

13th TSMAD MEETING

18 to 22 September 2006 – Wellington, New Zealand

*Updated 30 Aug 06 (in red)***Proposed encoding bulletin for wrecks**

As advised in TSMAD13-9.2, a new section of M-4, B-400 to 429 is now IHO approved and should be published by the IHB very shortly. The CSMWG is already reviewing the conditional symbology procedures to see if there needs to be changes to the S-52 Presentation Library following major changes to wrecks in particular (B-422).

The publication of an ENC Encoding Bulletin for wrecks is not considered to be essential for this meeting, as there will also be many other issues from M-4 that will need to be considered for other ENC Encoding Bulletins (see TSMAD13-9.2A), which will need further consideration after B-400 to B-429 is published (M-4 Edition 3.003).

Background:

All wrecks in ENCs are encoded as **WRECKS** or **OBSTRN** object classes. For S-57 E3.1 WRECKS, 3 attributes are currently mandatory: CATWRK, VALSOU and WATLEV.

According to the new B-422, the INT 1 symbols K28 and K29 are only to be used as a last resort on the paper chart, which means that CATWRK 1 = non-dangerous wreck and 2 = dangerous wreck, should rarely be encoded *in the future*. Instead, when the least depth over a wreck is unknown, HOs are strongly encouraged to estimate the safe clearance (INT1 K30). The estimated depth will then be encoded as VALSOU together with QUASOU = 7 least depth unknown, safe clearance at value shown (but other values may also be encoded as this is a 'list' attribute). The new B-422.7 includes guidance for HOs to estimate the safe clearance.

Comments by the Secretary of CSPCWG: WRECKS: (Paras 4 & 8 of this document): Following all the CSPCWG discussions, we think it is very important to eradicate the term 'non-dangerous wreck' from all IHO documents. More appropriate would be 'wreck of unknown depth' and 'wreck of unknown depth considered to be dangerous to some surface vessels'.

The new B-422 means that very few new ENCs should have CATWRK encoded, so it will be a null field. For S-101 we should consider downgrading CATWRK to optional (currently mandatory).

Currently the remains of a wreck may be encoded as an **OBSTRN** with CATOBS = 7 foul ground, or as **WRECKS** with CATWRK = 3 distributed remains of wreck. This is one of the few cases where the Use of the Object Catalogue allows two ways to encode one feature, however it could be argued that the first remark for **OBSTRN** states that only if the nature of a dangerous underwater object is not explicitly known,

do you encode it as an obstruction. If we know a feature is the distributed remains of a wreck, it should be encoded as a **WRECKS** object. This should also be tidied up for S-101 **to remove the choice of feature**.

Another major change to the M-4 section B-422 is that the symbol K29 (non-dangerous wrecks), should be used for wrecks in waters over **200** metres deep (previously deeper than 20 metres (see B-422b). Also symbol K28 (dangerous wreck) should only be used for wrecks in waters less than **100** metres deep (B-411.6). Currently there are no such restriction in the S-57 UOC, but if adopted, it may be possible to generate new S-58 checks (suggest warnings, not errors), to test against these new M-4 criteria. If this is considered to be of importance to TSMAD, the definitions of 'dangerous wrecks' and 'non-dangerous wrecks' will need to be reviewed for the S-100 FDD. The matter should also be discussed with CSPCWG as wrecks between 100 and 200 metres currently have no specific guidance as to being dangerous in M-4. It is obviously up to HOs to decide.

Comments by the Secretary of CSPCWG: (WRECKS Para 7): It is not a 'major change' that K29 should be used for wrecks in water over 200m - that has always been the case (old B-422.6 refers). Nor is there any suggestion that K28 should only be used for wrecks in water less than 100m (although I expect it would be rare over 100m). Chris has quoted B-411.6 on this matter before, so we obviously need to clarify the wording. At the next opportunity, we will remove the words 'over dangerous wrecks and' from B-411.6. This will clarify that as far as any wreck is concerned, the previous sentence applies (and for K28, blue is always appropriate). New B-422.6 is clear (and it has always been the case) that K28 includes a danger line and blue tint, whatever the depth.

Following the release of the new B-422, several references M-4 in the UOC will be incorrect. This should therefore drive a new ENC Encoding Bulletin or at least update the previous one agreed at the last meeting (see **Annex A**).

Proposed ENC Encoding Bulletin

Because of the numerous changes to the M-4 references, the use of CATWRK and previously approved bulletin number 6, on this occasion it is suggested that a new replacement UOC table 6.2 and associated remarks be issued as part of the bulletin.

The following is an extract from the UOC Edition 2.1 with proposed **changes in blue**:

In the following table, the symbol '/' indicates that this attribute must not be encoded. A blank indicates that the encoder may choose a relevant value for the attribute.

Wrecks...	M4	INT 1	CATWRK	WATLEV	QUASOU	TECSOU
Showing any part of hull or superstructure	422.2	K24 K20	5	1,2 or 4	/	/
Covers and uncovers	422.2	K24 K21	4 or 5	4		
Awash				5		
The mast only is visible at high water	422.2	K25	4 or 5	2	/	/
The mast only is visible at low water Chart	422.2	K25	4	4		

Wrecks...	M4	INT 1	CATWRK	WATLEV	QUASOU	TECSOU
Datum						
Measured depth	422.4	K26	1 or 2	3	1 or 6	
Depth measured and swept by wire drag	422.3	K27	1 or 2	3	6	6
Depth unknown, considered dangerous by the responsible producing authority	422.6	K28	2	3	2	/
Depth unknown, not considered dangerous by the responsible producing authority	422.6	K29	1	3	2	/
Depth unknown, with a safe clearance	422.5	K30	1 or 2	3	7	/
Distributed remains of wreck	422.8	K31	3			
Reported, not confirmed	424.5	I 3.1,3.2			9	

Comment [c1]: From approved B-422.2

table 6.2

Note all 'I' prefixes to INT 1 references have been deleted.

All wrecks should be encoded using one of the above combinations of attributes.

Where a wreck is shown with its true shape (large scale chart):

Soundings and heights are often given inside a wreck to show the highest points of the hull, ~~or superstructure, (e.g. mast or funnel).~~ If it is required to encode such features, they must be done using:

Comment [c2]: The mast and funnel is separate to the superstructure.

- A **WRECKS** object of type area with all populated attributes applying to the highest point of the wreck.
- **LNDELV** objects of type point to encode the features of the wreck that are always dry; the type of each feature (e.g. mast, funnel) may be encoded using the attributes INFORM and NINFOM.
- **SOUNDG** objects to encode the features of wrecks which are always submerged, or cover and uncover; the type of each feature (e.g. mast, funnel) may be encoded using INFORM and NINFOM, which means that these soundings must be encoded individually.

Remarks:

- A **WRECKS** object of type area must be covered by an area object from Group 1 as appropriate.
- If it is required to encode a wreck whose true depth is unknown, ~~but for which there is HO~~ **are strongly recommended to estimate** a safe clearance depth, ~~it must be done~~ using the attribute VALSOU and the attribute QUASOU = 7 (least depth unknown, safe clearance at value shown). (See M-4, B-422 b and B-422.7)
- if it is required to encode a measured depth over **WRECKS** by a diver, QUASOU values 1 or 6 may be used, together with TECSOU = 4. (See also M-4, B-422.3 and INT1 K27).

Further recommendations:

1. That all of the above issues be considered for S-100/S-101
2. That UOC 6.2.2 for obstructions be reviewed in line with the above issues and with the revised M-4, B-422 (no time to prepare for this meeting).
3. If the above table and remarks are adopted as a new ENC Encoding Bulletin, consideration be given to cancelling ENC Encoding Bulletin number 6 (see Annex A)
4. That consideration be given to future S-58 encoding checks, regarding the encoding of CATWRK values 1 and 2, as against **QUASOU 7**.

Chris ROBERTS
AU TSMAD member
24 Aug 06

6. UOC table 6.2 Wrecks

Table 6.2 of Edition 2.1 (April 2002) of the Use of the Object Catalogue (S-57 Appendix B1, Annex A) does not set the least depth over wrecks by divers.

Encoders should note, therefore, that if it is required to encode a measured depth over WRECKS, QUASOU values 1 or 6 may be used.

Encoders should note, therefore, that if it is required to encode a measured depth over WRECKS by a diver, QUASOU values 1 or 6 may be used, together with TECSOU = 4. See also M-4, D-422.3 and INT 1 K27.

Encoders should note, therefore, if the depth is not measured to consider a QUASOU value of 7.

These values may be used together with those in table 6.2 of Edition 2.1 (April 2002) in the Use of the Object Catalogue (S-57 E3.1, Appendix B1, Annex A)

7. UOC table 6.3 Obstructions

Table 6.3 of Edition 2.1 (April 2002) of the Use of the Object Catalogue (S-57 Appendix B1, Annex A) does not set the least depth over obstructions by divers.

Encoders should note, therefore, that if it is required to encode a measured depth over obstructions, QUASOU values 1 or 6 may be used.

Encoders should note, therefore, that if it is required to encode a measured depth over obstructions by a diver, QUASOU values 1 or 6 may be used, together with TECSOU = 4. See also M-4, D-422.3 and INT 1 K27.

Encoders should note, therefore, if the depth is not measured to consider a QUASOU value of 7.

These values may be used together with those in table 6.3 of Edition 2.1 (April 2002) in the Use of the Object Catalogue (S-57 E3.1, Appendix B1, Annex A)