SO INDICATED BY THE PROCEDURE 'QUAPNTO LOW ACCURACY SYMBOL AT THE CALLING OBJ	2', SHOW THE RETURNED ECT'S LOCATION				
SYMBOLIZATION IS FINSHED EXIT PROCEDURE					NOTHING HERE
SET THE LOCAL VARIABLE 'SOUNDING' TO FALSE SYMBOL(S) RETURNED FROM 'SNDFRMD'S' SHOUL	ETO INDICATE THAT SOUNDING DINOT BE DRAWN				
vre	IS THE VALUE 0 'VALS	DF TH XOU' G	e attr iven ?	RIBUTE	N ^o
	IS THE VALUE OF THE ATTRIBUTE 'VALSO LESS THAN OR EQUAL TO 2D METRES (Definition of "dangerous in M4-422.5		YES	IS TH OF	E CALLING OBJECT THE TYPE VTROCT?
YES IS THE CALL	NE OB ECT OF	7		Ì	CALLING OBJECT MUST BE
YES THE CALLS	"UWTROC"?	E E		3	
SELECT THE APPROPRIATE SYMBOL AND DECIDE IF THE SOUNDING SHOULD BE SHOWN.	CALLING OBJECT MUST BE OF THE TYPE 'OBSTRM'.	5	ged).	201	F 'CATOBS'=6 (foul area), THEN SELECT 'ST(OBSTRND1)'
F "WATLEV'=3 (always submerged), THEN SELECT "SY(DANGER01)" AND "SOUNDING"=TRUE	F 'CATOBS'=6 (foul area). THEN SELECT 'SY(DANGERD1' AND 'SOUNDING'=TRUE ELSE F 'WATLEV'=1 (partly submerged at HW) OR 2 (duese drv). THEN SELECT 'SY(OBSTRUIT')	NIONNOS.	ays submer(WTROCDS)	LECT 'SY(UM	ELSE F 'WATLEV'=1 (partly submerged at HW) R 2 (atways dry), HEN SELECT 'ST(OBSTRN11)' DSS F MATLEV'=2 (drama stranged)
ELSE IF "WATLEV"=4 (covers and uncovers) THEN SELECT 'SY(UWTROCD4)' AND 'SOUNDING'=FALSE	AND "SOUNDING"=FALSE ELSE IF "WATLEV"=3 (diways submerged) THEN SELECT "SY(DANCERD1)" AND "SOUNDING"=TRUE	ERCC)' AND	N)XS, 103 MP) \$=,73	FAULT) SE	LLSE F WATLEV'=4 (covers and uncovers) R 5 (ovash)
ELSE IF "WATLEV"=5 (awash) THEN SELECT "SY(UWTROCD4)" AND "SOUNDING"=FALSE	ELSE IF "WATLEV"=4 (covers and uncovers) OR 5 (awash) THEN SELECT "SY(DANGERO3)" AND "SOUNDING"=TRUE	(DANGE	HEN SEL	LSE (DE	ELSE (DEFAULT) SELECT 'SY(OBSTRN01)'
ELSE (DEFAULT) SELECT 'SY(DANGERD1) AND 'SOUNDING'=TRUE	ELSE (DEFAULT) SELECT 'SY(DANGERD1)' AND 'SOUNDING'=TRUE	VS' TOBLES		ω	
SHOW THE SELECTED SYMBOL AND THE SOUN returned from SNDFRW03) AT THE CALLING	DING SYMBOL(S) (IF REQUIRED - OBJECT'S LOCATION				
F SO INDICATED BY THE PROCEDURE 'QUAPNTO LOW ACCURACY SYMBOL AT THE CALLING OBJ	2', SHOW THE RETURNED ECT'S LOCATION				
SYMBOLIZATION IS FINISHED EXIT PROCEDURE					



DBSTRN06 Continuation C				
rea objects, obstructions (OBSTRN)				
QUAPNT02				
PERFORM THE SYMBOLOGY PROCEDU WHETHER OR NOT TO DISPLAY THE	IRE 'OUAPNTO2' WHICH RETURNS A FLAI LOW ACCURACY SYMBOL AND RETURNS	G INDICATING THE SELECTED	SYMBOL	
	HAS THE PROCE THAT THE	DURE 'UDWHAZO/ ISOLATED DANGE SHOULD BE SHO	4' INDICATED R SYMBOL DWN ?	
PRESENT THE AREA OBJECT WITH AN O	PAQUE COLOUR FILL WITH		NO	
THE COLOUR 'DEPVS', AND THE AREA SYMBOLIZE THE AREA BOUNDARY AS A	PATTERN 'FOULARO1' DOTTED LINE, 2 UNITS WIDE,			
IN THE COLOUR 'CHBLK' LS(DOTT, 2, CH SHOW THE SYMBOL RETURNED BY 'UDW	HBLK) HAZO4'			
IN THE CENTRE OF THE AREA. IF SO INDICATED BY THE PROCEDURE 'O LOW ACCURACY SYMBOL IN THE CENTR	UAPNTO2', SHOW THE RETURNED		DO NOTHING HERE	
SYMBOLIZATION IS FINISHED EXIT PROCEDURE				
YES	IS THE VALUE OF	HE ATTRIBUTE GIVEN ?	NO	
IS THE VALUE OF	THE ATTRIBUTE	SELECT THE AP	PROPRIATE SYMBOL T SYMBOLIZATION	
YES	QUAL 0m.? NO	IF 'CATOBS'=6 THEN SELECT '	(foul area), AP(FOULARO1);LS(DOTT, 2, CHBLK)'	
SYMBOLIZE THE AREA BOUNDARY WITH		ELSE IF 'WATLE THEN SELECT '	EV"=1 (partly submerged at HW) AC(CHBRN);LS(SOLD, 2, CSTLN)'	
COLOUR 'CHBLK' 'LS(DOTT, 2, CHBLK)'	SYMBOLIZE THE AREA BOUNDARY AS LS(DASH, 2, CHGRD)	ELSE IF 'WATLEV'=2 (always dry) THEN SELECT 'AC(CHBRN);LS(SOLD, 2, CSTLN)'		
'		ELSE IF 'WATLEV'=4 (covers and uncovers) THEN SELECT 'AC(DEPIT);LS(DASH , 2, CSTLN)'		
SHOW THE SOLNDING SYMPOL(S) DETURN	ED EROM	ELSE IF 'WATLEY'=5 (awash) THEN SELECT 'AC(DEPVS);LS(DOTT, 2, CHBLK)'		
'SNDFRM03' IN THE CENTRE OF THE AREA	ELSE IF 'WATLEV'=3 (always submerged) THEN SELECT 'AC(DEPVS);LS(DOTT, 2, CHBLK)'			
	ELSE (DEFAULT) SELECT 'AC(DEPVS);LS(DOTT, 2, CHBLK)'			
IF SO INDICATED BY THE PROCEDURE OL LOW ACCURACY SYMBOL AT THE CENT	UAPNTO2', SHOW THE RETURNED RE OF THE AREA			
SYMBOLIZATION IS FINISHED				



Point objects, wrecks (WRECKS)
IS THE VALUE OF THE ATTREDTE VALSOU' GIVEN ? NO
IS THE VALUE OF THE ATTRIBUTE 'VALSOU' SELECT THE APPROPRIATE LESS THAN OR EQUAL TO 20m ? SYMBOL :
YES THEN 'VALSOU' > 20m THEN SELECT 'SY(WRECKS04)'
SELECT 'SY(DANGER01)' SELECT 'SY(DANGER02)' ELSE F 'CATWRK'=2 (dongerous wreck) AND 'WATLEV'=3 (dwoys submerged), THEN SELECT 'SY(WRECKSD5)'
ELSE IF 'CATWRK'=4 (wreck showing most/masts) SHOW THE SELECTED SYMBOL(S) THEN SELECT 'SY(WRECKS01)'
(danger, low occuracy) AT THE CALLING OBJECT'S LOCATION ELSE F 'CATWRR'=5 (wreck showing any portion of hull or superstructure) THEN SELECT 'SY(WPECKSD.1)'
SHOW THE SOUNDING SYMBOL(S) (returned from SNDFRM03) ON TOP AT THE CALLING OBJECT'S LOCATION THEN SELECT 'SY(WRECKS01)'
ELSE F 'WATLEV'=2 (dways dry) THEN SELECT 'SY(WRECKS01)'
DO ELSE F 'WATLEV'=S (owosh) NOTHING THEN SELECT 'SY(WRECKSD1)'
HERE ELSE IF "WATLEV'=4 (covers and uncovers) THEN SELECT "SY(WRECKSD1)"
ELSE (DEFAULT) SELECT 'SY(WRECKSO5)' SHOW THE SELECTED SYMBOL(S) (wreak, law accuracy) AT THE CALLING OBJECT'S LOCATION
SYMBOLIZATION IS FINISHED ENT PROCEDURE



c	IS THE AT	TRIBUTE FINED ?	COLOUR'					
S GET THE VALUE OF THE ATTRIBUTE 'COLOUR'		AS	SUME THE VALU	JE OF	THE COLOUR	IS '12' (m Is	agenta) S THE ATTRIBUTE 'SE (sector 1) OR 'SE	CTR1' CTR2'
S IS IS A LIGHT THAT IS NOT SHOWN WITH SECTORS		S TH	ERE ANY OTHER	LIGH	TS' OBJECT		(sector 2) AB (not giv	SENT THIS IS en)? SECTOR LIC
S			AS T	HE CAL	LING T?			NO
T THE LOCAL VARIABLE 'FLARE AT 45 DEGREES' TO 'FALSE' DOES THE COLOUR OF THE CALLI '1' (wh te) OR '5' OL'11' (or	NG OBJECT ' (yellow)	INCLUDE		_				
S T LOCAL VARIABLE 'FLARE AT 45 GREES' TO 'TRUE				NO	DO NOTHING I	HERE		
SELECT A SYMBOL WHICH IS APPROPRIATE. VALUE OF ATTRIBUTE 'COLOUR' EQUALS								
'1' AND '3' (white & red) SELECT 'SY(LIGHTS11)' '3' (red) SELECT 'SY(LIGHTS11)' '1' AND '4' (white & green) SELECT 'SY(LIGHTS11)' '4' (green) SELECT 'SY(LIGHTS12)' '1' (orange) SELECT 'SY(LIGHTS13)' '6' (yellow) SELECT 'SY(LIGHTS13)' '1' (white) SELECT 'SY(LIGHTS13)' '1' (white) SELECT 'SY(LIGHTS13)' '1' (white) SELECT 'SY(LIGHTS13)' other (default) SELECT 'SY(LIGHTS11)'								
DOES	THE VALU EQUA	E OF THE L '1' (dir '16' (n	E ATTRIBUTE 'C, rectional) OR noire)?	tlit'				NO
IS THE VALUE OF THE ATTR 'ORIENT' GIVEN '	IBUTE	NC		-	IS 'FLARE A SET T	T 45 DEGR O 'TRUE'?	REES'	
DW THE SELECTED SYMBOL AT THE CALLING SE JECT'S LOCATION, ROTATED IN THE ECTION AS DEFINED BY THE ATTRIBUTE HENT', AND ITE THE DIRECTION FROM SEAWARD AT THE TA SFOLLOWS: (7%03.01f deg', 'ORIENT', 3, 3, 3, '15110', 3, 1, CHBLK, 23)	LECT THE Y(QUESMRK IOW THE S' THE CALL BJECT'S LOC	SYMBOL 1)' YMBOL ING CATION	SHOW THE S WITH A ROT DEGREES FR THE POSITIO LIGHT OBJEC CALLING THI IS LOCATED	ATION OM UP N WHE T WH PRO(TED SYMBOL OF 45 RIGHT AT IRE THE CH WAS CEDURE	SHOW T WITH A DEGREES THE POS LIGHT OI CALLING IS LOCA	HE SELECTED SYMBO ROTATION OF 135 FROM UPRIGHT AT SITION WHERE THE BJECT WHICH WAS THE PROCEDURE TED	HERE
			H	IAS TH	E MARINER SI OF LIGHT I (TE)	ELECTED VI DESCRIPTIO	IEWING NS ? 23)	1
STDSN0 1	_							NO
PASS ON TO THIS PROCEDURE THE ATTRIBUTES : "CATULT, 'LITCHR,' SIGGRP, 'COLOUR', 'SIGPER', 'HEIGHT', 'VALNWR', 'STATUS'. THIS PROCEDURE CONSTRUCTS A TEXT STRING FOR THE LIGHT DESCRIPTION. THIS STRING IS RETURNED AS THE ARGUMENT 'LITDSN'.							DO NOTHING HERE	
IS 'FLARE AT S SET TO	45 DEGREI 'TRUE'?	ES'		F		NO	2	
WRITE THE RETURNED TEXT STRING 'LITDSN' AS FOLLOWS : TX('LITDSN', 3, 1, 3, '15110', 2, -1, CHBLK, 23)'	WRITE THE	. RETURN √, 3, 2,	ED TEXT STRIN 3,'15110',2,	3 'LITC D, CH	SN' AS FOLL BLK, 23)'	ows:		4
EXIT PROCEDURE SYMBOLIZATION IS FINISHED								
CONTINUATION B								

<u>Item No. PL03.3.d7.co.7</u> Correction to PresLib CSP Visualization of two 'no sector' lights at the same location

Modification of this conditional branch: The question "Is there any other 'lights' object located at the same point as the calling object "?" must be replaced by "is there any 'No Sector' lights located at the same point as the calling object ?"

The value for the request call for yellow is wrongly set to '5'. The correct value for yellow is '6'.

The diagram LIGHTS05 CONTINUATION A below corrects the PresLib and substitutes LIGHTS05 CONTINUATION A of PL 3.3:

True		IS THE A	TTRIBUTE 'COLOUR	CDEFINED?		False
	GET THE VALUE OF THE ATTRIBUTE 'COLOUR' ASSUME TH			ASSUME THE VALUE OF	F THE COLOUR IS '12' (maj	genta)
			IS TH	ATTRIBUTE 'SECTR1' ((sector 1) OR 'SECTR2'	_
True					(nor given):	False
		SAME POINT A	S THE CALLING OB	ECT?		
True				Fa	lse	
	SET THE LOCAL VARIABLE 1	FLARE AT 45 DEGREE	ES' TO 'FALSE'			
	DOES THE COLOUR OF TH '1'(white) OR '6'(E CALLING OBJECT I yellow) OR '11'(oran	INCLUDE ge)?			
True			False	DO NOTHING HERE		
SE FI TI	ET LOCAL VARIABLE LARE AT 45 DEGRESS' TO RUE'	DO NOTING H	ERE			
	SELECT A SYMBOL WHIC VALUE OF ATTRIBUTE 'C('1' AND '3' (white & red) '3' (red) '1' AND '4' (white & green)	H IS APPROPRIATE. DLOUR' EQUALS SELECT 'SY(L SELECT 'SY(L SELECT 'SY)	JGHTS11) JGHTS11) JGHTS12)	<u> </u>		
	'4' (green) '11' (orange) '6' (yellow) '1' (white) other (default)	SELECT 'SYL SELECT 'SYL SELECT 'SYL SELECT 'SYL SELECT 'SYL	JGHTS12); JGHTS13); JGTHS13); JGTHS13); JTDEF11);			
	DOES THE	VALUE OF THE ATTR (directional) OR '1	RIBUTE 'CATLIT' EQI 16' (maire)?	JAL '1'		
True				Fa	lise	
	IS THE VALUE OF TH 'ORIENT' GIV	EATTRIBUTE EN ?	IS 'FLARE SET	AT 45 DEGREES' TO 'TRUE'?	DO	
True		False	irue		NOTHING	
SH LO DII AT TH AT '15	OW THE SELECTED SYMBOL AT IE CALLING OBJECT'S SCATION, ROTATED IN THE RECTION AS DEFINED BY THE TRIBUTE 'ORIENT', AND WRITE IE DIRECTION FROM SEAWARD THE LIGHT AS FOLLOWS: "BY 1403 0/1 deg', 'ORIENT', 3, 3, 3, 5110', 3, 1, CHELK, 23)	SELECT THE SYMBOL 'SY(QUESMRK1)' SYMBOL AT THE CALLING OBJECT'S LOCATION	SELECTED SYMB WITH A ROTATION OF 45 DEGREES FROM UPRIGHT A THE POSITION WHERE THE LIGH OBJECT WHICH WAS CALLING TH PROCEDURE IS LOCATED	DL SELECTED SYMBO WITH A ROTATION OF 135 DEGREES T FROM UPRIGHT AT THE POSITION H WHERE THE LIGHT OBJECT WHICH W CALLING THE PROCEDURE IS LOCATED	T T AS	
	HA	S THE MARINER SELEC	TED VIEWING OF LIGH (TEXT GROU	T DESCRIPTIONS ?	1	
True				Fa	lse	
	DSND1 PASS ON TO THIS PROCED 'CATLIT', 'LITCH 'SIGPER', 'HEIG THIS PROCEDURE CONST LIGHT DISCRIPTION THIS	DURE THE ATTRIBUT IR', 'SIGGRP', 'COLO TH', 'VALNMR', 'STA' RUCTS A TEXT STRIN STRING IS RETURNED	ES : UR', TUS'. IG FOR THE D AS THE	DO		
	ARGUMENT 'LITDSN'.	DEGREES' SET TO		NOTHING HERE		
True		RUE'?	False			
ST CP	RITE THE RETURNED TEXT (RING 'LITDSN' AS FOLLOWS : X('LITDSN', 3, 1, 3, '15110', 2, -1, HELK, 23)'	WRITE THE RET "LITOSN" AS FOL "TX("LITOSN", 3, 1 CHBLK, 23)"	URNED TEYT STRING LOWS : 2, 3, "15110", 2, 0,			
<	EXIT PROCEDURE SYMBOLIZATION IS FINIS	IED				
-	CONTINUATION R					



Item No.PL03.3.d7.co.8 Correction to PresLib CSP Visualization of all-around lights

The existing check of CSP LIGHTS05 Continuation B:

"IS THE LIGHT OBJECT AN ALL-ROUND LIGHT (difference between value of 'SECTR1' and 'SECTR2' is less than 1 degree or equals 360 degrees)?

decides if a light is interpreted as all-around-light or sector light. According to this calculation sector lights with a sector value difference of less than 1 degree are displayed as an all-round-light added by a light flare.

Modification of this conditional branch: the check changes to:

"IS THE LIGHT OBJECT AN ALL-ROUND LIGHT (difference between value of 'SECTR1' and 'SECTR2' equals zero degrees)?

This change results to the effect that:

-

- As for any other sector light of bigger sectors the light flare is no longer displayed for sector lights of a sector smaller 1 degree
- All-round-lights of 360 degree are displayed identical to sector lights

Note that is understood that sectors of less than 1 degree cannot be detected visually on an ECDIS display.

	IS THE VALU 'SECT	L OF THE ATTRIBUTE R1' GIVEN ?
DO NOTHING HERE		ASSUME IT'S AN ALL-ROUND LIGHT (fail-safe): SET THE VALUE OF "SECTR1" TO 0 DEGREES; SET THE VALUE OF "SECTR2" TO 0 DEGREES;
	IS THE LIGHT OBJECT AI	ALL-ROUND LIGHT (difference between value of
	'SECTR1' and 'SECTI	R2' equals zero degrees)?
SELECT A SYMBOL WHICH IS APPROF	PRIATE.	MAKE SURE THAT THE VALUE OF 'SECTR2' IS GREATER THAN THE VALUE OF 'SECTR1'; IF NOT, ADD 360 DEGREES TO THE VALUE OF 'SECTR2'.
'1' and '3' (white & red)	SELECT 'SY(LIGHTS11)'	HAS THE MARINER SELECTED FULL LENGTH LIGHT SECTOR LINES ?
'3' (red) '1' and '4' (white & green) '4' (green) '11' (orange) '6' (yellow) '1' (white)	SELECT 'SY(LIGHTS11)' SELECT 'SY(LIGHTS12)' SELECT 'SY(LIGHTS12)' SELECT 'SY(LIGHTS13)' SELECT 'SY(LIGHTS13)' SELECT 'SY(LIGHTS13)'	'LEGLEN' = 'VALNWR' 'LEGLEN' = 25mm ON THE DISPLAY
other (default) SHOW THE SELECTED SYMBOL WITH	A ROTATION OF 135 DEGREES	
FROM UPRIGHT AT THE CALLING OBJ HAS THE MAR DESC	ECT'S LOCATION INER SELECTED VIEWING OF LIGHT RIPTIONS ? (TEXT GROUP 23)	
rdsno 1	NC	SHOW BOTH SECTOR LEGS; START THE LEGS THE POSITION WHERE THE LIGHT OBJECT WHICH WAS CALLING THE PROCEDURE IS LOCATED. SHOW THE SECTOR LEGS IN THE DIRECTIONS WHICH ARE DEFINED BY "SECTR", ADD "SECTOR", DO NOT FORFT TO REVERST THE SECTOR VALUES
PASS ON TO THIS PROCEDURE THE , 'CATLIT', 'LITCHR', 'SIGGRP', 'COLOU 'SIGPER', 'HEIGHT', 'VALNMR', 'STATI THIS PROCEDURE CONSTRUCTS A TE	ATTRIBUTES : IR', US'. XT_STRING DO NOTHING	(+/-180 degrees) SINCE THE VALUES ARE GIVEN FROM SEAWARD; SELECT 'LS(DASH, 1, CHBLK)' USE LEGLEN FROM THE STEP ABOVE. (THE LITDSN TEXT STRING IS NOT USED FOR SECTOR LIGHTS BECAUSE IT WOULD CAUSE CLUTTER.)
FOR THE LIGHT DESCRIPTION, THIS IS RETURNED AS THE ARGUEMENT 'L	HERE	
SYMBOLIZATION IS FINISHED EX	(IT PROCEDURE	
·		IS THERE ANY OTHER 'LIGHTS' OBJECT LOCATED AT THE SAME POINT AS THE CALLING OBJECT?
R EACH OCCURRENCE OF THE OBJECT	CLASS 'LIGHTS' WHICH IS CO-LOCAT	ED WITH THE CALLING OBJECT PERFORM THIS
YES	IS THE ARC ('SECTR2''SECTR1') C OBJECT LARGER THAN THE S OF THE CALLING O	CALLING OBJECT) OF ('SECTR' and/or SECTR2' OF THE CALLING OBJECT FALLS BETWEEN 'SECTR' AND SECTR2' OF THE OFFER 'LIGHTS' OBJECT) OF THE OTHER ECTOR ARC SECTR2' DO NOTHING HERE
SET LOCAL VARIABLE 'EXTENDED	ARC RADIUS' TO 'TRUE' DOES THE VALUE OF	DO NOTHING HERE THE ATTRIBUTE 'LITVIS' (visibility of light)
	EQUAL '7' (obscu	red) OR '8' (partially obscured) OR '3' (faint)
SELECT THE SIMPLE DASHED LINESTY 1 UNIT WIDE, COLOUR 'CHBLK': 'LS(DASH, 1, CHBLK') IS THE LOCAL VARIABL SET TO	'LE E 'EXTENDED ARC RADIUS' 'TRUE'?	SELECT A FILL COLOUR WHICH IS APPROPRIATE. VALUE OF ATTRIBUTE 'COLOUR' EQUALS '1' AND '3' (white & red) SELECT 'AC(LITRD)' '3'
		1 Anku * (wrine & green) SELECT AC(LITW) 1 (green) SELECT AC(LITW) 1 (wrine & green) SELECT AC(LITW) 1 (wrine) SELECT AC(LITW) other (default) SELECT AC(LITW)
	OHOW THE OFFICE ISS	SELECT THE SIMPLE SOLID LINESTYLE, 2 UNITS WIDE, COLCUR AS SELECTED ABOVE
SHOW THE SECTOR ARC:	COLOUR, LINESTYLE AND LINE WID SELECTED ABOVE.	TH AS IS THE LOCAL VARIABLE 'EXTENDED ARC RADIUS'
COLOUR, LINESTYLE AND LINE WIDTH AS SELECTED ABOVE.	RADIUS ON THE DISPLAY IS 20mm	FIRST SYMBOLIZE THE ARC WITH A SOLID LINE, FIRST SYMBOLIZE THE ARC WITH A SOLID I
COLOUR, LINESTYLE AND LINE WIDTH AS SELECTED ABOVE. RADIUS ON THE DISPLAY IS 25mm.		4 UNITS WIDE, COLCUR OUTLW THEN SYNBOLIZE THE ARC WITH THE COLOUR, LINESTYLE AND LINE WIDTH SELECTED ABOVE. RADIUS ON THE DISPLAY IS 25mm. AUXION COLUMN AND AND AND AND AND AND AND AND AND AN
COLOUR, LINESTYLE AND LINE WIDTH AS SELECTED ABOVE, RADIUS ON THE DISPLAY IS 25mm. THE DISPLAY IS 25mm. TE 1: The sectors specified above the sector-colours and sector-limit	are based on lights shown on the dii s offecting his ship which are gener.	4 UNITS WIDE, COLOUR OUTLW THEN SYNBOLIZE THE ARC WITH THE COLOUR, LINESTYLE AND LINE WIDTH SELECTED ABOVE: RADIUS ON THE DISPLAY IS 25mm. Iplay. It should also be possible, for the mariner to be informed, on demand, ted by lights located outside the display window.
COLOUR, LINESTYLE AND LINE WIDTH AS SELECTED ABOVE. RADIUS ON THE DISPLAY IS 25mm. The sector specified above the sector colours and sector -limit TE 2: When the moriner has select	are based on lights shown on the di s affecting his ship which are genera ed that the sector lines be extended	4 UNITS WIDE, COLOUR OUTLW THEN SYNBOLIZE THE ARC WITH THE COLOUR, LINESTYLE AND LINE WIDTH SELECTED ABOVE, RADUS ON THE DISPLAY IS 25mm. Intel SynBolize The ARC WITH THE COLOUR, ADUS ON THE DISPLAY IS 25mm. Intel SynBolize The ARC WITH THE COLOUR RADUS ON THE DISPLAY IS 20mm. Intel SynBolize The ARC WITH THE COLOUR INTENSIVE AND LINE WIDTH SELECTED ABOVE, RADUS ON THE DISPLAY IS 20mm. Intel SynBolize The ARC WITH THE COLOUR INTENSIVE AND LINE WIDTH SELECTED ABOVE, RADUS ON THE DISPLAY IS 20mm. Intel SynBolize The ARC WITH THE COLOUR INTENSIVE AND LINE WIDTH SELECTED ABOVE, RADUS ON THE DISPLAY IS 20mm. Intel SynBolize The ARC WITH THE COLOUR INTENSIVE AND LINE WIDTH SELECTED ABOVE, RADUS ON THE DISPLAY IS 20mm. INTENSIVE AND LINE WIDTH SELECTED ABOVE, RADUS ON THE DISPLAY IS 20mm. INTENSIVE AND LINE WIDTH SELECTED ABOVE, RADUS ON THE DISPLAY IS 20mm. INTENSIVE AND LINE WIDTH SELECTED ABOVE, RADUS ON THE DISPLAY IS 20mm. INTENSIVE AND LINE WIDTH SELECTED ABOVE, RADUS ON THE DISPLAY IS 20mm. INTENSIVE AND LINE WIDTH SELECTED ABOVE, RADUS ON THE DISPLAY IS 20mm. INTENSIVE AND LINE WIDTH SELECTED ABOVE, RADUS ON THE DISPLAY IS 20mm. INTENSIVE AND LINE WIDTH INTENSIVE AND LINE WIDT

Item No. PL03.3.d7.co.9 Correction to PresLib Look-up table Revised Look-up table entry for tideway

11.3.1 Look-up Table for areas with symbolized boundaries

"TIDEWY","","TX(OBJNAM,1,2,3,'15110',0,0,CHBLK,25)","7","S","OTHER","32070"

"TIDEWY","","LS(DASH,1,CHGRF);TX(OBJNAM,1,2,3,'15110',0,0,CHBLK,25)","7","S ","OTHER","32070"

11.3.2 Look-up Table for areas with plain boundaries

"TIDEWY","","TX(OBJNAM,1,2,3,'15110',0,0,CHBLK,25)","7","S","OTHER","32070"

"TIDEWY","","LS(DASH,1,CHGRF);TX(OBJNAM,1,2,3,'15110',0,0,CHBLK,25)","7","S ","OTHER","32070"

Item No. PL03.3.d7.co.10 Correction to PresLib Look-up table Revised Look-up table for LNDARE point and line features to display OBJNAM

11.1.1 Look-up Table for paper chart point symbolization

"LNDARE", "", "SY(LNDARE01); CS(QUAPOS01)", "4", "O", "DISPLAYBASE", "12010"

"LNDARE","","SY(LNDARE01); TX(OBJNAM,1,2,2,'15110',0, 1,CHBLK,26);CS(QUAPOS01)","4","O","DISPLAYBASE","12010"

11.1.2 Look-up Table for simplified point symbolisation

"LNDARE", "", "SY(LNDARE01); CS(QUAPOS01)", "4", "O", "DISPLAYBASE", "12010"

"LNDARE","","SY(LNDARE01); TX(OBJNAM,1,2,2,'15110',0, 1,CHBLK,26);CS(QUAPOS01)","4","O","DISPLAYBASE","12010"

11.2 Look-up Table Listing for Object Type Line 'L'

"LNDARE", "", "CS(QUAPOS01)", "8", "O", "DISPLAYBASE", "12010"

"LNDARE","","CS(QUAPOS01);TX(OBJNAM,1,1,2,'15110',0,1,CHBLK,26)","8","O", "DISPLAYBASE","12010" Item No. PL03.3.d7.co.11 Correction to PresLib Look-up table Revised Look-up table entry for rivers

The Display Category and Viewing Group of class "RIVERS" should be modified to "DISPLAY BASE". and will when become identical to those used for objects of class "CANALS":

11.2 Look-up Table Listing for Object Type Line 'L'

"RIVERS","","LS(SOLD,1,CHBLK)","2","O","STANDARDDISPLAYBASE","12420"

11.3.1 Look-up Table for areas with symbolized boundaries

"RIVERS","","AC(DEPVS);LS(SOLD,1,CHBLK)","2","S","STANDARDDISPLAYBASE"," 12420"

11.3.2 Look-up Table for areas with plain boundaries

"RIVERS","","AC(DEPVS);LS(SOLD,1,CHBLK)","2","S","STANDARDDISPLAYBASE"," 12420"

Item No.PL03.3.d7.co.12 Correction to PresLib Look-up table Revised Look-up table entry for UNSARE objects

The display priority for UNSARE should be altered from 3 to 1:

11.3.1 Look-up Table for areas with symbolized boundaries

"UNSARE", "", "AC(NODTA); AP(NODATA03); LS(SOLD, 2, CHGRD)", "3", "S", "DISPLAYBASE", "11050"

"UNSARE","","AC(NODTA);AP(NODATA03);LS(SOLD,2,CHGRD)","**31**","S", "DISPLAYBASE","11050"

11.3.2 Look-up Table for areas with plain boundaries

"UNSARE","","AC(NODTA);AP(NODATA03);LS(SOLD,2,CHGRD)","3","S", "DISPLAYBASE","11050"

"UNSARE","","AC(NODTA);AP(NODATA03);LS(SOLD,2,CHGRD)","**31**","S", "DISPLAYBASE","11050"

Item No. PL03.3.d7.ad.13 Addition to PresLib symbolisation DGPS reference stations

A new entry must be added immediately after the default entry for RDOSTA. This new entry is for look up point tables "simplified and paper chart ".

11.1.1 Look-up Table for paper chart point symbolization

"RDOSTA","","SY(RDOSTA02)","4","O","OTHER","38010" "RDOSTA","CATROS10","SY(DGPS01)","4","O","OTHER","38010"

11.1.2 Look-up Table for simplified point symbolisatiion

"RDOSTA","","SY(RDOSTA02)","4","O","OTHER","38010" "RDOSTA","CATROS10","SY(DGPS01)","4","O","OTHER","38010"

Symbol Name	:	SY(DRFSTA01)	RN:
Symbol Explai	nation:	DGPS reference station	
Look up table	affected:	paper chart point symbols simplified point symbols	
Pivot Point Co Pivot Point Ro	olumn: ow:	3.00 3.00	
Width of Boun Height of Bour	iding Box: Inding Box:	10.75 6.00	
		5.90 	
Symbol Colou	rs:	CHMGD	
Comments:		Line weight 0.3 mm; circle diameter 5.9 mm	
Examples on I	ENC:	N/A	
References:			
S57		INT 1	
RDOSTA	S 51	(S 10)	

<u>Item No.PL03.3.d7.ad.14</u> Addition to PresLib symbol description (Users' Manual Addendum) DGPS reference station symbol

Item No. PL03.3.d7.ad.15	Addition to PresLib symbol description (User	s' Manual Addendum)
	AIS symbology	

Symbol Name:	SY(AISATN02)	RN:	588
Symbol Explanatio	n: AIS based aid to navigation		
Look up table affect	cted: N/A		
Called by CSP etc.	CSP VESSEL02		
Pivot Point Columr Pivot Point Row:	n: 3.00 3.00		
Width of Bounding Height of Bounding	Box: 6.00 Box: 6.00		
Symbol Colours:	RESBL		
Comments:	Diamond line weight 0.3 mm; Cross line weight 0.3 mm		
Examples on ENC	N/A		
References:	IMO Guidelines for the presentation of navigation-rel terms and abbreviations SN/Circ.243 15.December 2	lated symbols 2004	З,
	IEC 62288 Ed.1		
S57	INT 1		

Symbol Name:	SY(AISTSO01) RN: 589
Symbol Explanation:	AIS target – true scale outline
Look up table affected:	N/A
Called by CSP etc.:	CSP VESSEL02
Pivot Point Column: Pivot Point Row:	relative to reported position and according to reported position offsets
Width of Bounding Box: Height of Bounding Box:	scaled according to reported beam and length
	50% 15% 85%
Symbol Colours:	RESBL
Comments:	Line weight 0.6 mm
Examples on ENC:	N/A
References:	IMO Guidelines for the presentation of navigation-related symbols, terms and abbreviations SN/Circ.243 15.December 2004
	IEC 62288 Ed.1
S57	INT 1

<u>Item No. PL03.3.d7.co.16</u> Correction to PresLib symbol description (Users' Manual Addendum) AIS symbology

Symbol Name:	SY(AISLST02)	RN:	580
Symbol Explanation:	Lost AIS target		
Look up table affected:	N/A		
Called by CSP etc.:	CSP VESSEL02		
Pivot Point Column: Pivot Point Row:	3.0 3.0		
Width of Bounding Box: Height of Bounding Box:	6.0 6.0		
Symbol Colours:	DNGHL		
Comments:	Line weight 0.6 mm		
Examples on ENC:	N/A		
References:	IMO Guidelines for the presentation of navigation-related terms and abbreviations SN/Circ.243 15.December 2004	l symbols,	
	IEC 62288 Ed.1		

S57	INT	1
N/A	S 17	AIS

Symbol Name:	SY(AISSEL01) RN:	581
Symbol Explanation:	selected AIS target	
Look up table affected:	N/A	
Called by CSP etc.:	CSP VESSEL02	
Pivot Point Column: Pivot Point Row:	5.75 6.75	
Width of Bounding Box: Height of Bounding Box:	12.50 11.80	
Symbol Colours:	RESBL	
Comments:	Line weight 0.6 mm	
Examples on ENC:	N/A	
References:	IMO Guidelines for the presentation of navigation-related symbols terms and abbreviations SN/Circ.243 15.December 2004	,
	IEC 62288 Ed.1	
S57	INT 1	

Symbol Name:	SY(AISSLP02) RN:	11
Symbol Explanation:	sleeping AIS target	
Look up table affected:	N/A	
Called by CSP etc.:	CSP VESSEL02	
Pivot Point Column: Pivot Point Row:	1.50 2.25	
Width of Bounding Box: Height of Bounding Box:	3.00 4.50	
Symbol Colours:	RESBL	
Comments:	Point diameter 0.6 mm Line weight 0.6 mm	
Examples on ENC:	N/A	
References:	IMO Guidelines for the presentation of navigation-related symbol terms and abbreviations SN/Circ.243 15.December 2004	S,
	IEC 62288 Ed.1	
S57	INT 1	

Symbol Name:	SY(AISTRN03) RN: 5	582
Symbol Explanation:	AIS target turning to starboard	
Look up table affected:	N/A	
Called by CSP etc.:	CSP VESSEL02	
Pivot Point Column: Pivot Point Row:	0.00 2.00	
Width of Bounding Box: Height of Bounding Box:	2.00 2.00	
Symbol Colours:	RESBL	
Comments:	Line weight 0.3 mm	
Examples on ENC:	N/A	
References:	IMO Guidelines for the presentation of navigation-related symbols, terms and abbreviations SN/Circ.243 15.December 2004	
	IEC 62288 Ed.1	
S57	INT 1	

Symbol Name:	SY(AISTRN04) R	N: 583
Symbol Explanation:	AIS target turning to port	
Look up table affected:	N/A	
Called by CSP etc.:	CSP VESSEL02	
Pivot Point Column: Pivot Point Row:	2.00 2.00	
Width of Bounding Box: Height of Bounding Box:	2.00 2.00	
Symbol Colours:	RESBL	
Comments:	Line weight 0.3 mm	
Examples on ENC:	N/A	
References:	IMO Guidelines for the presentation of navigation-related sy terms and abbreviations SN/Circ.243 15.December 2004	/mbols,
	IEC 62288 Ed.1	
S57	INT 1	

Symbol Name:	SY(AISVES02) RN: 1	2
Symbol Explanation:	active AIS target showing vector and/or heading	
Look up table affected:	N/A	
Called by CSP etc.:	CSP VESSEL02	
Pivot Point Column: Pivot Point Row:	2.00 6.00	
Width of Bounding Box: Height of Bounding Box:	4.00 6.00	
	4.00 111111 009 	
Symbol Colours:	RESBL	
Comments:	Line weight 0.6 mm Point diameter 0.6 mm	
Examples on ENC:	N/A	
References:	IMO Guidelines for the presentation of navigation-related symbols, terms and abbreviations SN/Circ.243 15.December 2004	
	IEC 62288 Ed.1	
S57	INT 1	

S-52 Presentation Library Edition 3.3, Part 1, section 5.1:

5.2 Usage of a Complex Line Style

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 <u>composite</u> 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 **To compose a** 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 slope of 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 slope of the tangent. Figure 3b shows how the composite symbol is created from the linestyle and the embedded symbols.

Delete figure 3 and rename figure 3b to become figure 3.

Item No. PL03.3.d7.co.18 Correction to Preslib 3.3 Reference of Addendum to Users' Manual

The paper based description of symbology contained in the PresLib was compiled in form of an Addendum to Appendix 2, Annex A, Part I, Users' Manual and issued first in 2003.

Addendum to Appendix 2, Annex A, Part I, Users' Manual, Page 1:

IHO Publication S-52 Appendix 2

ADDENDUM TO THE IHO ECDIS PRESENTATION LIBRARY ANNEX A, PART I, USERS' MANUAL (2008), Edition 3.4

SYMBOL LIBRARY FOR USE ON ECDIS

1.	Point Symbols and Centered Area Symbols	3
2.	Complex Linestyles	503
3.	Area pattern	553

<u>Note</u>: For the introduction to the Symbol Library, see section 14 of the Presentation Library, <u>Part I.</u> A full explanation of application and use of the described symbols of the ECDIS symbol library can be found in the S-52 Presentation Library, Appendix 2, Annex A, Part I, Users' Manual in section 14.

Item No. PL03.3.d7.co.19 Correction to Preslib 3.3 Definition of Linestyles

Addendum to Appendix 2, Annex A, Part I, Users' Manual, Paragraph 2, Page 503:

2. Complex Linestyles

Line Styles

There are two types of line styles available in the Presentation Library: simple line styles and complex line styles. Complex line styles are composed from repeating symbols.

Simple line-styles are used to allow for a variety of basic line-styles without having them defined in the format of complex line-styles. Simple line-styles are based on a solid, dashed or dotted line that can be modified in width and colour. On user's selection, a composite type of complex line style 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 line style unit, using a continually changing orientation if the line object is a curve.

A full explanation of line Styles can be found in the S-52 Presentation Library, Appendix 2, Annex A, Part I, Users' Manual in section 7.3.

Line Width

The line-width is given in units of the line-spacing (pixel size) specified in section 9 of S-52. This is currently 0.32 mm. If the pixel-diameter or line-spacing is grossly smaller, the line-width should be compensated by drawing the line in an appropriate width. If possible the "Display Generator" should smooth line ends with a width of more than 0.6 mm.

Item No. PL03.3.d7.co.20 Correction to Preslib 3.3 Placement of numerical values of planned tracks

An improved placement of numerical values of planned tracks according can be reached by the following changes:

7.3.1.2 (Details of the above)

The pivot point of symbols or text should be the midpoint of the **visible** run-length of the line. If the symbol or text is truncated by the display window, it may be removed or it may remain truncated until screen refresh remedies the problem.

Modify all entries carrying text instructions which include the attribute 'ORIENT':

TE('%03.0lf deg','ORIENT',3,1,2,'15110',4,-1,CHBLK,11) becomes TE('%03.0lf deg','ORIENT',1,1,2,'15110',0,-1,CHBLK,11) HJUST= 1 : CENTRE justified XOFFS= 0 : no x-offset YOFFS= -1

11.2 Look-up Table Listing for Object Type Line 'L'

"DWRTCL","","LC(DWLDEF01);TE('%03.0lf deg',ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15010" "DWRTCL","CATTRK1TRAFIC1","LC(DWRTCL08);TE('%03.0lf deg',ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15010" "DWRTCL","CATTRK1TRAFIC2","LC(DWRTCL08);TE('%03.0lf deg',ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15010" "DWRTCL","CATTRK1TRAFIC4","LC(DWRTCL08);TE('%03.0lf deg',ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15010" "DWRTCL","CATTRK1TRAFIC4","LC(DWRTCL08);TE('%03.0lf deg',ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15010" "DWRTCL","CATTRK1TRAFIC4","LC(DWRTCL07); TE('%03.0lf deg',ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15010" "DWRTCL","CATTRK2TRAFIC4","LC(DWRTCL07); TE('%03.0lf deg',ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15010" "DWRTCL","CATTRK2TRAFIC2","LC(DWRTCL07); TE('%03.0lf deg',ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15010" "DWRTCL","CATTRK2TRAFIC4","LC(DWRTCL07); TE('%03.0lf deg',ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15010" "DWRTCL","CATTRK2TRAFIC4","LC(DWRTCL07); TE('%03.0lf deg',ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15010" "DWRTCL","CATTRK2TRAFIC4","LC(DWRTCL07); TE('%03.0lf deg',ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15010" "DWRTCL","CATTRK2TRAFIC4","LC(DWRTCL07); TE('%03.0lf deg',ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15010" "DWRTCL","TRAFIC1","LC(DWRTCL07); TE('%03.0lf deg',ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15010" "DWRTCL","TRAFIC1","LC(DWRTCL07); TE('%03.0lf deg',ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15010" "DWRTCL","TRAFIC3","LC(DWRTCL07); TE('%03.0lf deg',ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15010" "DWRTCL","TRAFIC3","LC(DWRTCL07); TE('%03.0lf deg',ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15010" "DWRTCL","TRAFIC3","LC(DWRTCL07); TE('%03.0lf deg',ORIENT',1,1,2,'15110',0,-1

"NAVLNE","CATNAV1","LS(DASH,1,CHGRD);TE('%03.0lf deg','ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","4","O","STANDARD","25010" "NAVLNE","CATNAV2","LS(DASH,1,CHGRD);TE('%03.0lf deg','ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","4","O","STANDARD","25010"

"RADLNE","","LS(DASH,2,TRFCD);TE('%03.0lf deg','ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","STANDARD","25040"

"RCRTCL","","LC(RCRDEF11);TE('%03.0lf deg','ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15020"
"RCRTCL","CATTRK1TRAFIC1","LC(RCRTCL14);TE('%03.0lf deg','ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15020"
"RCRTCL","CATTRK1TRAFIC3","LC(RCRTCL14);TE('%03.0lf deg','ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15020"
"RCRTCL","CATTRK1TRAFIC3","LC(RCRTCL14);TE('%03.0lf deg','ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15020"
"RCRTCL","CATTRK1TRAFIC3","LC(RCRTCL14);TE('%03.0lf deg','ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15020"
"RCRTCL","CATTRK2TRAFIC4","LC(RCRTCL12);TE('%03.0lf deg','ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15020"
"RCRTCL","CATTRK2TRAFIC1","LC(RCRTCL12);TE('%03.0lf deg','ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15020"
"RCRTCL","CATTRK2TRAFIC4","LC(RCRTCL12);TE('%03.0lf deg','ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15020"
"RCRTCL","CATTRK2TRAFIC4","LC(RCRTCL12);TE('%03.0lf deg','ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15020"
"RCRTCL","CATTRK2TRAFIC4","LC(RCRTCL12);TE('%03.0lf deg','ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15020"
"RCRTCL","CATTRK2TRAFIC4","LC(RCRTCL12);TE('%03.0lf deg','ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15020"
"RCRTCL","CATTRK2TRAFIC4","LC(RCRTCL12);TE('%03.0lf deg','ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15020"
"RCRTCL","CATTRK2TRAFIC4","LC(RCRTCL12);TE('%03.0lf deg','ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15020"
"RCRTCL","TRAFIC4","LC(RCRTCL12);TE('%03.0lf deg','ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15020"
"RCRTCL","TRAFIC4","LC(RCRTCL12);TE('%03.0lf deg','ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15020"
"RCRTCL","TRAFIC2","LC(RCRTCL12);TE('%03.0lf deg','ORIENT',1,1,2,'15110',0,-1,CHBLK,11)","6","O","DISPLAYBASE","15020"
"RCRTCL","TRAFIC2","LC(RCRTCL12);TE('%03.0lf deg','ORIENT',1,1,2,

"RECTRC", "CATTRK1TRAFIC2", "LC(RECTRC12); TE('%03.0lf deg', ORIENT', 1, 1, 2, '15110', 0, -1, CHBLK, 11)", "6", "O", "STANDARD", "25020" "RECTRC", "CATTRK1TRAFIC2", "LC(RECTRC12); TE('%03.0lf deg', ORIENT', 1, 1, 2, '15110', 0, -1, CHBLK, 11)", "6", "O", "STANDARD", "25020" "RECTRC", "CATTRK1TRAFIC2", "LC(RECTRC12); TE('%03.0lf deg', ORIENT', 1, 1, 2, '15110', 0, -1, CHBLK, 11)", "6", "O", "STANDARD", "25020" "RECTRC", "CATTRK1TRAFIC2", "LC(RECTRC12); TE('%03.0lf deg', ORIENT', 1, 1, 2, '15110', 0, -1, CHBLK, 11)", "6", "O", "STANDARD", "25020" "RECTRC", "CATTRK1TRAFIC4", "LC(RECTRC10); TE('%03.0lf deg', ORIENT', 1, 1, 2, '15110', 0, -1, CHBLK, 11)", "6", "O", "STANDARD", "25020" "RECTRC", "CATTRK1TRAFIC4", "LC(RECTRC10); TE('%03.0lf deg', ORIENT', 1, 1, 2, '15110', 0, -1, CHBLK, 11)", "6", "O", "STANDARD", "25020" "RECTRC", "CATTRK2TRAFIC4", "LC(RECTRC11); TE('%03.0lf deg', ORIENT', 1, 1, 2, '15110', 0, -1, CHBLK, 11)", "6", "O", "STANDARD", "25020" "RECTRC", "CATTRK2TRAFIC2", "LC(RECTRC11); TE('%03.0lf deg', ORIENT', 1, 1, 2, '15110', 0, -1, CHBLK, 11)", "6", "O", "STANDARD", "25020" "RECTRC", "CATTRK2TRAFIC4", "LC(RECTRC11); TE('%03.0lf deg', ORIENT', 1, 1, 2, '15110', 0, -1, CHBLK, 11)", "6", "O", "STANDARD", "25020" "RECTRC", "CATTRK2TRAFIC4", "LC(RECTRC11); TE('%03.0lf deg', ORIENT', 1, 1, 2, '15110', 0, -1, CHBLK, 11)", "6", "O", "STANDARD", "25020" "RECTRC", "CATTRK2TRAFIC4", "LC(RECTRC11); TE('%03.0lf deg', ORIENT', 1, 1, 2, '15110', 0, -1, CHBLK, 11)", "6", "O", "STANDARD", "25020" "RECTRC", "TRAFIC1", "LC(RECTRC11); TE('%03.0lf deg', ORIENT', 1, 1, 2, '15110', 0, -1, CHBLK, 11)", "6", "O", "STANDARD", "25020" "RECTRC", "TRAFIC2", "LC(RECTRC11); TE('%03.0lf deg', ORIENT', 1, 1, 2, '15110', 0, -1, CHBLK, 11)", "6", "O", "STANDARD", "25020" "RECTRC", "TRAFIC2", "LC(RECTRC11); TE('%03.0lf deg', ORIENT', 1, 1, 2, '15110', 0, -1, CHBLK, 11)", "6", "O", "STANDARD", "25020" "RECTRC", "TRAFIC2", "LC(RECTRC11); TE('%03.0lf deg', ORIENT', 1, 1, 2, '15110', 0, -1, CHBLK, 11)", "6", "O", "STANDARD", "25020" "REC

<u>Item No. PL03.3.d7.co.21</u> Correction to Preslib 3.3 substitute example for empty look-up table entry

8.3.3.10 'No symbol' - Objects

In some cases the "symbolization instruction"-fields (field 3) in a look-up table line is are empty. Such an explicitly "empty" instruction means that no actual presentation for the respective object is required. Such objects are not symbolized and they are not shown on the screen. For example, an **point** object of the class EXEZNE (exclusive economic zone) which covers the breadth of the territorial sea BRIDGE is not shown since the coding of a bridge crossing waters as point object is not useful and will not occurit is an object of administrative meaning that would be read out only on cursor inquiry. The empty entry into the look-up table is simply for completeness.