

7th CSPCWG MEETING
Cape Town, South Africa, 23-26 November 2010

Paper for Consideration by CSPCWG

Report to CSPCWG7 on TSMADWG Activities

Submitted by:	Australia
Executive Summary:	Report on TSMADWG Activities Since CSPCWG6.
Related Documents:	Minutes TSMAD20
Related Projects:	S-4 Maintenance

Introduction / Background

The IHO Transfer Standards Maintenance and Application Development (TSMAD) Working Group is a Working Group of the IHO HSSC. Its primary objectives are to:

- Maintain the IHO Transfer Standard for Digital Hydrographic Data (S-57).
- Develop, maintain and extend the new IHO Geospatial Standard for Hydrographic Data (S-100), including management and maintenance of the IHO Hydrographic Register, and development and maintenance of the new ENC Product Specification (S-101), including the Hydrographic Feature Catalogue.
- Monitor the development of other related international Standards.

Since CSPCWG6 TSMAD had held one meeting:

- TSMAD20 in Rostock, Germany – 03-07 May 2010 (in conjunction with DIPWG2).

The main focus of this meeting was the continuation of the development of the new ENC Product Specification S-101. The following is a summary of the activities of this meeting, with particular emphasis on activities that may be of relevance to CSPCWG. Minutes of meetings may be found on the TSMAD page of the IHO web site.

Additionally, the following additional sub-group and TSMAD related meetings have been held:

- 2nd S-101 Stakeholders Workshop in Taunton, England – 09-11 March 2010;
- TSMAD S-101 Sub-Working Group Meeting in Taunton, England – 17-19 August 2010.

TSMAD21 will be held in Victoria, Canada, from 29 November – 03 December 2010. The main topic for this meeting will be S-101 development, including discussions on the S-101 draft Data Classification and Encoding Guide, which is the equivalent of the S-57 Use of the Object catalogue for ENC.

Analysis / Discussion

Documents published since CSPCWG6:

- S-100 – Universal Hydrographic data Model – Edition 1.0.0 (January 2010): S-100 provides a contemporary hydrographic geospatial data standard that can support a wide variety of hydrographic-related digital data sources, and is fully aligned with mainstream international geospatial standards, in particular the ISO 19100 series of geographic standards, thereby enabling the easier integration of hydrographic data applications into geospatial solutions. S-100 comprises 12 related parts that give the user the appropriate tools and framework to develop and maintain hydrographic-related data, products and registers. S-100 Edition 1.0.0 Part 2b (Portrayal Registers) and Part 9 (Portrayal) are still under development by TSMAD and DIPWG and will be included in Edition 2.0.0 intended for publication during 2011.

TSMAD20: The principle agenda item for this meeting was the continuing development of the new ENC Product Specification S-101 and discussion of any issues in the draft so far. The following issues that may be of interest to CSPCWG were discussed:

- S-101 ENC Product Specification: The final draft of Phase 1 of the document will be presented at TSMAD21 for review. This follows an editing session that was conducted during the August 2010 S-101 Sub-Working Group meeting. S-101 Phase 1 is essentially a reproduction of the S-57 ENC Product Specification utilising S-100, and will include:
 - An XML Feature Catalogue which mainly contains current S-57 features and attributes plus a small number complex attributes;
 - An XML Portrayal Catalogue which will mainly contain the equivalent to S-52 Presentation Library Edition 3.4;
 - Use of the new version of the ISO/IEC 8211 based encoding; and
 - An S-57 to S-101 converter;
 The deliverable will be an S-101.000 file and updates, without a catalogue file.
- S-101 Data Classification and Encoding Guide (S-101 Appendix A): A first draft of this document was submitted as an Information Paper to TSMAD20. The document is a different format to the S-57 Use of the Object catalogue for ENC, being based on the US (NOAA) S-57 Data Capture and Coding Guide and the Inland ENC Data Capture and Classification Guide. In addition to all the information included in the S-57 Object and Attribute Catalogues; the S-57 Use of the Object Catalogue; S-57 Maintenance Document; S-57 Internal Extensions List; and ENC Encoding Bulletins, the draft S-101 Data Classification and Encoding Guide also contains selected nautical cartography fundamentals adapted from S-4 specific to ENC encoding. Whether this information is useful to ENC compilers will be discussed at TSMAD21, with possible expansion of this concept. In addition to the draft document, an accompanying Paper identifying possible issues requiring TSMAD and other IHO Working Group (including CSPCWG) discussion will be submitted, and a possible break-out group may be formed to begin to discuss these issues. A copy of the draft S-101 Data Classification and Encoding Guide, as well as the Issues documents, may be supplied to CSPCWG members for information.
- S-58 – Recommended ENC Validation Checks: A minor New Edition of S-58 has been prepared for submission at HSSC2 for approval to submit to IHO Member States. This minor New Edition (Edition 4.2) is required to modify validation checks relating to the population of the attribute EXPSOU (exposition of sounding) on sounding objects, which was identified in early 2010 as possibly compromising safe navigation in the ECDIS display.
- ENC Encoding Bulletins Process: As a result of the EXPSOU on soundings problem mentioned above, there was detailed discussion on the process used by TSMAD to promulgate additional ENC encoding guidance to ENC compilers, and possibly users. As a result of these discussions, a revised process of notifying the IHB of any navigationally significant issues that are raised by TSMAD has been put in place, with the possibility of notification to IHO member States via IHO Circular Letter, and ECDIS users via NAVAREA Warnings. The ENC FAQ and ENC Encoding Bulletins pages on the TSMAD page of the IHO web site have also been given more prominence, and included in the Publications page of the web site. It has also been suggested that the S-57 Use of the Object Catalogue for ENC be “unfrozen” to allow the additional encoding guidance included in ENC Encoding Bulletins and S-65 to be incorporated into the document so that encoders only need a single reference. A Paper to this effect has been submitted to HSSC2 for approval.
- Draft S-102 – Bathymetric Surface Product Specification: A draft document as prepared under contract for CHS and Fisheries and Oceans Canada as part of a joint project by Canada and the US was submitted to TSMAD20 for review. This proposed Product Specification in S-100 is for Bathymetric Surface Products, and is based on the Bathymetry Attributed Grid Object (BAG), Version 1.0.0. Such bathymetric surface data may be used as an auxiliary layer of data with an ENC, or as a stand-alone bathymetric surface product. It is expected that a final draft of S-102 will be presented at TSMAD21 for review.
- S-99 – Management Rules and Procedures for the Operation of the S-100 Geospatial Information Registry (GI Registry): A draft version of this document, developed by TSMAD in consultation with the IHB, was finalised and will be submitted to HSSC2 for approval. S-99 describes the roles, responsibilities and procedures for operating and managing the S-100 Geospatial Information Registry and its component Registers. Post HSSC2 Note: HSSC2 approved the document, which will now be submitted to IHO member States via IHO Circular Letter for adoption as an IHO Standard from 01 January 2011.
- Virtual AIS as Aids to Navigation: CSPCWG discussions (refer CSPCWG6 Minutes) regarding depiction of virtual AIS as aids to navigation on paper charts was raised during the CSPCWG report to TSMAD20. Further to this, UK submitted a paper (TSMAD20/DIPWG2-20.2A) on the

subject of AIS as aids to navigation. Initial discussions related to the ENC Encoding Bulletin No. 17, which recommends that AIS information not be encoded in ENCs as the AIS target will appear on the ECDIS display when the vessel is in range of the signal. It was suggested that this would not aid in route planning, but it was decided that this was not an issue in regard to “real” and “synthetic” AIS aids to navigation, as the physical aid will still be encoded. Discussion then turned to “virtual” AIS as aids to navigation, for which there is no physical aid to navigation on which the virtual aid is based. It was decided that, for route planning purposes, it would be required to encode virtual AIS aids to navigation, but only where such aids are permanently in place. Discussion then turned to the method of encoding, and it was determined that, because there is no physical feature on which to encode the information, it was appropriate to use the NEWOBJ object introduced in S-57 Supplement No. 1. The symbol instructions would invoke the position circle and radio “halo”, similar to paper chart symbology. The issue of combining these symbols within the symbol instructions, and including appropriate topmarks as has been suggested for paper chart symbology, needs to be investigated and has been taken as an Action by UK. Once the method of encoding virtual AIS as aid to navigation has been confirmed, ENC Encoding Bulletin No. 17 will be amended to suggest this encoding, noting that it is not required to encode real or synthetic AIS as aids to navigation.

Future Meetings: As stated above, TSMAD21 follows immediately after CSPCWG7. The first meeting of TSMAD (TSMAD22) in 2011 is scheduled for 18-22 April 2011 in Inchon, Korea in conjunction with DIPWG3.

Conclusions

Continued liaison between CSPCWG and TSMAD is a necessity in the ongoing review of S-4 and the development of S-100 and S-101.

Recommendations

None.

Justification and Impacts

No major impacts on CSPCWG projects arise from this report.

Action required of CSPCWG

The CSPCWG is invited to:

- a. consider this report
- b. note issues within the report of interest to CSPCWG.