

10th CSPCWG MEETING
21-24 January 2014. Wellington, New Zealand

Paper for Consideration by CSPCWG

Report to CSPCWG10 on TSMAD Activities

Submitted by:	Australia
Executive Summary:	Report on TSMAD Activities Since CSPCWG9.
Related Documents:	Minutes TSMAD25, TSMAD26/DIPWG5, TSMAD27; HSSC5-05.1A – TSMAD Report
Related Projects:	S-4/INT1 development

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 S-101 Feature and Portrayal Catalogues.
- Monitor the development of other related international Standards.

Since CSPCWG9 TSMAD had held three meetings:

- TSMAD25 in Tokyo, Japan – 15-18 January 2013;
- TSMAD26 in Silver Spring, USA – 10-14 June 2013 (in conjunction with DIPWG5);
- TSMAD27 at IHB, Monaco – 02-06 December 2013.

The main focus of these meetings was the continuation of the development of the new ENC Product Specification S-101; the development of a New Version (4.0.0) of S-57 Appendix B.1, Annex A – Use of the Object Catalogue for ENC; development of a new Edition (5.0.0) of S-58 – Recommended ENC Validation Checks; development of a new Edition (3.0.0) of S-64 – IHO Test Data Sets for ECDIS; and development of a New Edition (2.0.0) of S-100 – Universal Hydrographic Data Model. The following is a summary of the activities of these meetings, 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 TSMAD Sub-Working Group meetings and workshops were held:

- S-101 Data Classification and Encoding Guide Sub-Working Group meeting in Tokyo, Japan – 14 January 2013.
- S-101 Data Classification and Encoding Guide Sub-Working Group meeting in Silver Spring, USA – 04-06 June 2013.
- TSMAD S-101 Test Strategy and S-64 Development Sub-Working Group meeting in Taunton, UK – 09-11 September 2013.

Analysis / Discussion

Documents published since CSPCWG9:

ENC Encoding Bulletin No. 54 – AIS Equipped Aids to Navigation (May 2013).

In addition, the following documents were submitted to HSSC5 for approval to proceed to IHO Member State vote for adoption:

- S-57 Appendix B.1, Annex A – Use of the Object Catalogue for ENC (Edition 4.0.0).
- S-57 Supplement No. 3.
- S-58 – Recommended ENC Validation Checks (Edition 5.0.0).
- S-64 – IHO Test Data Sets for ECDIS (Edition 3.0.0).

S-100: Since the publication of S-100 Edition 1.0.0 in 2010, the model has been used as the basis for the development of several IHO Product Specifications (Gridded bathymetry, Nautical Publications, Tides, Maritime Boundaries and Limits (S-121), Surface Currents) in addition to the new ENC product Specification (S-101), as well as non-IHO Product Specifications (Inland ENC, Ice, IALA). This development has identified a number of amendments and enhancements to S-100 in order to meet the growing take-up of S-100 as the preferred model for hydrographic-related requirements. S-100 Part 9 (Portrayal) is virtually completed, and significant work is being done to develop a GML encoding profile, which was a major agenda item at TSMAD27.

It is planned to produce a New Edition (2.0.0) of S-100 during 2014.

S-101: Development of the first draft of S-101 is nearing completion, and it is expected that a draft suitable for the development of S-101 test beds will be completed early in 2014. The draft Data Classification and Encoding Guide, which is a key component of the Product Specification and forms the reference from which Feature and Portrayal Catalogues will be produced, has almost been completed, with the final draft “baseline” document currently being reviewed by a small core group of experts (January 2014). The main problems encountered with the completion of S-101 have been the delay in completion of S-100 Part 9 (Portrayal), and resource availability for the development of S-101 Feature and Portrayal Catalogue builders.

A draft “roadmap” for the completion of S-101 was submitted to HSSC5, which has publication of version 1.0.0 of S-101 and ECDIS sea trials in 2017, and full specification S-101 data available for use in 2018.

S-57: The draft S-57 Supplement No. 3 has been produced to tidy up some minor inconsistencies in the Standard, and to strengthen the mandatory role of S-58 for ENC validation. This is in response to the re-structured Edition 5.0.0 of S-58, which has introduced a new validation check classification of “critical” (C), which are those checks that, if not adhered to, may cause a failure in the ECDIS, or at least severely compromise ECDIS performance. The S-57 Supplement No. 3 was approved to proceed to IHO Member State vote for adoption at HSSC5. S-58 was approved by HSSC5, subject to minor amendments by TSMAD (completed at TSMAD27), after which it will proceed to IHO Member State vote for adoption.

S-57 Appendix B.1, Annex A – Use of the Object Catalogue for ENC (UOC) Edition 4.0.0, was approved to proceed to IHO Member State vote for adoption at HSSC5. Along with several editorial and technical changes, UOC Edition 4.0.0 includes:

- New guidance on updating ENC datasets in response to cataclysmic events;
- New guidance for encoding discontinuities between surveys;
- Inclusion of ENC Encoding Bulletin No. 54 – AIS Equipped Aids to Navigation; and
- New guidance on masking in order to improve ECDIS screen display.

Several proposals were presented at TSMAD27 for further amendments to the UOC, most of which were approved. None of these amendments have an impact on CSPCWG.

S-64: The draft S-64 Edition 3.0.0 includes new test data sets similar to those included in the ECDIS anomalies test data sets, as well as a new test data set for very high (polar) latitudes. The draft was endorsed at HSSC5, subject to completion of the data sets by TSMAD and submission to HSSC6 for final endorsement. This was a major agenda item at TSMAD27 and significant progress was made towards completing the data sets. Completion of this work is considered a very high priority as the publication of S-64 Edition 3.0.0 needs to be done in parallel to the revision and publication of a New Edition of IEC 61174.

Other items of note from TSMAD meetings to report to CSPCWG:

- During a break in proceedings at TSMAD26/DIPWG5, there were some discussions regarding work that had been done on translating small sections of S-4 into XML for possible implementation as an on-line tool. This may be a future development option for S-4, with possible a proposal developed for CSPCWG11.

Next Meeting: The next meeting of TSMAD (TSMAD28) will be held in Australia between 31 March and 04 April 2014 in conjunction with DIPWG6.

Recommendations

Continued liaison between CSPCWG and TSMAD is a necessity in order to address emerging navigational requirements in a multi-product environment.

Justification and Impacts

No immediate impacts on CSPCWG projects arise from this report.

Action required of CSPCWG

CSPCWG is invited to:

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