13th TSMAD MEETING
18 to 22 September 2006 – Wellington, New Zealand

CSMWG Report to TSMAD13 following CSMWG16 meeting in May 2006

CSMWG held its 16th meeting shortly after the TSMAD SubWg10 meeting in May, 2006. The following issues were discussed at the CSMWG meeting which relate to matters affecting TSMAD, S-57 and or S-100/101:

The bracketed references refer to the CSMWG16 Minutes action number. (The Minutes and associated papers can be downloaded from the IHO website for more information.)

1. CSMWG agreed to produce its own S-52 Chart Presentation Bulletins (CPBs) and one has been prepared resulting from the testing of 'unknown objects'. Other CPBs are now on the CSMWG section of the IHO website for information and TSMAD may wish to use this information to produce its own advice to ENC encoders. The CSMWG agreed that several Encoding Bulletins also need to be issued in regard to various portrayal issues discussed during its last meeting. These are attached (Annex A) as draft encoding bulletins, submitted for consideration by TSMAD.

2. Encoding 'unknown objects' (Actions 4, 5): see proposed Encoding Bulletin (i) in Annex A attached. It should also be noted that when Edition 3.3 of the S-52 PL is operational, all unknown objects should be symbolized with the question mark symbols. In summary the following should be portrayed:

- symbolize unknown object (i.e. non-existent in ENC Product Spec) by question mark symbology.
- symbolize known object with invalid attribute by default symbol for the object class
- symbolize known object with valid attribute but invalid attribute value by default symbols of the object class/attribute class
- INFORM and or TXTDSC (and all valid attributes) must be available to mariner in every case by Pick Reports

Clarifications on these issues are being published as Deferred Amendments to S-52.

3. **Linear depth areas**: (Actions 15, 16 and 18): the conditional symbol procedures (CSP) for linear depth areas is undergoing further refinement and testing and the date and conditions when ENCs will no longer be required to carry them will be advised in the CSMWG Report to CHRIS18. An Encoding Bulletin may then be required if implementation dates are approved by CHRIS.

4. **Symbolization of S-57 Supplementary object classes** (Edition 3.1.1): a revised version of the S-57 Supplement No1 (edition 3.1.1) has been submitted as a TSMAD13 paper for approval by TSMAD. This paper includes the proposed

symbols (which will be deleted when the Supplement is published). The new attribute which will drive the optional symbology for **NEWOBJ** object class has been re-circulated to CSMWG members in CSMWG Letter No2 and a final decision is expected to be made at TSMAD13.

5. **Joint implementation of S-57 and S-52:** CSMWG recommends that both S-57 Supplement No1 (Edition 3.1.1) and an S-52 Immediate Amendment (which will drive a new edition of the Presentation Library) should be released and implemented as a coordinated action by IHO. The proposed time line for discussion and agreement is as follows:

End of June 2006:	Propose symbolisation for new Objects/Attributes of S-57 Supplement (completed)
September 2006:	Report to Stakeholders meeting and CHRIS18 for adoption
End of 2006	IHB to send out for voting by member states in conjunction with the S-57 Supplement No1 (edition 3.1.1)
2007	Industry and HO´s to implement and install new software (production and ECDIS software) – time for industry to implement (1 year grace period to set into force)
June 2007	CSMWG17 Stavanger/Norway to adopt new symbols as immediate amendment to PresLib Edition **3.3** becoming new Edition **3.4**
2008	In a joint approach implement S-57 Supplement No1 (Edition 3.1.1) and S-52, App.2 PresLib Edition **3.4** by **1 Jan 2008** for: ▪ new ECDIS development ▪ upgrade of existing systems which are carried to fulfil SOLAS carriage requirements - i.e. on ships navigating without paper charts.

It was also mentioned that there is a carriage requirement for high speed craft to carry ECDIS at about this time, which may encourage more type approved ECDIS to upgrade their ECDIS at sea to the latest PL.

6. **Revised Tests Data Sets** for S-57 Supplement No1: have been updated (under contract to NOAA) and should be available for TSMAD13.

7. Direction lights (Action 25): the CSP for directional lights portrays a navigation line. If ENC compilers also encode a **RECTRC** and or **NAVLNE** and populate the attribute ORIENT for the directional light, in some cases (particularly if the orientation of a bearing is captured from Transverse Mercator charts), there may be slight misalignment and duplication of the 2 portrayed navigation lines. CSMWG recommends that the attribute ORIENT should not be populated for directional lights when a related **RECTRC** is encoded. When a directional light comprises a narrow sector, the attributes SECRT1 and SECRT2 must be encoded, not ORIENT. Draft wording for a suggested Encoding Bulletin is provided in Annex A. (Further information is available in papers CSMWG16-6.6A, B and C on the IHO website).

8. **Attributes for the justification and orientation of text in ENCs:** during discussion about the portrayal of OBJNAM for visually conspicuous objects, it was

suggested that consideration be given to S-100 (and S-101) providing attributes that direct justification and orientation of text.

9. **Tideway object class:** currently S-52 PL only portrays linear Tideway features. CSMWG has approved a new area symbol which will be issued as a Deferred Amendment (Action 27). At CSPCWG2 last year, the review of M-4, B-413.2 was discussed and it was agreed to add the German symbol INT 1 Cj as an approved IHO symbol as N16 as a natural watercourse within intertidal waters (see below). In the review of B-413.2, Roberts suggested that the definition of the S-57 Tideway object class appeared to fit the description of this natural watercourse in INT 1 and M-4. The Chairman of CSPCWG advised there is a view that the term 'Tideway' may not be used correctly in S-57. As Australia has not encoded this object in ENCs, we are seeking the advice of other nations who may have encoded it. The following references (still in draft form) are provided for further information:

M-4 B-413.3 A natural watercourse in intertidal areas, eg formed by the outflow of a stream or by tidal action, should be charted by a fine line (ie as an intermittent river (**C21**) on intertidal tint), thus:

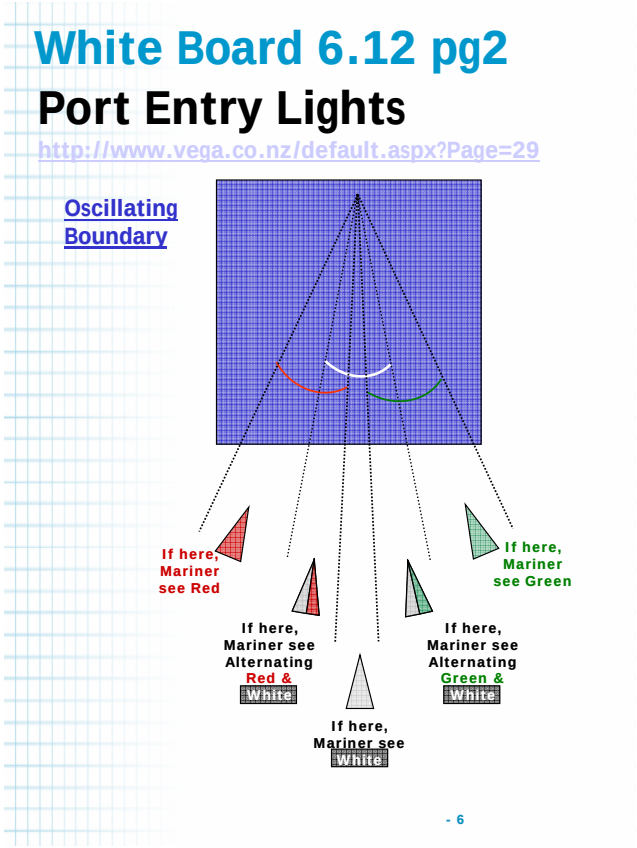
M-4 B-432.1b. **Channels** may be entirely natural features such as passages between islands or sandbanks; apart from naming them, no other chart action should be required. (For natural watercourses in intertidal areas, see B-413.3.) *Blue is revised wording*

S-57 Definition: A natural water course in intertidal areas where water flows during the ebb or flow.
A channel through which a tidal current runs. (IHO Dictionary, S-32, 5th Edition, 5502)

If any member of TSMAD or HO employee can provide expert advice on exactly what is a tideway, TSMAD may be able to clarify issues with M-4.

10. **S-57 attributes DATEND, DATSTA, PEREND and PERSTA** (Action 30): Barrie Greenslade raised an issue with the CSMWG16 regarding a seasonal pontoon on a UK chart (Paper CSMWG16-6.10A). There is a possibility that a hole in group 1 could eventuate if PEREND and PERSTA was applied to the object **PONTON**. CSMWG has advised that there is no requirement specified in S-52 to portray features using these date dependent attributes, and accordingly suggests that none of these attributes should be used for group 1 object classes. Draft wording for a suggested Encoding Bulletin is provided in Annex A. (Further information is available in papers CSMWG16-6.10B)

11. **Encoding alternating colours within the same sector** (Action 33): some nations have encountered Port Entry Lights (PEL) which have alternating colours within particular sectors. A separate proposal has been made to TSMAD13 by the UKHO concerning the encoding of these features. More information is available in CSMWG16-Minutes (item 6.12) and at www.vega.co.nz. The TSMAD SubWg may also consider the possible new attribute value for CATLIT (oscillating) for S-100 FDD and S-101 to better encode these features. No decision about an alternative visualisation of such lights has been made at this stage.



12. **Display priority for Group 1 objects** (Action 39): The CSMWG has agreed that all group 1 objects will have a display priority of 1. The main change will be altering **UNSARE** from display priority 3 to 1. This change will be incorporated into a deferred amendment and will most likely be incorporated into the new S-52 PL Edition 3.4.

13. Portrayal of OBJNAM for **BUAARE** and **LNDARE** object classes (Action 40, 41): Many nations have been encoding **LNDRGN** for point objects (such as islands) so that the OBJNAM will be displayed on ECDIS. CSMWG has agreed to review the lookup tables to permit OBJNAM to be portrayed for both **BUAARE** and **LNDARE** object classes. However this will be amended by Deferred Amendment, which means that this enhancement will not be required for ECDIS until the next new edition (3.4) of the S-52 Presentation Library. The date for the implementation of the NE (which will also include the new symbology for **ARCSLN**, **ASLXIS**, **NEWOBJ** object classes), has not been set and there will be a take up period for the implementation of this enhancement at sea. Once the implementation date is approved (expected at CHRIS18), ENCs must not duplicate the population of OBJNAM for different object classes at identical locations. Draft wording for a future Encoding Bulletin is attached in Annex A. It is recommended that it not be released until the publication of the new S-52 PL (Edition 3.4) and at that time the implementation dates for ECDIS should be available.

14. **IHO Registers for ECDIS symbols and basic symbol rules** (Action 43)**:** the CSMWG has commenced work on the content of these registers and will be closely following the work of DGIWG. For information of TSMAD SubWg in particular.

15. **S-100 Discussion Forum** (Action 45)**:** members of the CSMWG have been encouraged to follow discussion about the S-57 Supplement No1 and S-101 in particular.

16. **Object classes currently not symbolised on ECDIS** (Action 48): CSMWG is preparing a list of these objects which will be reviewed and made available to TSMAD for information. TSMAD made wish to request symbols for certain ENC features, for example **EXEZNE**.

17. **Synchronized and/or sequential lights** (any symbol action deferred till CSMWG17): the CSPCWG in the review of M-4, has adopted the abbreviation 'sync' for lights that are either synchronized or sequential (INT 1 P66). This will most likely be further discussed when the relevant section of B-473 is reviewed by CSPCWG later in the year. S-57 currently has the attribute value for STATUS = 15 (synchronized), but no entry for 'sequential'. Consideration should be given to adding this value to the FDD for S-100.

18. **Portrayal of DGPS stations** (Action 50): CSPCWG has agreed to include the abbreviation 'DGPS' on paper charts (INT 1 S51). This will most likely be further discussed when the relevant section of B-481 is reviewed by CSPCWG later in the year. S-57 currently has the attribute value for CATROS = 10 (Differential GPS). CSMWG has agreed to create a new symbol for ECDIS as a Deferred Amendment.

19. **Recommended tracks and fairways** (Item 8.5, no action for CSMWG unless TSMAD adopts encoding): CSPCWG is reviewing M-4, B-434 concerning recommended tracks and fairways. The reviewed wording is likely to clarify the ways recommended tracks are portrayed on paper charts and alter the way fairways are encoded by HOs on paper charts and ENC (possibly significant changes for S-57/S-100). Some recommended tracks (**RECTRC**) have maximum authorized (or recommended) draught (portrayed by the draught enclosed by arrow heads <7.3m>). This should probably be encoded using attribute DRVAL2, but we do not have an attribute value for 'authorized', which would probably be an additional value for STATUS. 'Recommended' however exists as STATUS = 3.
Fairways (**FAIRWY**) may consist partly or entirely of dredged (**DRGARE)** or maintained areas. Some are designated by regulatory authorities (regulated), may have a specified minimum depth (DRVAL1), or maximum authorized draught. However, **FAIRWY** does not have the DRVAL2 attribute available, nor values 'regulated', not 'authorized' for STATUS. A member of CSMWG suggested that a new attribute 'Category of Fairway' may be required. In addition, a fairway may also include the year if not maintained (encoded in INFORM for **DRGARE**). We also have possible double encoding of two features – **DRGARE** and **FAIRWY**, as well as several candidate attribute enumerants for S-100/S-101. It is suggested that once the final wording for M-4, B-434 is approved by member states, TSMAD consider issuing an Encoding Bulletin to explain how all of this additional information is to be encoded for ENCs.

20. **Additions to INT1** (Action 51): CSPCWG have approved several additions to INT 1, some still subject to final approval by member states. Any amendments are being issued as IHO CLs (CL 47-2006 is an example) and should be made available to the public via the IHO website. The CSPCWG has also proposed the formation of a subWG (to CHRIS18) to handle any issue relating to the official INT1s (French, German and Spanish). If approved, it is suggested that TSMAD be advised of any changes or additions to this IHO publication so that we can update S-100 references to INT 1.

21. **Reorganization of CHRIS WGs** (Action 54): CSMWG is concerned that the new TSMAD and CSMWG will not operate directly under the proposed structure.

22. CSMWG will not be taking over visualization roles for S-100 products. Accordingly TSMAD may need to find another group to take a **lead role in SubWg WI 2.8 Portrayal.**

23. **Overlap meeting with TSMAD** (and or its SubWg) (Action 58): CSMWG is proposing to hold its 17th meeting in Stavanger, Norway during June 2007 (final date to be arranged). If possible, CSMWG would like to provide for at least 1 day overlap between our meetings to discuss various issues relating to both groups. Having TSMAD before CSMWG would probably be preferred as any new encoding issues raised by TSMAD can then be discussed and resolved at the following CSMWG meeting.

Chris ROBERTS
Acting Secretary, IHO CSMWG and member TSMAD
26 Jul 06

Annex A

(to CSMWG Report to TSMAD13)

The CSMWG has introduced a new page to the IHO website called S-52 Chart Presentation Bulletins (CPB)

The following information may be issued as a CPB and is supplied for the information of, and comments by, TSMAD members, as feedback to CSMWG:

Portrayal of 'unknown objects': Testing of various ECDIS by TSMAD and CSMWG during 2006 has revealed that some type approved ECDIS do not portray nor provide information about 'unknown objects' as specified in S-52. Unknown objects are object classes that do not exist, or are not valid, in the S-57 Product Specifications for ENCs (Edition 2.0). S-52 requires such object classes to be portrayed by questionmark symbology with all of the valid attributes (as defined in S-57 Product Specifications for ENC) being available for picking by the user. Some ECDIS did not display an 'unknown object' at all, while others did not permit the user to pick valid attributes such as INFORM or TXTDSC to ascertain what the feature was. For any object class, attribute or attribute value included in ENCs, that does not correspond with the 'S-57 Product Specifications for ENCs (Edition 2.0)', the attributes INFORM and or TXTDSC must be populated to inform the mariner the nature of the feature encoded. The IHO CSMWG also recommends that hydrographic officers issuing 'unknown objects' in any official ENCs, also issue a Notice to Mariners update, providing details of the location and nature of the feature. Mariners will then be able to plot these features onto their SENC as Mariner's Objects. This process may help to overcome the issue of ECDIS' at sea not always being updated to the latest edition of the S-52 Presentation Library, particularly when an 'unknown object' has safety implications to navigation.

Proposed ENC Encoding Bulletins from 16th CSMWG meeting (for consideration by TSMAD):

 # UOC Clause 12.8.6.5 Directional lights

Clause 12.8.6.5 of Edition 2.1 (April 2002) of the Use of the Object Catalogue (S-57 Appendix B1, Annex A) provides advisory encoding of directional lights, however to avoid possible duplicated (and sometimes miss-aligned) portrayal of the leading line portion of a directional light when **RECTRC** is also encoded, the following encoding practices should be adopted:

Encoders should note that if it is required to encode part of a directional light bearing that is also a **RECTRC,** the ORIENT of the directional **LIGHTS** object should not be populated (null value).

Encoders should also note, that if it is required to encode a directional light that comprises a narrow intensified sector, the sector should be encoded using **SECTR1** and **SECTR2** and **ORIENT** should not be populated (null value).

The attribute ORIENT should only be encoded for directional lights, when there is no **RECTRC** or **NAVLNE** associated with the directional light.

#Use of date attributes for Group 1 object classes

Encoders should note that DATEND, DATSTA, PEREND and PERSTA must not be used for group 1 object classes. ENC encoders are advised that the S-52 Presentation Library does not display (nor obscure) any object classes with reference to these attributes.

Reference documents affected include: S-57 Product Specifications for ENCs clauses 3.5.3 and 3.10.1;
UOC Clauses 2.1.5 Dates, 2.1.5.1 Seasonal objects and 2.6.1d (second paragraph)
Add strikethrough to these attributes for the following group 1 object classes: **FLODOC** (DATEND and DATSTA only) and **PONTON**. within the UOC clauses 4.6.6.2 and 4.6.7.3 respectively.

Comment [c1]: This info may not be necessary for the Bulletin, but should be applied to S-101.

#UOC Clause 4.1 Land Area

Clause 4.1 of Edition 2.1 (April 2002) of the Use of the Object Catalogue (S-57 Appendix B1, Annex A) provides advisory encoding of Land area. From **(date to be advised by CSMWG)** OBJNAM will be portrayed on all type approved ECDIS that have been updated to Edition 3.4 of the S-52 Presentation Library.

To avoid clutter of duplicated text portrayal, encoders should note that OBJNAM should not be populated for other object classes (such as **LNDRGN**) if **LNDARE** is populated with OBJNAM at an identical location. This applies particularly to point primitives. It may therefore be necessary for HOs to remove double encoding of OBJNAM for point islands and possibly other object classes, from existing ENCs, if their main purpose was originally to portray the OBJNAM of a land area.

#UOC Clause 4.8.14 Built-up areas

Clause 4.8.14 of Edition 2.1 (April 2002) of the Use of the Object Catalogue (S-57 Appendix B1, Annex A) provides advisory encoding of built-up areas. From **(date to be advised by CSMWG)** OBJNAM will be portrayed on all type approved ECDIS that have been updated to Edition 3.4 of the S-52 Presentation Library.

To avoid clutter of duplicated text portrayal, encoders should note that OBJNAM should not be populated for another object classes (such as **LNDRGN**) if **BUAARE** is populated with OBJNAM at an identical location. It may therefore be necessary for HOs to remove double encoding of OBJNAM for some object classes, from existing ENCs, if their main purpose was originally to portray the OBJNAM of built-up areas.